D

Dailiness

► Everyday Life Experience

Daily Diary

► Experience Sampling

Daily Diary Methodology

Tanja Lischetzke
Department of Psychology, University of Koblenz-Landau, Landau, Germany

Synonyms

Ambulatory addessment with daily diaries; Ecological momentary assessment; Experience sampling

Definition

Daily diary methodology is a set of assessment methods that allow researchers to study individuals' experiences, behavior, and circumstances in natural settings, in or close to real time, and on repeated measurement occasions over a defined period (ranging from a few days to months). Semantically, the term "daily diary methodology" implies a once-per-day assessment approach. Often, however, the term is used in a wider sense to include methods assessing individuals at multiple times per day (also called "experience sampling"; Hektner, Schmidt, & Csikszentmihalyi, 2007). Moreover, the term "daily diary methodology" implies the use of some kind of diary (paper and pencil or electronic) and is thereby constrained to self-report data. In recent years, however, the scope of intensive repeated measurements in naturalistic settings has broadened to include also nonself-reported aspects of everyday experience, such as psychophysiological status, physical activity, and auditory environment. The more general terms "ecological momentary assessment" and "ambulatory assessment" capture both types of data, self-report and nonself-report (Mehl & Conner, 2012).

In this entry, I will use the term "daily diary methodology" to refer to repeatedly measured *self-reported* data, including both once-per-day assessments and designs with more frequent assessments. For a recent overview of methods assessing nonself-reported data in daily life, the reader is referred to Mehl and Conner (2012).

Description

Rationales for Daily Diary Methodology

Since the middle to late 1990s, there has been a drastic increase in research studies using daily

A.C. Michalos (ed.), *Encyclopedia of Quality of Life and Well-Being Research*,
DOI 10.1007/978-94-007-0753-5,

diary methodology (Gunthert & Wenze, 2012). Recent technological developments (e.g., personal digital assistants, smartphones, Internet-based questionnaires) have made it easier to collect intensive longitudinal data. Furthermore, advances in statistical models and more widespread expertise to analyze these data have contributed to the increased popularity of daily diary methods.

An important conceptual rationale for the use of daily diary methodology is that it allows researchers to study individuals' experiences and behavior within their natural contexts, thereby enhancing the *ecological validity* of the conclusions that are drawn from the results. Ecological validity refers to the degree to which the study conditions are representative for the real-world conditions under which the phenomenon or process of interest occurs, so that study results can be generalized to other settings. It is important to note, however, that by using daily diary methods, ecological validity is not guaranteed. Studying very unusual settings (e.g., individuals on a high mountain hike) may decrease generalizability, and intrusive assessment methods (e.g., momentary assessments at 10 min intervals) may alter the "natural" situation (Reis, 2012).

Daily diary methods are the method of choice when the research question aims at capturing *representations of momentary experience* (using real-time assessment) or *episodic memory* of experiences (using close-to-real-time assessment). When the research question aims at capturing generalized beliefs (semantic memory), global or retrospective self-reports should be selected (Conner, Barrett, Bliss-Moreau, Lebo, & Kaschub, 2003). Research has demonstrated that global and retrospective reports on affective experiences and behaviors only poorly converge with aggregated momentary reports on the same construct (Schwarz, 2012). Shortly after an affective experience or a behavior, individuals can access episodic memories to reconstruct what they felt or did. When the time interval between the momentary experience and the moment of recall becomes larger, episodic memories are no longer accessible, and individuals shift to semantic memory – that is, generalized beliefs (Robinson & Clore, 2002). Similarly, when individuals are asked how they "usually" feel during a particular activity or how they feel "in general," they lack experiential cues, and hence, these global reports are based on semantic knowledge. Retrospective and global reports that are based on semantic knowledge are prone to biases such as gender stereotypes, cultural stereotypes, or personality-related beliefs (see Robinson & Clore, 2002, for a review). By assessing experiences and behavior in or close to real time, daily diary methodology minimizes these cognitive biases. Researchers applying close-to-real-time assessment that relies on episodic memory have to keep in mind, however, that other systematic biases can occur. When individuals are asked to summarize their experience over a specific time interval (e.g., "overall, how bad was the colonoscopy you just had?"), the summarized rating may be unduly influenced by the most recent and the most intense moments of the experience (Kahneman, 1999). Thus, daily diary methods are not inherently "better" than other self-report methods (global, retrospective). Instead, each method captures a specific aspect ("experiencing self" vs. "remembering self"; Conner & Lehman, 2012). Retrospective reports of affective experience, for example, might be a better predictor of future behavioral choices than aggregated momentary reports of actual affective experience (Wirtz, Kruger, Scollon, & Diener, 2003).

By using daily diary methodology, researchers can adequately address research questions on *within-persons processes* – that is, processes that unfold within individuals over time. These processes include:

- Intraindividual variability around a mean level (e.g., variability in momentary mood)
- Intraindividual change over time (e.g., treatment progress)
- Intraindividual concurrent covariation of variables (e.g., the relation between momentary activities and ▶ flow experience)
- Intraindividual lagged covariation of variables (e.g., momentary affective states predicting subsequent binge-eating episodes)

Collecting intensive longitudinal data in a sample of individuals allows researchers to

test whether the majority of (or all) individuals can be characterized by the same within-persons process or whether individuals differ in the within-persons process. Cross-sectional studies are not able to capture and analyze within-persons processes adequately because associations between variables on the between-persons level might be completely different from associations between variables on the within-persons level. As an instructive example, consider the relationship between typing speed and the percentage of typos made (Hamaker, 2012): A cross-sectional study might find that individuals who type faster make fewer mistakes – which corresponds to a negative relationship on the interindividual (between-persons) level. An intensive longitudinal study, however, might well find that at moments when individuals type faster, they make more mistakes – which corresponds to a positive relationship on the intraindividual (within-persons) level. This illustrates the necessity to assess individuals repeatedly when we want to make inferences about within-persons processes.

When the research question refers to *microlevel w*ithin-person processes – that is, processes that unfold within relatively short time periods (within weeks or within days) – daily diary methods are the appropriate method. *Macrolevel* within-person processes – that is, processes that unfold over longer time spans (e.g., life events and their long-term impact, personality development across adulthood) – are better captured by traditional longitudinal methods with assessments taken across months or years (Conner & Lehman, 2012).

In conclusion, daily diary studies are ideally suited to complement other research methods (e.g., laboratory experiments, large-sample questionnaire studies) in multimethod research programs (Scollon, Kim-Prieto, & Diener, 2003).

Design Issues

Sampling Strategy

The specific sampling strategy – that is, the frequency and timing of measurement occasions – is mainly determined by characteristics of the variables of interest:

- In *event-based sampling*, participants themselves initiate their reports when a predefined event, experience, or behavior occurs (e.g., interpersonal conflict, nicotine cravings, physical activity).
- In *time-based sampling*, participants provide self-reports either at set times (*fixed* time-based sampling/interval-contingent sampling) or when prompted by a signal that is delivered at unpredictable times (*variable* time-based sampling/signal-contingent sampling).

If the phenomenon of interest occurs relatively rarely, event-based sampling should be selected to make sure that the experience or the behavior is captured. For momentary experiences that are ongoing (e.g., mood, self-esteem), time sampling is the appropriate sampling method. Variable time-based sampling (e.g., at random occasions during the day) allows generalizing across the population of occasions during wake time, and it avoids expectancy effects that may occur with fixed schedules where participants know the timing of the reports. Fixed time sampling (e.g., three measurement occasions per day, at 12 P.M., 16 P.M., and 20 P.M.) can be used for both momentary reports (capturing momentary experience and behavior) and interval reports (capturing experiences and behaviors since the previous report). Because the latter format relies on episodic memory, it is most suitable for constructs that are less susceptible to memory biases (e.g., checklists of concrete events or behaviors). Fixed once-per-day assessments typically involve retrospective ratings of behaviors and situations that happened during the day. Such a daily format is optimal for studying phenomena that are moderately frequent – that is, behaviors that do not occur many times per day but several times over the course of the entire assessment period (e.g., family conflict, headaches). Detailed comparisons of sampling schemes can be found in Conner et al. (2003), Conner and Lehman (2012), and Hektner et al. (2007). Special issues relating to fixed daily assessment schemes are discussed by Gunthert and Wenze (2012), special issues relating to event-based sampling by Moskowitz and Sadikaj (2012).

The *duration* of the sampling period varies from study to study and typically ranges from a few days to weeks. Studies using event-based sampling of infrequent events (e.g., risky sex) sometimes last several months. In general, the time it takes to complete a single report, the frequency of reports per day, and the duration of the study have to be balanced to avoid that the study becomes overly burdensome to participants.

Technology Platform

The earliest daily diary studies (e.g., Csikszentmihalyi & Larson, 1987) used paper-and-pencil questionnaires, combined with devices (e.g., pagers, watches) that prompted participants to complete the questionnaires at randomly selected times. Paper-and-pencil diaries continue to be in use today, but they are more and more replaced by computerized methods, which allow time and date stamping of the entries and are generally more flexible (e.g., branching of items, randomized presentation of items, measuring response latencies). For once-per-day assessments, Internet-based questionnaires and interactive voice response (IVR) methods (through mobile phones) are typically used (Gunthert & Wenze, 2012). Studies using more frequent time-based sampling typically rely on handheld devices such as personal digital assistants, smartphones, or tablet computers that are installed with specialized software and handed out to participants for the duration of the study. In some cases (e.g., when the questionnaire includes only very few and short items), a lower-cost alternative might be to use "texting" – that is, SMS (short messaging service) texts that are sent to participants' mobile phones who then reply using their numeric keypad (Conner & Lehman, 2012). The decision about which platform to use should be based on the available budget, specific design needs (e.g., sampling scheme, necessary ancillary information such as response latencies), and characteristics of the targeted population (e.g., comfort with technology, Internet access).

Implementation

Because daily diary studies are very labor intensive for participants, researchers have to spend extra effort to recruit participants, keep them motivated to complete the study, and ensure that they comply with the study protocol. Complex incentive systems have been developed, including money, research credits (for university students), lotteries, and smaller gifts that are tailored to the study population and are distributed during the course of the data collection period (e.g., a movie voucher for adolescents or a bouquet of flowers for older adults). Moreover, a good working relationship between research assistant and participant can enhance compliance (Conner et al., 2003; Hektner et al., 2007). This might be achieved by treating participants as "experts" of the information the researcher is interested in (their subjective experience) or by contacting participants in an empathic way during the sampling period.

For other practical issues related to the implementation of a daily diary study such as pilot testing, documentation material, and data preparation, the reader is referred to Conner et al. (2003) and Hektner et al. (2007).

Data Analytic Strategies

Daily diary methods yield nested data: Measurement occasions (Level 1) are nested in persons (Level 2). This nested structure has to be taken into account when analyzing the data. Multilevel modeling is probably the method that is most often used to analyze daily diary data. Multilevel modeling allows researchers to analyze within-persons processes and individual differences in within-persons processes. Table 1 provides an overview of three types of within-persons processes, typical research questions that can be addressed, and the specific multilevel model that can be applied to answer these questions. To estimate "pure" within-persons relationships, it is necessary to group mean center continuous Level-1 (momentary) predictor variables – that is, to center on each person's mean (Enders & Tofighi, 2007). To make the coefficients more easily interpretable, continuous Level-2 (person-level) predictor variables should be grand-mean centered – that is, centered on the mean across all individuals. Categorical Level-1 and Level-2 predictor variables have to be coded

Daily Diary Methodology, Table 1 Three types of within-persons processes, research questions, and appropriate multilevel model

Within-persons process	Research question	Example	Fixed part of multilevel model	Random part of multilevel model	Parameter that is tested for significance
1. Intraindividual concurrent covariation of variables	1.1 What is the average intraindividual relation between momentary *X* and concurrent *Y*?	What is the average intraindividual relation between momentary extraverted behavior and concurrent pleasant mood?	*X* as Level-1 predictor	Residuals of intercepts	Fixed effect of *X* on *Y*
	1.2 Do individuals differ in the intraindividual relation between momentary *X* and concurrent *Y*?	Do individuals differ in the intraindividual relation between momentary extraverted behavior and concurrent pleasant mood?	*X* as Level-1 predictor	Residuals of intercepts, residuals of slopes	Variance of residuals of slopes (random effect)
	1.3 Does person variable *Z* predict individual differences in the intraindividual relation between momentary *X* and concurrent *Y*?	Do dispositionally introverted individuals show a stronger intraindividual relation between momentary extraverted behavior and concurrent pleasant mood?	*X* as Level-1 predictor and *Z* as Level-2 predictor of varying intercepts and slopes	Residuals of intercepts, residuals of slopes (if necessary)	Fixed effect of *Z* on the varying slopes of *X* (cross-level interaction)
2. Intraindividual lagged covariation of variables	2.1 What is the average intraindividual relation between lagged momentary *X* and subsequent *Y*?	What is the average intraindividual relation between lagged physical activity and subsequent momentary energetic mood?	Lagged *X* as Level-1 predictor	Residuals of intercepts	Fixed effect of lagged *X* on *Y*
	2.2 Do individuals differ in the intraindividual relation between lagged momentary *X* and subsequent *Y*?	Do individuals differ in the intraindividual relation between lagged physical activity and subsequent momentary energetic mood?	Lagged *X* as Level-1 predictor	Residuals of intercepts, residuals of slopes	Variance of residuals of slopes (random effect)
	2.3 Does person variable *Z* predict individual differences in the intraindividual relation between lagged momentary *X* and subsequent *Y*?	Do older adults show a stronger intraindividual relation between lagged physical activity and subsequent momentary energetic mood than younger adults?	Lagged *X* as Level-1 predictor and *Z* as Level-2 predictor of varying intercepts and slopes	Residuals of intercepts, residuals of slopes (if necessary)	Fixed effect of *Z* on the varying slopes of lagged *X* (cross-level interaction)
3. Intraindividual change over time	3.1 What is the average (linear) intraindividual change in *Y* over time?	What is the average (linear) intraindividual change in perceived stress after starting a new job?	Time as Level-1 predictor	Residuals of intercepts	Fixed effect of time on *Y*
	3.2 Do individuals differ in the (linear) intraindividual change in *Y* over time?	Do individuals differ in the (linear) intraindividual change in perceived stress after starting a new job?	Time as Level-1 predictor	Residuals of intercepts, residuals of slopes	Variance of residuals of slopes (random effect)
	3.3 Does person variable *Z* predict individual differences in the (linear) intraindividual change in *Y* over time?	Do individuals high in self-esteem show a stronger decline in perceived stress than individuals low in self-esteem?	Time as Level-1 predictor and *Z* as Level-2 predictor of varying intercepts and slopes	Residuals of intercepts, residuals of slopes (if necessary)	Fixed effect of *Z* on the varying slopes of time (cross-level interaction)

using a coding scheme such as dummy coding, effect coding, or contrast coding. If intraindividual change over time is analyzed using multilevel models, time becomes a Level-1 predictor variable. In these multilevel growth curve models, it is crucial to code time in such a way that the value of zero is a meaningful value (e.g., the starting point, the midpoint, or the end point of the time series). For general introductions to multilevel modeling, the reader is referred to Hox (2010) and Snijders and Bosker (2012). Bolger, Davis, and Rafaeli (2003) and Nezlek (e.g., 2012) discuss applications of multilevel models to daily diary data. For models analyzing within-persons change over time (growth curve models), see Singer and Willett (2003).

Although multilevel modeling is a very versatile tool to analyze daily diary data, specific types of research questions require other methods. For example, to model individual differences in intraindividual variability, alternative statistical approaches are necessary. Specific variability coefficients can be calculated from the intensive longitudinal data (e.g., mean squared successive difference; Ebner-Priemer, & Trull, 2012) or can be derived from structural equation models for daily diary data (Eid, Courvoisier, & Lischetzke, 2012). When fluctuation patterns of categorical (discrete) states over time and individual differences in these patterns are of interest to researchers, mixture (latent) Markov models for daily diary data (Crayen, Eid, Lischetzke, Courvoisier, & Vermunt, 2012) are an appropriate approach.

References

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology, 54*, 579–616.

Conner, T., Barrett, L. F., Bliss-Moreau, E., Lebo, K., & Kaschub, C. (2003). A practical guide to experience-sampling procedures. *Journal of Happiness Studies, 4*, 53–78.

Conner, T. S., & Lehman, B. J. (2012). Getting started: Launching a study in daily life. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 89–107). New York: Guilford.

Crayen, C., Eid, M., Lischetzke, T., Courvoisier, D. S., & Vermunt, J. K. (2012). Exploring dynamics in mood regulation—Mixture latent Markov modeling of ambulatory assessment data. *Psychosomatic Medicine, 74*, 366–376.

Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *The Journal of Nervous and Mental Disease, 175*, 526–536.

Ebner-Priemer, U. W., & Trull, T. J. (2012). Investigating temporal instability in psychological variables: Understanding the real world as time dependent. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 423–439). New York: Guilford.

Eid, M., Courvoisier, D., & Lischetzke, T. (2012). Structural equation modeling of ambulatory assessment data. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 384–406). New York: Guilford.

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods, 12*, 121–138.

Gunthert, K. C., & Wenze, S. J. (2012). Daily diary methods. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 144–159). New York: Guilford.

Hamaker, E. L. (2012). Why researchers should think "within-person": A paradigmatic rationale. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 43–61). New York: Guilford.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience sampling method: Measuring the quality of everyday life*. Thousand Oaks, CA: Sage.

Hox, J. J. (2010). *Multilevel analysis: Techniques and applications* (2nd ed.). New York: Routledge.

Kahneman, D. (1999). Objective happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 3–25). New York: Russell Sage.

Mehl, M. R., & Conner, T. S. (Eds.). (2012). *Handbook of research methods for studying daily life*. New York: Guilford.

Moskowitz, D. S., & Sadikaj, G. (2012). Event-contingent recording. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 160–175). New York: Guilford.

Nezlek, J. B. (2012). Multilevel modeling analyses of diary-style data. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 357–383). New York: Guilford.

Reis, H. T. (2012). Why researchers should think "real-world": A conceptual rationale. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 3–21). New York: Guilford.

Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin, 128*, 934–960.
Schwarz, N. (2012). Why researchers should think "real-time": A cognitive rationale. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 22–42). New York: Guilford.
Scollon, C. N., Kim-Prieto, C., & Diener, E. (2003). Experience sampling: Promises and pitfalls, strengths and weaknesses. *Journal of Happiness Studies, 4*, 5–34.
Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis. Modeling change and event occurrence*. New York: Oxford University Press.
Snijders, T., & Bosker, R. (2012). *Multilevel analysis: An introduction to basic and advanced multilevel modeling* (2nd ed.). London: Sage.
Wirtz, D., Kruger, J., Scollon, C. N., & Diener, E. (2003). What to do on spring break? The role of predicted, online, and remembered experience in future choice. *Psychological Science, 14*, 520–524.

Daily Hassles

► Negative Affect and Daily Stressors in Older Adults

Daily Hassles Scale

► Hassles and Uplifts Scale

Dance

► Arts and Quality of Life

Dance and the Quality of Life

Karen E. Bond
Temple University, Philadelphia, PA, USA

Synonyms

Aesthetic embodiment; Creative movement; Dance/movement therapy (DMT); Laban Movement Analysis (LMA); Rhythmic movement

Definition

Dance is nonverbal behavior that conveys a heightened, aesthetic sense of body, rhythm, and space. Human dance may hold individual, social, cultural, and/or spiritual meanings for both participants and observers. In its longevity and multiplicity of forms and functions, dance eludes definition.

Description

Introduction

Grounded in rhythms of body, time, and space, nonverbal, and inherently aesthetic, dance has inspired a wide-ranging discourse around origins, functions, and meanings. The literature of dance, as produced by artists, philosophers, anthropologists, historians, educators, and cognitive neuroscientists, among others, does not cohere around an accepted definition, although scholars have offered cross-cultural perspectives (Hanna, 2006; Kealiinohomoku, 1970, 1980; Williams, 2004) and existential descriptions (Bond & Stinson, 2000/2001; Fraleigh, 2004; Sheets-Johnstone, 2009).

In the 1970s, Kealiinohomoku uncovered an "amazing divergence of opinions" in the literature, a condition that holds in the present. She recounts:

> We are able to read that the origin of dance was in play and. . .not in play, that it was for magical and religious purposes, and. . .not for those things; that it was for courtship and. . .not for courtship; that it was the first form of communication and that communication did not enter into dance until it became an "art." In addition we can read that it was serious and purposeful and at the same time. . .an outgrowth of exuberance. . .totally spontaneous, and originated in the spirit of fun. Moreover, we can read that it was only a group activity for tribal solidarity and that it was strictly for the pleasure and self-expression of the one dancing. (1970, p. 33)

This entry offers a sketch of the complex discourse surrounding the elusive phenomenon of dance, anchored by an overarching interest in dance and ► quality of life.

What Is Dance?

The beginnings of dance, an ancient mode of human behavior, are unclear; since Darwin theorists have claimed that dance may be understood as part of human biological evolution. From this perspective, dance has survival value and is intrinsic to quality of life. In "The Art of Dancing," British psychologist and Darwinian Havelock Ellis (1923, p. 43) wrote that dance is the "supreme manifestation" of physical and spiritual life, including ▶ sexuality, which is "far older" than *Homo sapiens* as illustrated in courtship dances of insects and birds. Quiroga Murcia and Kreutz (2012, p. 125) acknowledge sexual selection as a possible survival value of human dance, evidenced in "mate quality features such as health, virility, sensitivity, aerobic fitness, coordination and creativity."

Ellis (1923) proposed that dance unites erotic, religious, and aesthetic functions, and dance writers have continued to comment on the integrative nature of dance. Phenomenologist Sondra Fraleigh (2004, p. 2) suggests that "to value dance at all is to value the human, the beautiful, and the playful among the erotic pulse of life." Anthropologist Ellen Dissanayake (2000) highlights a broad range of integrative qualities, proposing that humans were designed as a species with a predisposition for dancing and other aesthetic behaviors that satisfy needs for identity, belonging, meaning, and personal competence. She weaves a connection between art and ▶ love that arises in a dance-like duet composed of "emotionally meaningful 'rhythms and modes' that are jointly created and sustained by mothers and their infants in ritualized, evolved interactions" (Dissanayake, 2000, p. xi).

As a nonverbal mode of expression with an inherent connection to sexuality and other "psychobiological rhythms" (Hanna, 2006), dance has suffered negative valuations that may continue to undermine it as a vehicle of meaning that deserves to be taken seriously by philosophers and by society at large. Dance has been theorized as a response to the overaccumulation of sex hormones, as a cathartic device for release of surplus energy, and as pathological expression, as exemplified in the "dancing mania" of the European Middle Ages (Williams, 2004) and the "madness of Giselle" (McCarren, 1998), the tragic heroine of one of the best-known romantic ballets of the nineteenth century. McCarren (1998) suggests that dance has been connected to the history of madness throughout the Christian era, hovering in the background of interpretations that idealized dance as perfect, ordered expression manifested through individual and social control of the primarily female body.

Such conceptions of dance may be implicated in its persistent exclusion from the Western system of the fine arts, which can be traced back to ▶ Plato and ▶ Aristotle and was canonized with Hegel's nineteenth-century writings on aesthetics (Copeland & Cohen, 1983). Christianity's valorization of spirit over body, Cartesian mind-body dualism, and the categorization of dance as a feminine (and therefore trivial) art have been noted as deterrents to the progress of dance as a field of professional practice and scholarship (Copeland & Cohen, 1983; Dils & Albright, 2000). Nevertheless, considering the longevity of dance and its multipurpose presence across human societies, it is difficult to understand why dance has been overlooked as an area of serious research and educational curriculum, relative to other arts.

Building on Ellis's "brief but theoretically sound evolutionary account of dance," Maxine Sheets-Johnstone (2009) identifies evolutionary continuities that locate the roots of dance in early rhythmic play of prehominids. Increases in spontaneity and ability to play have been noted as quality of life outcomes of dance therapy research (Quiroga Murcia & Kreutz, 2012); Sheets-Johnstone (2009, p. 322) names possible "kinetic markers" for dance such as running, falling, jumping, and ballistic movement. Creating a bridge to cultural evolution, she suggests that through "tactile-kinesthetic invariants" that any member of a species or group could potentially perform, humans create dances of distinct cultures (p. 324). In addition to theorizing the beginning of dance as culture, phenomenologist Sheets-Johnstone (p. 80) describes the "paradigmatic dance experience":

> . . .a solo dance in which no story is being told and in which movement stands for nothing but itself. . . . I am moving for the pure joy of movement. . .there is, in effect, a union of myself and the dance . . . a density of now.

Anthropologists and cultural theorists have countered evolutionary and phenomenological theories of dance, asserting that dance is solely an advent of human culture. Drid Williams (2004, p. 52) reflects, "For some reason as yet incomprehensible to me, authors of theories of the dance seem compelled to look upon dancing as a link between humanity and beasts." For Williams, any attempt to establish an original locus for dance or to identify stages of human social evolution beginning with "primitive dance" amounts to unsupported theorizing. In contrast to Sheets-Johnstone's (2009) notion of a paradigmatic, acultural solo, anthropologist Judith Lynne Hanna (2006, p. 34) distinguishes dance from the "spontaneous kinetic expression of children and other animals," noting, "dance always reflects a cultural heritage."

The complex intellectual climate of postmodernism has strongly influenced dance scholarship; notably the critical discourses of post-structuralism and postcolonialism have destabilized the high art-low art distinction of Western aesthetics, with its socioeconomic power hierarchies of race, gender, ethnicity, age, ability, and class. Theresa Buckland (2006, p. 14), for example, critiques evolutionist perspectives that position popular or vernacular dance at a lower level of cultural value than ballet and modern dance. Some scholars note, however, that theorizing dance in terms of social, historical, and cultural contingencies has its own set of problems. Fraleigh (2004, p. 11) notes, "many dance scholars are now choosing to stage their research in a sociopolitical sphere, conceiving the body as a cultural construction – a mask, in effect," cautioning, "behind the mask of culture lies our intrinsic connection to nature that we forget at our peril." Asserting dance's "profound originality and autonomy," French dance analyst Laurence Louppe (2010, p. 9) urges that dance not be "hijacked" by dominant discourses of history and culture that consider dance as a "simple reflection of broader issues of the period."

Whether or not dance can be traced to prehominid ancestors, its emergence as a specialized theatrical art is a recent development in human cultural evolution. Kealiinohomoku (1980, p. 42) noted, "It seems evident that only some dance is art, and only some dancers are artists, and if art is part of the dance equation then probably three quarters of the world's dances are going to be eliminated from serious study." Contemporary therapists and health workers differentiate between dance as an art form and dance in the service of promoting health and change (Chaiklin & Wengrower, 2009).

In the competitive world of professional training and performance, dance can be an unhealthy practice. Fraleigh (2004, p. 19) notes, "Dance practices can offer a chance for engagement and self-knowledge or can punish and deny the body." Gere (2004, p. 9) observes that "much contemporary criticism by leading critics seems to focus on defining what is acceptably dance and what is not," an arguably stressful atmosphere for artists seeking the promise of dance's "profound autonomy and originality" (Louppe, 2010, p. 9). Further, he perceives an "essential commonality of activism and dance" and juxtaposes this with the "abject, or outsider, masculinity embedded in the presentation of contemporary dance" (Gere, 2004, pp. 7–8). Quiroga Murcia and Kreutz (2012) note that most research into the health benefits of dance has been carried out with amateurs in recreational and clinical settings, while professional dancers have been studied primarily in relation to health risks such as repetitive strain injury, ▶ body image problems, and emotional disturbance, illustrated stereotypically in the 2010 award-winning feature film, *Black Swan*.

Dance for Health, Healing, and Quality of Life

One dimension missing from Kealiinohomoku's (1970) earlier-cited series of originative (or not) functions of dance – all related to quality of life – is that of health and healing. The contemporary field of dance/movement therapy (DMT) posits that humans have always danced for these purposes. Quiroga Murcia and Kreutz (2012) state, "One of the most fundamental

functions of dancing along human history is its potential to influence people's health." Chaiklin notes, "Dance is naturally therapeutic" (Chaiklin & Wengrower, 2009, p. 5); Goodill (2005, p. 25) informs that quality of life is an "overarching goal of medical DMT." Systematic inquiry into the relationship between dance, health, and quality of life is a recent development, and dance remains underrepresented in the literature, relative to other arts.

The notion of dance as an integrative phenomenon, introduced above, is a premise of dance/movement therapy (Chaiklin & Wengrower, 2009). The American Dance Therapy Association (ADTA, 2009) defines dance/movement therapy as a process "that promotes the emotional, cognitive, physical and social integration of the individual," also stating that there is empirical support for the premise that body, mind, and spirit are interconnected. Quiroga Murcia and Kreutz (2012) describe dance as an "integral activity with major components of musical stimulation, body movement, and social context." Hanna (2006, p. 32) notes, "Dance serves a wide spectrum of purposes, often several simultaneously."

Therapeutic and educational conceptions of dance as a holistic, integrative modality are grounded in early twentieth-century modern dance's emphasis on self-expression, exemplified in the work of Isadora Duncan and Rudolph Laban, both of whom viewed dance as "natural expression" deeply connected to health and spirituality (Copeland & Cohen, 1983; Dils & Albright, 2000). Particularly, Laban was critical of Germany's burgeoning industrial society with its mechanical rhythms and repetitive work conditions. He believed that dance could restore quality of life, developing a form of mass movement participation, the "movement choir," to foster expression of self in community (Maletic, 1987).

Laban theorized that human movement is the observable manifestation of emotional, mental, social, and spiritual processes, underpinning a key assumption of DMT that expansion of movement function and expression reflects growth in other aspects of being (ADTA, 2009). *Laban Movement Analysis* (*LMA*), a multidimensional system for observation and recording of movement behavior in terms of body, "effort" (an energy category), space, and relationship, has been used widely in DMT (Chaiklin & Wengrower, 2009; Goodill, 2005). LMA has been critiqued in recent years for lack of ▶ cross-cultural validation in a field that originated with early modern dance developments in Central Europe, England, and the United States (Chang, 2009); Hanna (2006, p. 49) critiques ethnocentricity in general, noting that dancing in a therapy session in which the therapist "disregards cultural values creates stress."

Due to its multisensory, integrative nature, it is difficult to discuss the impact of dance on quality of life in atomistic terms. Regarding the inherent physicality of dance, it is logical to suggest that dancing, like any form of ▶ exercise, can enhance aerobic fitness, coordination, strength, and flexibility. However, composed of movements that convey a heightened, aesthetic sense of body, rhythm, and space, and often performed in relation to ▶ music, dance involves more than "ordinary motor activities" (Hanna, 2006, p. 30). Health benefits of dance (both specific dance styles and improvisational or "creative dance") have been reported for individuals with Parkinson's disease, traumatic brain injury, fibromyalgia, ▶ breast cancer, cardiac disease, eating disorders, dementia, and developmental disabilities (Chaiklin & Wengrower, 2009; Goodill, 2005; Quiroga Murcia & Kreutz, 2012).

Quiroga Murcia and Kreutz (2012, p. 128) suggest that "a powerful motivation for dancing appears to be the need to express oneself through rhythmic play and exploration of one's bodily powers and physical environment." Sheets-Johnstone (2009, p. 321) highlights rhythm as a given of animate life that comes to the fore in dance, since "dance is movement from beginning to end." Dancing releases endorphins, with associated feelings of physical well-being (Goodill, 2005; Hanna, 2006). Hanna (2006, p. 32) suggests, "The physical exercise of dance may be an end in itself, the purpose being the ▶ pleasure of doing."

Dance is widely associated with the amelioration of ▶ stress (Chaiklin & Wengrower, 2009; Goodill, 2005; Hanna, 2006; Quiroga Murcia & Kreutz, 2012). In a monograph devoted

to the topic of dance, health, and stress, Hanna (2006, p. 38) calls dance a "stress vaccine." She notes (2006, p. 55), "Throughout time people have danced to cope with stress, the relatively new umbrella term for concepts like conflict, frustration, trauma, anomie, ▶ alienation, ▶ anxiety, and depression." Claiming that dance is an effective medium for "preventing, escaping, and dissipating stress," she also notes dance's potential to transform both performer and observer (p. 30). Louppe (2010) concurs that the gaze of the dance observer is a multisensory, whole body process that can create change in the viewer.

Most empirical research on dance and quality of life appears to focus on emotional, mental/cognitive, and social domains in recreation and clinical settings. The field of DMT emphasizes psychotherapeutic applications of dance (ADTA, 2009); Goodill (2005) informs that medical DMT often focuses on goals such as emotional well-being and ▶ optimism, citing research in which participants credit DMT with reducing passivity in life. Reported emotional benefits of dance/movement therapy include improvement in ▶ self-esteem, vitality, ▶ mood, and coping strategies, and reduction of depression and anxiety.

A range of populations, including survivors of trauma and sexual abuse, prisoners, the aged, and children in educational settings, have reported that dancing creates an increased sense of ▶ freedom (Bond & Stinson, 2000/2001; Chaiklin & Wengrower, 2009; Goodill, 2005; Quiroga Murcia & Kreutz, 2012). For Louppe (2010), bodily rhythmic states of breath, time, and space make dance the "art of extreme freedom" (135), an ontological value cited in phenomenological literature (Bond & Stinson, 2000/2001; Fraleigh, 2004; Sheets-Johnstone, 2009). Dance may enhance cognitive processes including perception, attention, concentration, memory, time and spatial representation, creativity, meaningfulness, and sense of self-control (Bond, 2008; Goodill, 2005; Hanna, 2006; Quiroga Murcia & Kreutz, 2012).

The influence of positive social experiences on general health and well-being is well documented. Chaiklin and Wengrower (2009) note that people naturally seek community by creating or traveling to public areas to share rhythmic dance. Quiroga Murcia and Kreutz (2012, p. 128) observe that "dance is a profoundly social experience, which in a supportive setting can give feelings of identification and togetherness," possibly more so than in other activity settings. Hanna (2006) cites a plethora of social-cultural functions of dance from promotion of communal cooperation and ▶ solidarity, to religious and spiritual expression, to preparation for work and war, noting the integral connection between dance and ritual across human societies. She suggests that in communal settings, a spirit of elation may arise that is contagious for both dancers and viewers. Further, the presence of ▶ social support in dance settings can lower stress, including the support of touching and being touched. Bond (2008) noted the emergence of "aesthetic community" in a group of young nonverbal children with deafblindness.

Contemporary researchers and writers across the range of dance contexts concur that dance's value rests in part on its ability to express the ineffable (Bond & Stinson, 2000/2001; Chaiklin & Wengrower, 2009; Dissanayake, 2000; Hanna, 2006; Louppe, 2010; Sheets-Johnstone, 2009b); Hanna (2006, p. 34) notes, "Dance can often express what words cannot." Chaiklin elaborates that creativity in dance is "a search for structures to express what is difficult to state" (Chaiklin & Wengrower, 2009, p. 5). Dance can also be conceptualized as a nonverbal "language," providing a bridge to communication for people from different social and cultural backgrounds, an increasingly important function in the global society of the twenty-first century.

Conclusion

While the association between dance and quality of life can probably be traced to prehistory, perhaps to prehominid ancestors, systematic research is a recent phenomenon. Considering the apparent longevity of dance and its ubiquitous presence in human societies, it is difficult to understand why dance continues to be marginalized as an area of serious scholarship relative to other arts. Literature suggests a developing interest in understanding connections between dance, health, and quality of life.

Cross-References

- ▶ Exotic Dance and the Quality of Life
- ▶ Index of Arts as Community Builders
- ▶ Index of Arts as Self-Developing Activities
- ▶ Index of Arts as Spirit-Building

References

American Dance Therapy Association. (2009). Retrieved October 15, 2012, from www.adta.org

Bond, K. (2008). The human nature of dance: Towards a theory of aesthetic community. In S. Malloch & C. Trevarthan (Eds.), *Communicative musicality: Exploring the basis of human companionship* (pp. 401–422). Oxford, UK: Oxford University Press.

Bond, K. E., & Stinson, S. W. (2000/2001). "I feel like I'm going to take off!": Young people's experiences of the superordinary in dance. *Dance Research Journal, 32*(2), 52–87.

Buckland, T. (2006). *Dancing from past to present: Nation, culture, identities*. Madison, WI: University of Wisconsin Press.

Chaiklin, S., & Wengrower, H. (Eds.). (2009). *The art and science of dance/movement therapy: Life is dance*. New York: Routledge.

Chang, M. (2009). Cultural consciousness and the global context of dance/movement therapy. In S. Chaiklin & H. Wengrower (Eds.), *The art and science of dance/movement therapy: Life is dance* (pp. 299–316). New York: Routledge.

Copeland, R., & Cohen, M. (1983). *What is dance? Readings in theory and criticism*. New York: Oxford University Press.

Dils, A., & Albright, A.C. (2000). *Moving history/Dancing cultures*. Middletown, CN: Wesleyan University Press.

Dissanayake, E. (2000). *Art and intimacy*. Seattle, WA: University of Washington Press.

Ellis, H. (1923). *The art of dancing. The dance of life* (pp. 34–65). Boston: Houghton Mifflin.

Fraleigh, S. H. (2004). *Dancing identity: Metaphysics in motion*. Pittsburgh, PA: University of Pittsburgh Press.

Gere, D. (2004). *How to make dances in an epidemic: Tracking choreography in the age of AIDS*. Madison, WI: University of Wisconsin Press.

Goodill, S. W. (2005). *An introduction to medical dance/movement therapy: Health care in motion*. London: Jessica Kingsley.

Hanna, J. L. (2006). *Dancing for health: Conquering and preventing stress*. Lanham, MD: AltaMira Press.

Kealiinohomoku, J. W. (1970). An anthropologist looks at ballet as a form of ethnic dance. In M. Van Tuyl (Ed.), *Impulse: Annual of contemporary dance* (pp. 24–33). San Francisco: Impulse.

Kealiinohomoku, J. W. (1980). The non-art of dance: An essay. *Journal for the Anthropological Study of Human Movement, 1*(1), 36–44.

Louppe, L. (2010). *Poetics of contemporary dance*. Alton, UK: Dance Books.

Maletic, V. (1987). *Body, space, expression: The development of Rudolf Laban's movement and dance concepts*. Berlin, Germany: Mouton de Gruyter.

McCarren, F. (1998). *Dance pathologies: Performance, poetics, medicine*. Stanford, CA: Stanford University Press.

Quiroga Murcia, C., & Kreutz, G. (2012). Dance and health: Exploring interactions and implications. In R. A. R. Macdonald, G. Kreutz, & L. Mitchell (Eds.), *Music, health, and wellbeing* (pp. 125–133). Oxford, UK: Oxford University Press.

Sheets-Johnstone, M. (2009). *The corporeal turn: An interdisciplinary reader*. Exeter, UK: Imprint Academic.

Williams, D. (2004). *Anthropology and the dance: Ten lectures* (2nd ed.). Champaign, IL: University of Illinois Press.

Dance/Movement Therapy (DMT)

- ▶ Dance and the Quality of Life

Dancing

- ▶ Arts in British Columbia, Canada

Dartmouth COOP Charts

Megan Davidson
School of Physiotherapy, La Trobe University, Bundoora, VIC, Australia

Synonyms

Dartmouth cooperative functional assessment charts

Definition

There are nine Dartmouth COOP charts, one for each of Physical Fitness, Feelings, Daily

Activities, Social Activities, Pain, Social Support, Overall Health, Quality of Life, and Change in Health (health transition).

Description

The Dartmouth COOP charts were developed for use in clinical settings for the purposes of screening and monitoring physical, mental, and social function (Nelson, Landgraf, Hays, Wasson, & Kirk, 1990). There are nine charts, one for each of Physical Fitness, Feelings, Daily Activities, Social Activities, Pain, Social Support, Overall Health, Quality of Life, and Change in Health (health transition). The charts ask the person to rate themselves, with reference to the past 4 weeks, on a 5-level response scale that combines pictures and descriptors. The score for each chart ranges from one to five, with a higher score indicating worse functioning. The charts can be self-administered or administered by interviewer.

The charts can be purchased at www.dartmouthcoopproject.org/coopcharts.html

Other Versions

The COOP/WONCA adaptation has six charts: Physical Fitness, Feelings, Daily Activities, Social Activities, Overall Health, and Change in Health (Landgraf and Nelson 1992; van Weel, 1993). The reference timeframe is 2 weeks (Van Weel, König-Zahn, Touw-Otten, van Duijn, & Meyboom-de Jong, 1995). The COOP/WONCA charts are available in English, Chinese, Danish, Dutch, Finish, French, German, Hebrew, Italian, Japanese, Korean, Norwegian, Portuguese, Spanish (also in Gallego, Castilian, and Catalan), Slovak, Swedish, and Urdu (Van Weel et al., 1995).

An adaptation of the charts has been reported for use with American Indian people with diabetes (Gilliland et al., 1998). This version also uses a 2-week recall period.

The charts have been administered without the illustrations, and the two versions appear to be equivalent (Kempen, van Sonderen, & Sanderman, 1997; Larson, Hays, & Nelson, 1992).

Validity

The charts were designed from a review of the literature and existing instruments, health measurement experts, and opinions of clinicians (Nelson et al., 1990). The final charts were administered to three samples for validity testing, including a large sample of patients participating in the Medical Outcome Study who completed both the RAND scales (now the SF-36) and the Dartmouth COOP charts. Correlations between scales measuring the same or similar construct (e.g., physical functioning) were moderate (0.60–0.69), while there were generally lower correlations between scales measuring unrelated (or less related) constructs.

Moderate correlations between Dartmouth COOP Charts and similar scales on the ▶ SF-36, Chronic Respiratory Questionnaire, and the ▶ Hospital Anxiety and Depression Scale were also reported in a sample of people with chronic obstructive pulmonary disease (COPD) (Eaton, Young, Fergusson, Garrett, & Kolbe, 2005).

In a large ($n > 3{,}000$) survey by Jenkinson, Mayou, Day, Garratt, and Juszczak (2002), females on average scored higher (worse) than males, and scores increased with age for all domains except Feelings, for which older people had a lower (better) score. People with a chronic illness had significantly worse scores on all items except the Feelings chart, compared to those who did not report a chronic illness.

Other evidence for extreme or known-groups validity has been reported (McHorney, Ware, Rogers, Raczek, & Lu, 1992).

The COOP Charts and the SF-36 had similar responsiveness in people with chronic low back pain (Bronfort & Bouter, 1999) and people undergoing laparoscopic surgery (Jenkinson, Lawrence, McWhinnie, & Gordon, 1995).

The COOP/WONCA Feelings chart has a strong correlation with the Geriatric Depression Scale and may therefore be a useful screening tool for depression in elderly outpatients (Doetch, Alger, Glasser, & Levenstein, 1994).

Reliability

Each of the COOP charts uses a single item to evaluate an aspect of health. Single-item

indicators are usually less reliable than multi-item instruments. Reliability is generally sacrificed for brevity. Notwithstanding this, the test-retest reliability (ICC) for the charts for a 1-h retest period has been reported as ranging from 0.73 to 0.98, and for 2-weeks the range was 0.42–0.88 (Nelson et al., 1990). Weaker reliability coefficients have been reported over a longer, 2-month retest period (ICC range 0.17–0.61) in a small group of people with COPD (Eaton et al., 2005). Test-retest reliability of the five non-transitional COOP/WONCA charts in a sample of 40 patients attending GP clinics over 2–3 days was r = 0.74–0.86 (Bentsen, Natvig, & Winnem, 1999), and in a sample of 30 people with stroke was rho = 0.38–0.69 (Lennon, Carey, Creed, Durcan, & Blake, 2011).

Inter-rater reliability between administration by a nurse and physician in a primary care setting (ICC) ranged from 0.50 to 0.98.

Cross-References

- ▶ Chronic Obstructive Pulmonary Disease (COPD)
- ▶ Hospital Anxiety and Depression Scale (HADS)
- ▶ SF-36

References

Bentsen, B. G., Natvig, B., & Winnem, M. (1999). Questions you didn't ask? COOP/WONDA Charts in clinical work and research. *Family Practice, 16*(2), 190–195.

Bronfort, G., & Bouter, L. M. (1999). Responsiveness of general health status in chronic low back pain: A comparison of the COOP Charts and the SF-36. *Pain, 83*, 201–209.

Doetch, T. M., Alger, B. H., Glasser, M., & Levenstein, J. (1994). Detecting depression in elderly outpatients: Findings from depression symptom scales and the Dartmouth COOP charts. *Family Medicine, 26*(8), 519–523.

Eaton, T., Young, P., Fergusson, W., Garrett, J. E., & Kolbe, J. (2005). The Dartmouth COOP Charts: A simple, reliable, valid and responsive quality of life tool for chronic obstructive pulmonary disease. *Quality of Life Research, 14*, 575–585.

Gilliland, S. S., Willmer, A. J., McClaman, R., Davis, S. M., Hickey, M. E., Perez, G. E., et al. (1998). Adaptation of the Dartmouth COOP Charts for use among American Indian people with diabetes. *Diabetes Care, 21*(5), 770–776.

Jenkinson, C., Lawrence, K., McWhinnie, D., & Gordon, J. (1995). Sensitivity to change of health status measures in a randomized controlled trial: Comparison of the COOP charts and the SF-36. *Quality of Life Research, 4*, 47–52.

Jenkinson, C., Mayou, R., Day, A., Garratt, A., & Juszczak, E. (2002). Evaluation of the Dartmouth COOP Charts in a large-scale community survey in the United Kingdom. *Journal of Public Health Medicine, 24*(2), 106–111.

Kempen, G. I. J. M., van Sonderen, E., & Sanderman, R. (1997). Measuring health status with the Dartmouth COOP charts in low-functioning elderly. Do the Illustrations affect the outcomes? *Quality of Life Research, 6*, 323–328.

Landgraf, J. M., & Nelson, E. C. (1992). Summary of the WONCA/COOP International Health Assessment Field Trial. The Dartmouth COOP Primary Care Network. *Australian Family Physician, 21*(3), 255–269.

Larson, C. O., Hays, R. D., & Nelson, E. C. (1992). Do the pictures influence scores on the Dartmouth COOP Charts? *Quality of Life Research, 1*, 247–249.

Lennon, O. C., Carey, A., Creed, A., Durcan, S., & Blake, C. (2011). Reliability and validity of COOP/WONCA functional health status charts for stroke patients in primary care. *Journal of Stroke and Cerebrovascular Diseases, 20*(5), 465–473.

McHorney, C. A., Ware, J. E., Rogers, W., & Raczek, A. E. (1992). The validity and relative precision of MOS Short-, and Long-Form Health Status Scales and Dartmouth COOP charts. *Medical Care, 30*(5), MS253–MS265.

Nelson, E. C., Landgraf, J. M., Hays, R. D., Wasson, J. H., & Kirk, J. W. (1990). The functional status of patients. How can it be measured in physicians' offices? *Medical Care, 28*(12), 1111–1123.

Van Weel, C. (1993). Functional status in primary care: COOP/WONCA charts. *Disability & Rehabilitation, 15*(2), 96–102.

Van Weel, C., König-Zahn, C., Touw-Otten, F., van Duijn, N. P., & Meyboom-de Jong, B. (1995). *Measuring functional health status with the COOP/WONCA charts. A manual*. Groningen, The Netherlands: World Organization of Family Doctors (WONCA).

Dartmouth Cooperative Functional Assessment Charts

- ▶ Dartmouth COOP Charts

Dartmouth Pain Questionnaire

Megan Davidson
School of Physiotherapy, La Trobe University, Bundoora, VIC, Australia

Definition

The Dartmouth Pain Questionnaire is an adjunct to the McGill Pain Questionnaire.

Description

The Dartmouth Pain Questionnaire (Corson & Schneider, 1984) was proposed as an "adjunct to the ▶ McGill Pain Questionnaire" (MPQ). It consists of five parts. Parts 1 and 2 are the MPQ body map (where is your pain) and the 20 groups of pain descriptors. The Present Pain Index of the MPQ is not included. Part 3 is a seven-item "self-perception" scale, in which the respondent is asked to compare how they feel now to how they felt before they "had the pain." For the seven items (tense or anxious, able to concentrate, satisfied with myself, in control, depressed, irritable, fatigued), they rate themselves much worse, slightly worse, same, slightly better, or much better. Part 4 is a pain diary (pain intensity rated hourly for 24 h) rated on a 0–10 scale, and part 5 asks the person to estimate the amount of time over the last 24 h spent doing 12 activities (grouped as B and C) and to select any of 13 activities "which you did at least one time in the last 24 h" (grouped as D, E, F, and G).

- Part 1 is not scored.
- Part 2 is scored by counting one point for each of the 20 categories chosen (possible score 0–20).
- Part 3 is scored from 1 to 5 (possible score 7–35).
- Part 4 is scored by the highest pain rating (possible score 0–10).
- Part 5 is the total hours for the active activities (groups A and C), minus the total hours for the passive activities (group B), plus total number of items selected in groups D and F, minus the number of items selected in groups E and G, minus the number of medications taken.

The total score is the ratio of "presumed negative scores" to the "presumed positive scores."

Corson and Schneider (1984) reported the test-retest reliability of the DPQ on 50 "normal" subjects, and 28 persons with low back pain. Test-retest correlation coefficients in the "normal" group were <0.50 for all components except the number of words (part 2). The total ratio score correlation was 0.353. For the low back pain patients, the test-retest reliability was 0.711 for the total ratio score. There were significant differences between the low back pain and "normal" groups at both first and second tests indicating some evidence of known-groups validity.

No further psychometric testing of the DPQ has appeared, the article by Corson and Schneider (1984) is rarely cited, and the DPQ appears not to be in current use for research or clinical purposes.

References

Corson, J. A., & Schneider, M. J. (1984). The Dartmouth Pain Questionnaire: An adjunct to the McGill Pain Questionnaire. *Pain, 19*, 59–69.

DAS

▶ Detroit Area Studies (DAS)

DASH Disabilities of the Shoulder, Arm and Hand Questionnaire (30-Item Full Length Version)

▶ Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH)

Data Analysis

Bruno D. Zumbo
Department of ECPS & Department of Statistics, Institute of Applied Mathematics, University of British Columbia, Vancouver, BC, Canada

Synonyms

Data display; Data visualization; Exploratory data analysis

Definition

The Science of Data

Statistics is the science of gaining information from data. The science of data is divided into three broad areas: producing data, analyzing data, and inference from data.

Producing Data

This area involves survey design, measurement theory, survey sampling, probability sampling, randomizing comparative experiments (i.e., studies with randomization and comparison), quasi-experiments and other such field studies.

Analyzing Data

Data analysis provides tools and strategies for extracting information from data, not only as preliminary to formal inference but also in settings where formal inference is not justifiable or of interest. Data analysis is also used to investigate whether formal inference can be legitimately used. One can examine data analysis tools such as boxplots, scatter diagrams and other visualization devices, and least-squares model fitting. The essence of data analysis is to let the data speak, to look for patterns and then for meaningful deviations from those patterns without first considering whether the data are representative of some larger universe of scores – i.e., a population. Inspection of data through visualization often uncovers very unexpected and fascinating features. If data are produced to answer a specific question – this is the setting in which formal inference procedures such as confidence intervals and significance testing are best justified – unusual features in the data may lead us to reconsider the analysis we had planned. *Careful data analysis therefore precedes formal inference in good statistical practice*. In other situations, we do not have specific questions in mind and want to allow the data to suggest conclusions (or working hypotheses) that we can seek to confirm by further study. We then speak of exploratory data analysis with the analogy of an explorer entering unknown lands.

Inference from Data

This is where probability theory comes into play. There are at least three modes of inference: frequentist, likelihood, and Bayesian. The most widely used mechanism for inference in quality of life research is a sampling distribution – i.e., a probability distribution of a statistic. Assumptions are a fundamental issue that will arise again and again for us in the area of inference. When statistics is usually taught, it almost exclusively focuses on inference but data analysis highlights that there is a lot more in the statistical toolkit than just inference.

In the next section, several fundamental notions and methods of data analysis will be reviewed with an eye toward showcasing the spirit of the field of data analysis. Behrens and Smith (1996); Wainer and Velleman (2001); Tufte (1983) provide excellent recent overviews of modern data analysis highlighting both the practice and the philosophical foundations of the field. The foundational paper in the field is most certainly Tukey (1962) – John W. Tukey figures prominently in the field of data analysis.

Description

The goal of data analysis is to gain information from data. The first step is to display the data graphical to establish the overall pattern and spot unusual observations.

Some Common Graphical Representations

Three commonly found graphical representations.

(a) *Stemplots* (also called stem-and-leaf plots) offer a quick way to picture the shape of a distribution while including the actual numbers in the graph.

For example, Table 1 lists the ages of hockey players in an 'Old-Timers' league and Fig. 1 displays the resulting draft and final stemplots.

From any data display, including stem and leaf plots, a common feature of data analysis is to look for:

- The median
- Symmetry
- Gaps or outliers (look for a pattern and then deviations from that pattern).

(b) *Histograms*

Stemplots are very useful but they are awkward with large numbers of data. Histograms, on the other hand, do not have these limitations. A histogram breaks the range of values into intervals and displays only the count (or percentage) of the observations that fall into each interval.

Data Analysis, Table 1 Example data, ages of hockey players

54, 59, 35, 41, 46, 27, 33, 42, 39

DRAFT	FINAL
2 | 7	2 | 7
3 | 5 3 9	3 | 3 5 9
4 | 1 6 2	4 | 1 2 6
5 | 4 9	5 | 4 9

Data Analysis, Fig. 1 Draft and final stemplots for the example data

Histograms are sometimes also called "frequency distributions" or "frequency histograms". Figure 2 is an example frequency histogram. Again, one looks for shape, pattern, central tendency, and deviations or gaps.

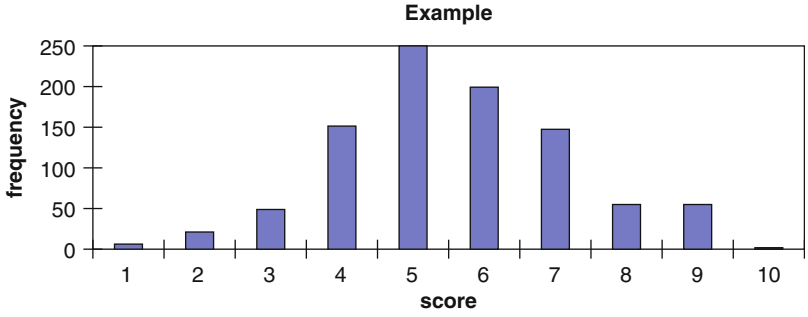
(c) *Boxplots*

To understand boxplots, one must first be familiar with quartiles and the interquartile range (IQR). The spread or variability of a distribution can be indicated by giving several percentiles. The p^{th} percentile of the distribution is the value such that p percent of the scores fall at or below it. Therefore, the median is simply the 50th percentile. The most commonly used percentiles, other than the median, are the quartiles. The first quartile, Q_1, is the 25th percentile and the third quartile, Q_3, is the 75th percentile – Q_2 is, of course, the median.

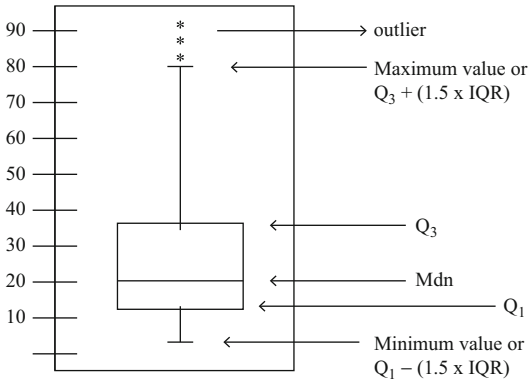
To get an even better sense of the quartiles, first locate the median in a list of numbers. The first quartile is the median of the observations below the median. The Q_3 is the median of the scores above Q_2. IQR = Q_3–Q_1 where IQR gives the range of the middle half of the data.

Because Q_1, the Mdn (i.e., Q_2), and Q_3 contain no information about the tails of the distribution, a fuller summary is needed. This fuller summary comes from the 5-number summary: minimum, Q_1, Mdn, Q_3, maximum. The 5-number summary then leads to a boxplot, Fig. 3 is an example boxplot.

As one can see from even these modest and fundamental displays of data, the objectives of data analysis are to: (a) suggest possible



Data Analysis, Fig. 2 Example frequency histogram



Data Analysis, Fig. 3 An annotated example boxplot

hypotheses about the causal mechanisms (the causes) of the observed variation in the variable and some plausible rival explanations, (b) aid in assessing the assumptions on which further statistical inferences will be based, and (c) suggest appropriate statistical tools such as nonparametric methods, smoothing, or generalized linear models. Of course, the foundation of data analysis includes consideration of the fact that one study, one analysis, should also provide statistical information to guide the development of the next survey or experiment.

Cross-References

- ▶ Bivariate Analysis
- ▶ Exploratory Factor Analysis
- ▶ Missing Data
- ▶ Multivariate Statistical Analysis
- ▶ Parametric Analysis
- ▶ Univariate Tests

References

Behrens, J. T., & Smith, M. L. (1996). Data and data analysis. In D. Berliner & R. Calfee (Eds.), *The handbook of educational psychology* (pp. 945–989). New York: MacMillan.

Tufte, E. R. (1983). *The visual display of quantitative information*. Cheshire, CT: Graphics Press.

Tukey, J. W. (1962). The future of data analysis. *Annals of Mathematical Statistics, 33*, 1–67, 812.

Wainer, H., & Velleman, P. F. (2001). Statistical graphics: Mapping the pathways of science. *Annual Review of Psychology, 52*, 305–335.

Data Analysis, Spatial

▶ Spatial Analysis

Data Collection Methods

Kate Orkin
International Development, University of Oxford, Oxford, UK

Synonyms

Data collection mode; Data collection strategy

Definition

Data collection methods are systematic techniques through which information is gathered. There are five main data collection methods in social science: surveys, interviews, observations, experiments, and accessing archival data (Vogt, 2010).

Description

Data collection methods can be broadly grouped into those which generate qualitative and quantitative data. Qualitative data "convey meaningful information in a form other than numbers" (Dey, 1993: 13). Qualitative data can be generated by examining any human actions and artifacts which have meaning, including observations of behavior, text, and conversations. Qualitative researchers emphasize that data ought to be "rich, nuanced and detailed" to produce "rounded and contextual understandings" of how people

"experience, interpret and produce the social world" (Mason, 2002: 3). The qualitative research process tends to be inductive: researchers avoid prior hypotheses and definitions of concepts and allow these to develop from contact with the social world they are studying (Glaser & Strauss, 1967). Data collection is thus usually unstructured and non-standardized.

Researchers can gather information through observation or through interviewing respondents. Researchers using observational techniques become involved in life in the study site to varying extents. Ethnographers participate "...overtly or covertly in people's daily lives for an extended period of time...collecting whatever data are available to throw light on...the focus of research" (Hammersley & Atkinson, 1995: 1). Photography, video, and mapping, in contrast, involve less participation in community life.

In interview-based research, interaction with participants is more formal and limited. Unstructured interviews focus on issues raised by the respondent(s) within a broad focus on particular research themes. In semi-structured interviews, all respondents are asked the same open-ended questions to "obtain patterns of similarity and variations that can characterize the study sample of individuals" (Schensul, 2008: 2).

Interviews can involve one or more respondents. Both individual and group interviews can use elicitation techniques, where interviewees respond to photographs, drawings, or other material. Respondents may also participate in activities such as drawing, writing, body mapping, or role-play.

Quantitative data collection, in contrast, is highly structured and standardized. The process through which data is collected must be replicated in the same way for each respondent (Iversen, 2003). This is because quantitative research aims primarily to draw generalizations about a whole population by collecting data on a sample of the population. If the sample has been correctly selected using probability theory, conclusions about the sample can be generalized to the population via statistical inference (Moser & Kalton, 1985). But statistical inference can only be used on numerical data where the values of variables are comparable across respondents.

In interviewer-administered questionnaires, the respondent is asked questions face-to-face or over the telephone. In self-administered questionnaires, the respondent answers a paper or electronic questionnaire. In experiments, respondents undergo standardized treatments, and each respondent is observed using the same protocol.

The conclusions of qualitative research can also be generalized, but generalization does not use statistical techniques. Some qualitative researchers emphasize the value in understanding one highly particular instance and argue that generalization should be limited to inferential generalization (Lincoln & Guba, 1985), which occurs in an intuitive rather than a law-like fashion. But researchers from the analytical induction (Ragin, 1992; Yin, 2003) or grounded theory (Glaser & Strauss, 1967; Layder, 1993; Strauss & Corbin, 1998) traditions argue that theoretical propositions can be drawn from qualitative findings.

Researchers can use more than one data collection method in a study (Brannen, 1992). In mixed methods research (Plano Clark & Creswell, 2007), also called multi-strategy or mixed methodology research (Bryman, 2004), "the researcher mixes or combines quantitative and qualitative research methods, approaches, concepts or language into a single study" (Johnson & Onwuegbuzie, 2004: 24).

Cross-References

- ▶ Qualitative Methods
- ▶ Sample Survey
- ▶ Survey Administration
- ▶ Survey Research

References

Brannen, J. (1992). *c*. Aldershot: Avebury.
Bryman, A. (2004). *Social research methods*. Oxford: Oxford University Press.
Dey, I. (1993). *Qualitative data analysis: A user-friendly guide*. London: Routledge.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine de Gruyter.
Hammersley, M., & Atkinson, P. (1995). *Ethnography: Principles in practice*. London/New York: Routledge.
Iversen, G. R. (2003). Quantitative research, Encyclopedia of social science research methods. http://www.sage-ereference.com/view/socialscience/n787.xml, Accessed 11 Aug 2011.
Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 2004.
Layder, D. (1993). *New strategies in social research: An introduction and guide*. Cambridge: Polity Press.
Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage.
Mason, J. (2002). *Qualitative researching* (2nd ed.). London: Sage.
Moser, C., & Kalton, G. (1985). *Survey methods in social investigation*. Dartmouth: Ashgate.
Plano Clark, V. L., & Creswell, J. W. (2007). *The mixed methods reader*. New York: Sage.
Ragin, C. C. (1992). Cases of "what is a case?". In C. C. Ragin & H. S. Becker (Eds.), *What is a case? Exploring the foundations of social enquiry* (pp. 1–19). Cambridge: Cambridge University Press.
Schensul, J. J. (2008). Methodology. The Sage encyclopedia of qualitative research methods. http://www.sage-ereference.com/view/research/n267.xml. Accessed 11 Aug 2011.
Strauss, A. L., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques*. Thousand Oaks, CA: Sage.
Vogt, P. W. (2010). *Data collection*. Los Angeles/California/London: Sage.
Yin, R. K. (2003). *Case study research: Design and methods*. Thousand Oaks, CA: Sage. ISBN Third edn.

Data Collection Mode

► Data Collection Methods

Data Collection Strategy

► Data Collection Methods

Data Display

► Data Analysis

Data Envelopment Analysis

Peng Zhou
College of Economics and Management, Nanjing University of Aeronautics and Astronautics, Nanjing, China

Synonyms

Frontier analysis techniques

Definition

Data envelopment analysis is a mathematical programming technique for evaluating the relative efficiency of a set of comparable entities called decision-making units (DMUs).

Description

Data envelopment analysis (DEA) is a well-established methodology for evaluating the relative efficiencies of a set of comparable entities by solving a series of mathematical programming models (Charnes, Cooper, & Rhodes, 1978). These entities, often called decision-making units (DMUs), have the same multiple inputs and outputs. Compared to its parametric frontier counterpart for efficiency evaluation, DEA does not require any prior assumptions on the underlying functional relationships between inputs and outputs. That is to say, it is a nonparametric technique. In addition, DEA is also a frontier analysis technique that constructs the best practice frontiers from the empirical observations, based on which the efficiency score of all the DMUs can be evaluated.

The earliest DEA models, developed by Charnes et al. (1978) and quoted as CCR models, assume that the underlying production technology exhibits constant return to scale. Since then, more and more researchers have been attracted into this exciting field and made numerous theoretical and methodological DEA developments (Cooper, Seiford, & Tone, 2006).

Since the seminal work by Charnes et al. (1978), DEA has also been widely used for the performance comparisons of different types of DMUs. Along with the growing concern about energy and environmental issues, DEA has also gained much popularity in energy and environmental studies (Zhou, Ang, & Poh, 2008a). It is well known that energy consumption plays a significant role in improving people's ▶ quality of life. For instance, with the increase of per capita income, people in developing countries tend to buy cars and drive cars frequently, which helps to improve their ▶ quality of life. However, this improvement will inevitably lead to an increase in energy consumption that may cause the deterioration of environmental performance and finally result in a decline of people's quality of life. A useful strategy to mitigate this issue is to improve energy efficiency, which may reduce energy consumption on the assumption of not affecting people's quality of life. In this regard, energy efficiency and environmental performance measurement, where DEA technique has been widely employed, is closely related to the field of quality of life research.

The measurement of energy efficiency can be done at different levels while measuring economy-wide energy efficiency seems to be the most challengeable. Ang (2006) provides an excellent introduction to various economy-wide energy efficiency indicators (EEIs), among which the index decomposition analysis (IDA) based EEIs have been widely adopted by different countries/organizations to track their economy-wide energy efficiency trends. The study by Zhou et al. (2008a) highlights the usefulness and popularity of DEA in ▶ benchmarking energy efficiency at various levels. Zhou and Ang (2008) further propose several DEA models with undesirable outputs for measuring economy-wide energy efficiency performance.

In environmental performance measurement, DEA has received even more attention. A popular practice is to first incorporate pollutants or undesirable outputs into DEA and then develop an environmental performance index (EPI) based on the resulting DEA model. But how to model undesirable outputs in DEA? In traditional DEA models, all the inputs and outputs are assumed to be freely disposable. However, when there are undesirable outputs, the free disposability assumption of outputs may not be suitable since the reduction of undesirable outputs would not be free. Some researchers such as Seiford and Zhu (2002) suggest to transform undesirable outputs into new variables similar to desirable outputs so that the traditional DEA models can be used. However, the more popular practice in application is to use the environmental DEA technology developed by Färe, Grosskopf, Lovell and Pasurka (1989), which assumes the weak disposability and null-jointness of desirable and undesirable outputs. It implies that the proportional reduction of desirable and undesirable outputs is possible, and the only way to eliminate all the undesirable outputs is to end the production of desirable outputs. According to the survey study by Zhou et al. (2008a, 2008b), there exist quite a few number of studies that construct EPI using the concept of environmental DEA technology. This should be attributed to the growing worldwide concern on environmental issues and sustainable development and the ability of DEA in constructing composite indicators. Although some earlier studies contribute to the development of EPI for measuring firm-level environmental performance, more and more studies have been devoted to measure environmental performance at macro level. For instance, Zhou, Ang and Poh (2006) develop a slacks-based EPI that considers the slacks in inputs and desirable outputs. Later, Zhou, Poh and Ang (2007b) propose a non-radial DEA approach to constructing EPI, which allows to incorporate the preference information of decision makers. More recently, Zhou, Ang and Han (2010a) develop a total factor carbon emission performance index for measuring the dynamic changes of different countries in their CO_2 emission performance.

In addition to energy efficiency and environmental performance measurement, DEA has also been directly used for constructing composite indicators (CIs) relevant to the various aspects of quality of life. For instance, Murias, de Miguel and Rodriguez (2008) apply DEA to assess the ▶ economic well-being of different provinces and the quality of different universities in Spain.

Zhou, Ang and Poh (2007a) develop an additive linear programming approach to constructing CIs by combining the ideas of DEA and multi-attribute decision-making. A novelty of this approach is that it uses two sets of weights, namely, the most and the least favorable ones, in ▶ CI construction. Later, Zhou et al. (2010b) extend the approach and propose a multiplicative optimization approach to constructing CIs, since Zhou and Ang (2009) find that geometric aggregation may lead to minimum information loss in CI construction among several alternative aggregation methods.

In summary, DEA has received increasing attention in constructing various types of CIs such as EEI and EPI. Compared to other data weighting and aggregation methods, DEA has a number of strengths in CI construction. First, it is built upon the theory of production efficiency and has solid theoretical foundation. Second, it determines the weights for sub-indicators in an objective manner and therefore avoids the conflicts of different experts in determining the weighs. Despite of its limitations, researchers have made substantial efforts in advancing DEA by overcoming its limitations. Further research may be conducted to incorporate the desirable features of other data weighting and aggregation techniques into DEA to improve the quality of DEA-based CIs.

References

Ang, B. W. (2006). Monitoring changes in economy-wide energy efficiency: From energy-GDP ratio to composite efficiency index. *Energy Policy, 34*, 574–582.

Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research, 2*, 429–444.

Cooper, W. W., Seiford, L. M., & Tone, T. (2006). *Introduction to data envelopment analysis and its uses: With DEA-solver software and references*. New York: Springer.

Färe, R., Grosskopf, S., Lovell, C. A. K., & Pasurka, C. (1989). Multilateral productivity comparisons when some outputs are undesirable: A nonparametric approach. *The Review of Economics and Statistics, 71*, 90–98.

Murias, P., de Miguel, J. C., & Rodriguez, D. (2008). A composite indicator for university quality assessment: The case of Spanish higher education system. *Social Indicators Research, 89*, 129–146.

Seiford, L. M., & Zhu, J. (2002). Modeling undesirable factors in efficiency evaluation. *European Journal of Operational Research, 142*, 16–20.

Zhou, P., & Ang, B. W. (2008). Linear programming models for measuring economy-wide energy efficiency performance. *Energy Policy, 36*, 2901–2906.

Zhou, P., & Ang, B. W. (2009). Comparing MCDA aggregation methods in constructing composite indicators using the Shannon-Spearman measure. *Social Indicators Research, 94*, 83–96.

Zhou, P., Ang, B. W., & Han, J. Y. (2010a). Total factor carbon emission performance: A Malmquist index analysis. *Energy Economics, 32*, 194–201.

Zhou, P., Ang, B. W., & Zhou, D. Q. (2010b). Weighting and aggregation in composite indicator construction: A multiplicative optimization approach. *Social Indicators Research, 96*, 169–181.

Zhou, P., Ang, B. W., & Poh, K. L. (2006). Slacks-based efficiency measures for modeling environmental performance. *Ecological Economics, 60*, 111–118.

Zhou, P., Ang, B. W., & Poh, K. L. (2007). A mathematical programming approach to constructing composite indicators. *Ecological Economics, 62*, 291–297.

Zhou, P., Ang, B. W., & Poh, K. L. (2008a). A survey of data envelopment analysis in energy and environmental studies. *European Journal of Operational Research, 189*, 1–18.

Zhou, P., Ang, B. W., & Poh, K. L. (2008b). Measuring environmental performance under different environmental DEA technologies. *Energy Economics, 30*, 1–14.

Zhou, P., Poh, K. L., & Ang, B. W. (2007). A non-radial DEA approach to measuring environmental performance. *European Journal of Operational Research, 178*, 1–9.

Data Envelopment Analysis (DEA)

▶ Spanish Geography and the Quality of Life

Data Liberation Initiative (DLI)

Wendy Watkins and Ernie Boyko
Data Centre, Carleton University Library, Ottawa, ON, Canada

Synonyms

Data portal; Data repository

Definition

The Canadian Data Liberation Initiative

The Canadian Data Liberation Initiative (DLI) is a unique, cost-effective partnership between Statistics Canada and Canadian post-secondary institutions. Participating institutions pay an annual subscription fee that allows their faculty and students unlimited access to virtually all of Statistics Canada's public use microdata files (PUMFs), databases, and geographic files for academic teaching and research. The aim of the project was to provide faculty and students with Canadian data and information resources to foster statistical literacy and numeracy and to provide researchers and students with the tools to analyze Canadian society.

Description

Background

During the 1980s, successive budget cuts at Statistics Canada led to increased prices for Statistics Canada's products, among them, public use microdata files. Initially, the pricing of these products was regarded as minimal by Statistics Canada, but in reality, most of these files were, in fact, too expensive for the academic community. To make matters worse, during the late 1980s, Statistics Canada increased these prices exponentially with the effect of putting them out of reach financially to all but the few very well-funded institutions or those individuals with close ties to the data producers in the agency. Researchers and students were left in the lurch, either using United States (US) data or giving up on quantitative analysis altogether.

A 1992 paper by Professor Paul Bernard (Bernard, 1992) from the Université de Montréal inspired a remedy to the situation in the form of a paper "*Liberating the Data: A Proposal for a Joint Venture between Statistics Canada and Canadian Universities*" (Watkins, 1992). This was championed by the Social Science Federation of Canada (SSFC) and a group of supporters, affectionately known as the "Data Liberation Army," who worked to make the proposal a reality.

The Data Liberation Initiative was launched in 1996 as a partnership between Statistics Canada and Canada's post-secondary educational institutions. This initiative leveled the playing field for all institutions by providing affordable access to all of Statistics Canada publically available data products. A fixed annual fee was paid by institutions who joined by signing a license agreement and designating a point of contact that would liaise with Statistics Canada and provide service to students and researchers. Neither the fee nor the license agreement has changed since the project was established (Watkins, 1994).

Content

While the initial focus for the initiative was public use microdata files, this has grown to include virtually all of Statistics Canada's public files including PUMFs, geography files, census tables, the Canadian Socio-Economic Information Management System (CANSIM), a large time-series database, and a series of specialized databases.

The DLI Team

The DLI team is made up of the DLI unit housed at Statistics Canada and representatives known as DLI contacts at each of the subscribing institutions.

The DLI Unit

A separate unit was established within Statistics Canada to be the focal point for the project. Their job is to acquire data files and documentation from the producing divisions, vet them and make corrections where necessary, load them onto a file server, and provide support to users using an electronic mailing list and a web site. It was quickly discovered that the unit also needed to enhance the labels and the usability of the files. More recently, the unit has been creating metadata (see ▶ Metadata in the Social Sciences) for the files using the Data Documentation Initiative (DDI) standard. The unit actively promotes the initiative within and outside Statistics Canada and participates in regional and national training sessions for DLI contacts each year.

DLI Contacts

Each participating institution designates a contact point for the project. Their tasks are to facilitate access to the data files, promote the project with students and researchers, and seek answers from Statistics Canada for questions posed by their users. Having DLI contacts and the DLI unit as the main contact points serves to ensure that questions are properly answered and Statistics Canada's data producing divisions are not overwhelmed by questions from thousands of students. The contacts also play a role within the universities, answering questions by students and faculty about Statistics Canada's products and programs.

Service and Support

DLI List: DLI's Electronic Mailing List

With tens of thousands of users across the country in 75 institutions, communication is an important function. To ensure that everyone is informed on issues touching hundreds of surveys, the DLI unit operates the DLI list where DLI contacts can post enquiries and answers can be posted by the DLI unit or by other knowledgeable persons. The list is completely open to all; followers of Statistics Canada often find it the best place to keep up to date with the agency.

Training

Training is an integral part of the Data Liberation Initiative. Regional training is held annually, while national training is held every 4 years when the International Association for Social Science Information Service and Technology (IASSIST) meets in Canada.

Training Repository

The DLI Training Repository houses over 300 presentations and workshops that have been presented over the many years of the project. It is an invaluable teaching and learning resource (Boyko, Hamilton, Humphrey and Watkins, 2006).

Survival Manual

The Data Liberation Survival Manual grew out of the 1997 Workshop's DLI "Bible" given in each region as a sort of 3-day boot camp for neophyte Data Librarians. The Survival Manual provides a comprehensive reference tool to all contacts regardless of prior experience with the project and undergoes frequent updates to ensure the content is current.

Project Partnerships

The DLI team has partnered with several institutions to share the workload of creating DDI metadata for PUMFs. One of those projects is Ontario Data Documentation, Extraction Service and Infrastructure (http://odesi.ca) where DLI holdings may be searched across files at the variable level. While the data in odesi are only available to Ontario universities, the metadata are searchable by anyone, facilitating finding that perfect DLI survey.

Research Data Centres

The Canadian Research Data Centres Network grew directly out of DLI when it was realized that there was no similar mechanism in place that would allow researchers to analyze longitudinal files.

Governance

The project is guided by an External Advisory Committee consisting of two members from each of four regions of Canada representing large and small post-secondary institutions. A library administrator and members from Statistics Canada's authoring and analysis divisions also sit on the committee. This committee typically meets twice a year to set broad policy and chart the direction of the project.

Benefits

Data Liberation has proved beneficial not only to its partners but also to the Canadian population as well. Some of these benefits were recognized at the beginning and led to the development of the proposal. Others have been unintended consequences (Boyko, Watkins, fall/automne 1996). All have been positive. Having an academic partnership is important for Statistics Canada's credibility. Data Liberation has added value and quality control to Statistics Canada's extensive

collection of PUMFs through the adoption of the DDI standard for its metadata. For the academics, the number of trained analysts graduating from Canadian post-secondary institutions has increased dramatically. As a result, students with strong quantitative skills are finding jobs in government and business, even in a tight employment market (Boyko, Watkins, 2011).

Cross-References

- ▶ Canadian Research Data Centre Network
- ▶ Data Liberation Initiative (DLI)
- ▶ Metadata in the Social Sciences

References

Bernard, P. (1992). Data and knowledge: Statistics Canada and the research community. *Society/Société*, p. 22.

Boyko, E., & Watkins, W. (2011). The Canadian data liberation initiative: An idea worth considering?. International Household Survey Network (IHSN) working paper no. 006. http://www.ihsn.org/home/index.php?q=activities/working-papers

Boyko, E., Hamilton, E., Humphrey, C., & Watkins, W. (2006). Lifting ourselves by our bootstraps: Developing a national peer-to-peer training program for data librarians in Canada. Paper presented at the International Federation of Library Associations (IFLA), Berlin. 2006. http://library.acadiau.ca/DLI2006/training/berlinFINAL.pdf

Boyko, E., & Watkins, W. (fall/automne 1996). Data Liberation and Academic Freedom. In *Government Information in Canada/Information gouvernementale au Canada* (Vol. 3, number/numéro 2). http://library2.usask.ca/gic/v3n2/watkins2/watkins2.html

Humphrey, C., & Watkins, W. (2006). Introducing Data into Canadian Academic Libraries: The Straw that didn't break the camel's back. Paper presented at the International Conference on Teaching Statistics (ICOTS7), Salvadore, Brazil, 2006. http://www.stat.auckland.ac.nz/~iase/publications/17/1A3_WATK.pdf

Watkins, W. (1992). Liberating the Data: Aj Proposal for a Joint Venture between Statistics Canada and Canadian Universities (unpublished)

Watkins, W. (fall/automne 1994). The data liberation initiative: A new cooperative model. In *Government Information in Canada/Information gouvernementale au Canada* (Vol. 1, number/numéro 2). http://library2.usask.ca/gic/v1n2/watkins/watkins.html

Data Portal

- ▶ Data Liberation Initiative (DLI)

Data Presentation

Filomena Maggino[1] and Marco Trapani[2]
[1]Dipartimento di Statistica, Informatica, Applicazioni "G. Parenti" (DiSIA), Università degli Studi di Firenze, Firenze, Italy
[2]University of Florence, Florence, Italy

Definition

Many international institutions, like World Bank and UNESCO (Patel et al., 2003) and Eurostat (2000a, b), have identified different attributes to be considered in evaluating quality of statistics, such as methodological soundness, integrity, serviceability, and accessibility.

At the same time, less attention is paid to presentation and communication of statistics, which represent important aspects of the statistical activities and should be considered an integral part of data production and dissemination.

The need to deal with this issue is significantly increasing especially in the perspective of the role the statistics have in ICT societies. Presentation and communication of quality of life data are not easy tasks to be carried on since they cannot be accomplished through improvising and approximating methods and instruments. They require a combined and joint knowledge and expertise of statistical methodology, cognitive science, and communication.

Description

Characteristics of the Process

Generally, assessing statistical activity in quality of life research (but not only) pays great attention to many aspects referring to mainly data collection, production, data analysis, modeling, and so on.

With reference to this, many international institutions, like World Bank and UNESCO (Patel et al., 2003) and Eurostat (2000a, b), have identified different attributes to be considered in evaluating quality of statistics, such as methodological soundness, integrity, serviceability, and accessibility. At the same time, less attention is paid to the process of presenting and communicating data, which represent important aspects and should be considered an integral part of data production and dissemination.

The need to deal with this issue is significantly increasing especially in the perspective of role that quality of life data play in ICT societies and in policy decision processes.

Data presentation and communication cannot be accomplished through improvising and approximating methods and instruments. It requires a combined and joint knowledge and expertise of statistical methodology, cognitive science, and communication.

Data Presentation and Communication: Integral Component of the Statistical Work in QoL Research Field

Presenting data represents an important aspect of statistical activities and should be considered not just at the end of them but constantly from the beginning.

Poor attention is paid to the statistical results presentation aspect, maybe because of efforts dedicated to the previous stage of the activities (data collection and production, defining research model, data analysis, modeling, and so on). Nevertheless, communication is not just an appendix of the core business focused on data production, but a key function that can determine the success or the failure of an official data provider (Giovannini, 2008).

A formula has been used in order to define the value added of official statistics (*VAS*) (derived from Giovannini, 2008):

$$VAS = f(N, QSA, MFM\ RSM\ TSM\ NL, QIP)$$

where
N is size of the audience
QSA is statistical information produced
MF is role of media
RS is relevance of the statistical information
TS is trust in official statistics
NL is users' "numeracy"
QIP is quality and incisiveness of presentation

This assumes a particular relevance if we consider (Giovannini, 2008) that 45 % of Europeans have no faith in official statistics and that – at the same time – 69 % of them believe in the necessity to know data concerning economics trends.

Data cannot be presented in an aseptic and impartial way by leaving honor and onus of data interpretation to the audience. At the same time, interpretation could be represented by different and equally correct perspectives ("the bottle is half-empty" or "the bottle is half-full"), which could be completed by additional information, e.g., in dynamic terms ("the bottle is getting filled up" or "the bottle is getting empty").

Whatever approach/statement will be assigned to presentations, the message will be nonetheless transmitted and interpreted by the audience in one of the possible ways (glass of water which can be half-empty or half-full). The audience rarely will grasp only the pure numerical aspect by leaving out of consideration any evaluation. Since it is quite impossible to present data and results objectively, impartially, and neutrally, a step-by-step model should be defined by the following sequential elements (Table 1).

Components of the Process

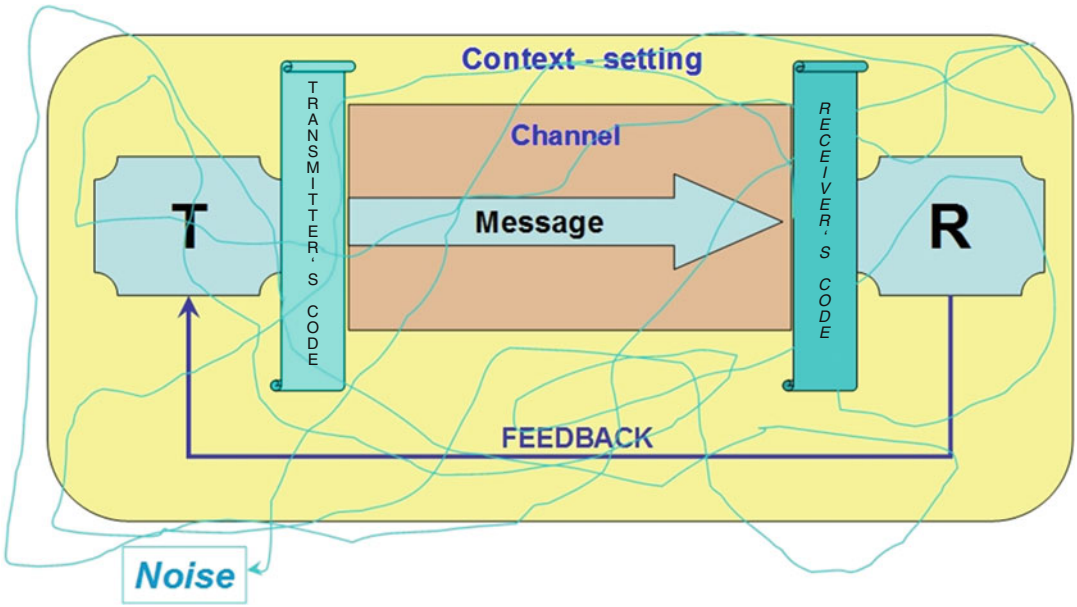
As known, elements composing any communication process are: (i) transmitter, (ii) receiver, (iii) channel, (iv) (transmitter's/receiver's) code, (v) message, (vi) context, (vii) feedback, (viii) noise. They are interrelated, as represented in Fig. 1.

Let us examine them with reference to statistical data communication.

(i) *Transmitter* is typically the statistician. The transmitter's role changes according to the channel.
(ii) *Audience* (*the receiver*). In communicating statistics, we could refer to receivers in terms of "audience." In general, receivers of statistical communication can be represented by (a) experts, (b) politicians and policy makers, (b) statistical data users, (c) not specialized

Data Presentation, Table 1 From data to presentation

DATA PRODUCTION	→	objective observation		aseptic data
↓				
DATA ANALYSIS, RESULTS AND INTERPRETATION	→	data	**transformed in**	information
↓				
PRESENTATION	→	information		message



Data Presentation, Fig. 1 Elements composing the communication's process

users. Another well-known definition (Vale, 2008) distinguishes between *tourists*, *harvesters*, and *miners*:

- *Tourists*: They are novice or infrequent users, and typically the majority of individual users. They are looking for basic data either out of curiosity, or to inform personal decisions. They want to be able to find and view data quickly and easily, they prefer low levels of complexity and need only limited functionality
- *Harvesters*: They are intermediate and fairly frequent users, who are looking for data to inform basic research or economic decisions. They will accept increased complexity if it results in addition functionality and flexibility in the way they can view and download data
- *Miners*: They are expert users, typically small in number, but using large volumes of data on a regular basis, often for detailed research or analysis. They want high levels of functionality and flexibility, and are willing to invest some time to learn how to use a data interface.

(iii) *Channel*. The channel represents the transmissive mean through which the message reaches the receiver. In communicating statistics, we can identify the *auditory* channel ("listening," referring to oral explanation), the *visual* channel ("looking," referring to explicative "written" presentation),

and – when applicable – *kinetic* channel ("doing," referring to practical exercises).

(iv) *Context*. It refers to the situation or occasion in which the communication is accomplished. With reference to communicating statistics, we can identify different contexts, like seminars, conferences, meetings, press conferences, books, booklets, and so on. Each context has its own *setting* (papers, tables, etc.). For example, with reference to seminars, setting concerns rooms, tables, and so on. Evaluating the outline, the tools, and the cloths with reference to the context should take into account if the context allows for *feedbacks*.

(v) *Topic* and (vi) *data* (*message*). In communicating statistics, the message is represented by statistics (data, comments to data, and so on).

Other components are:

- *Noise*, represented by whatever element disturbing the communication process. Noises could be identified in each of the previous elements. For example, lack of adequate lighting could represent a decisive noise in a seminar context. The goal is to reduce or eliminate its presence and effect.
- *Message*, represented by statistics results, data, comments to data, and so on.
- *Code* refers to the whole "technological" apparatus allowing communication. The apparatus has its grammatical, syntactical, and stylist rules that, in statistical communication, refer to:
  - The way statistics are reported (outline)
  - The tools used in order to transmit statistics (tools)
  - The way in which statistics are dressed (cloths)

Code could represent a double barrier, at the moment of transmission (when the message is codified by the transmitter) and at the moment of reception (the message is decoded by the receiver). Consequently, in our perspective, we should be sure that the "right" code is utilized. The "right" code is one that minimizes misunderstandings and maximizes correct understandings of the message.

Components of the Process

Fundamental Aspects

Presenting any topic represents an educational activity in itself, which should be accomplished correctly and possibly in an amusing way in order to get better convincing and persuasive results ("moving" to a wanted and expected direction).

The data presentation process involves three fundamental aspects (or pillars), related to (i) content, (ii) appeal, and (iii) persuasion.

They reflect the own base of classic rhetoric, according to the principles of teaching ("docere"), entertaining ("delectare"), and moving ("movere"). Consequently, the three aspects refer to three philosophical-scientific disciplines, ethics, aesthetics, and rhetoric, as summarized in the Table 2.

The three related disciplines could represent the foundation of a "theory of presentation." They do not present absolute and immutable

Data Presentation, Table 2 Toward a theory of presentation

Communicating statistics		Corresponding discipline	Bipolar constitutive elements	Dimensions of change
aspects	goals			
Content	using correct and accurate contents	Ethics	fair ⇔ unfair right ⇔ wrong legal ⇔ illegal honest ⇔ dishonest impartial ⇔ partial good ⇔ bad moral ⇔ immoral	"Fairness" changes through time and space
Appeal	allowing the message to be easily reached by the audience.	Aesthetics	beautiful ⇔ ugly pleasant ⇔ unpleasant agreeable ⇔ disagreeable	"Beauty" changes with reference to social canons
Persuasion	using instruments of persuasion ("theory of argumentation")	Rhetoric	preferable ⇔ not preferable convenient ⇔ inconvenient best ⇔ worst wise ⇔ unwise adequate ⇔ inadequate	"Preferable" changes across individuals

references but suffer subjectivity and mutability of social and human reality.

Background Competences and Required Abilities

The abilities required in order to assess (preparing and performing) an effective data presentation can be referred to the following fields:

1. *Rhetoric* (theory of argumentation), which represents the ability to find the possible mean of persuasion and regard with reference to each individual (Aristotele, 1996). According to Aristotle, the orator/speaker can use three levers in order to strengthen his/her ability to be convincing: "logos," "pathos" and "ethos."
2. *Eloquence* (public speaking), which concerns the ability to use one of the most particular instruments of human beings: the voice; its complexity allowed us to develop a culture through communication, sharing, and transmission of knowledge. A clever orator should be able to keep audience's attention by using the voice in a well-prepared studied way (intonations, pauses, volume, and so on).
3. *Psychology of persuasion*, a branch of psychology which studies the process aimed at convincing one or more individuals with reference to a particular hypothesis. Among its applications, we can find politics. With reference to data presentation context, the interest is related to the technical aspects, useful and efficacious in preparing a presentation, like:
   - Using short and synthetic sentences,
   - Avoiding too long reasoning, complex structures (subordinate sentences), excessive references, double negations,
   - Finding a slogan, a meaningful short sentence (three/four words) to be often repeated (when it makes sense) in order to "transmit" the gist of the message.
4. *Gestalt psychology*, a branch of psychology which studies subjective perception of images. The conclusions and principles reached by this discipline are particularly useful in data presentation. Among them we can point out the following: the whole is more than the sum of its parts. Details which can be considered meaningless can produce a dissonant or not persuasive situation.
5. *Neurolinguistic* programming, referring to a pragmatic approach (born during the 1970s) useful also in defining the ability in persuasive communication. It defines a series of different techniques representing a useful tool kit for the communicator.
6. *Graphics and design*
7. *Ergonomics*, which is interrelated with the physiology. In data presentation ambit, it is important in emphasising the environment in which the presentation is set and the elements composing the space (tables, chairs comfort, light source, space arrangement, presence of windows and curtains, position of speaker's table, of screen, availability of water, and so on)
8. *Project Management*
9. Physiology

Codes in Statistical Data Communication

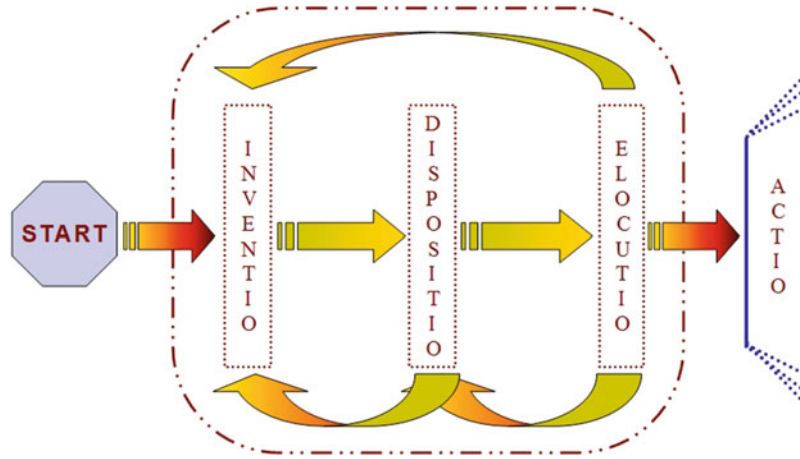
Telling Statistics: The Outline "Outline" refers to the process of telling statistics. Outlining a presentation is always a planning task, requiring a particular attention to details. Like any project, it is organized in stages, which can be distinguished in (a) *inventio* (invention); (b) *dispositio* (layout); (c) *elocutio* (expression); (d) *actio* (presentation performance).

The outlining process does not represent a linear progression but can be accomplished through a cyclic process, allowing previous steps to be run through again in order to check, improve, correct, integrate, and review before reaching the "action" stage.

Figure 2 illustrates the five steps which it can be brought back to:

Inventio (Invention) The Latin term "inventio" (from the verb "*invenire*," "*to find*") concerns "looking for the more convincing aspects of the issues in question." This stage is deeply affected by the (individual) ethic dimension.

The identified topics should be able to point out the relevant, positive, or pleasant aspects by overshadowing and leaving out others considered irrelevant, negative, or unpleasant. In this perspective, the presentation should produce evidences supporting the selected topics.



Data Presentation, Fig. 2 Telling statistics: the outline

Evidences can be:

- Technical, to be found by turning to rhetoric techniques
- Extra-technical, shown by facts, shared rules, indisputable standards, scientific confirmations, valuable and prestigious citations supporting and strengthening the presented "story"

In order to organize the topics to be presented, it is possible to refer to the well-known 5 W:

- *Who* → the subject of the telling
- *What* → the fact
- *When* → the time location
- *Where* → the field location
- *Why* → the causes

We can add also the followings: "in which way" and "by which means" (which, in statistical terms, means allow some analytical explanation)

In order to identify the arguing model, the following items can be considered:

1. What is to be demonstrated, consistently with the message?
2. Which are the evidences in favor, to be sustained and reinforced?
3. Which are the evidences against, to be dismantled and refuted?

The "treatise of argumentation" provides with six "loci" to be considered in telling "stories" (Ellero, 1997):

(i) Locus of *quantity* (something is more important than another because of quantitative reasons, e.g., many people's benefit is preferable to few people's benefit)

(ii) Locus of *quality* (something is more important because of its uniqueness, irreplaceability, or fragility)

(iii) Locus of *order/sequence* (preceding events are more important than the subsequent ones, the causes than the effects, the ends than the means)

(iv) Locus of *existent* (concrete and real thing is more important than probable things; *line of low-risk* falls within this argumentation)

(v) Locus of *essence* (higher values are assigned to subjects representing typologies or functions)

(vi) Locus of *person* (preferring individual values, like merit or autonomy)

Further, different techniques exist in order to support getting "good ideas," like brainstorming, chiasmus, or association of words.

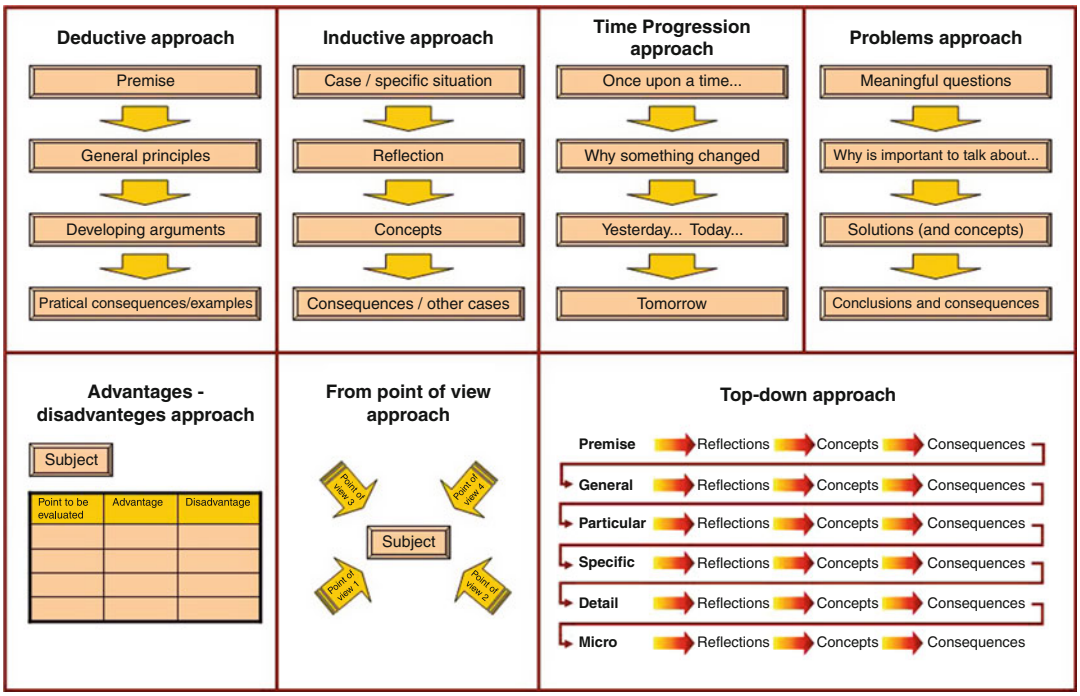
Dispositio (Layout) This stage allows the previously identified topics to be arranged in a logical order, appropriate to the presented topics and the obtained results. The presentation sequence can follow one of the basic criteria illustrated in Table 3.

The argumentation plot could be seen as a woof in which each element represents a yarn. The "ideas concatenation" metaphoric figure asserts that argumentation's validity depends on the weaker yarn.

However, organizing the argumentation into a logical tissue should take into account that the

Data Presentation, Table 3 Criteria for presentation's sequence

Criterion	Description	Positive aspects	Negative aspects
Rising/growing	From weaker topics to more convincing ones	Audience recalls the favorable topics	The first impression could not be favorable
Decreasing/ declining	From more convincing topics to the weaker ones	It draws audience's attention	Audience could remember the weaker arguments
Nestorian/homeric	The more convincing topics are presented at the beginning and at the end; the less valid ones are left at the centre (from the IV book the Iliad: Nestor puts the weaker troops at the centre of the array)	It is the most effective	It is difficult to be organized



Data Presentation, Fig. 3 Different layout approaches

organized combination of several yarns allows a woof to be obtained which is more resistant than their mere sum (Perelman, 2005).

In Fig. 3, different layout approaches are presented.

Obviously, each of the layout approaches has pros and cons and is more or less suited to different situations and audiences. The choice should take into account expected objectives, kinds of argument, audiences, and, last but not least, presenter's preferences. Table 4 shows the main layout approaches by listing their positive and negative features.

Mixed approaches can be adopted, especially when presentations concern extensive and complex subjects. This can allow the *boredom-effect* risk to be avoided, even if a mixed approach could appear confused in its logic.

Elocutio (Expression) While inventio allows arguments to be argued and dispositio allows them to be arranged, elocutio allows each piece

Data Presentation, Table 4 Layout approaches: positive and negative features

Deductive	*approach*	*fits*	Transmitting definitions Investigating thoroughly (for experts) Giving information in short time Transmitting sense of presenter's competence	*is risky*	Starting parts could turn out to be incomprehensible Boredom Language and approach could turn out to be too much theoretical
Inductive			Explaining complex concepts Novice audience		Trivializing It may take long time
Time progression			Presenting cycle phenomena Presenting projects		Too much analytical Not calibrated and suited to all kinds of audience
From different point of view			Enlarging views Involving intersectorially Analysing deeply		It may take long time Partiality It may lack a general view
Advantages and disadvantages			Analysing in detail Enlarging views Catching hidden advantage/disadvantage		Trivializing Too much analytical It may take long time
Problems			Showing efficacies Convincing and persuading Showing in a easy way		It may fail in reaching all the arguments It is not appreciated by theorists It is difficult to be planed
Top-Down			Training novice and students Presenting complex arguments and subjects		It could turn out to be too much easy or too much difficult It may take long time It makes difficult to reach the core of the matter

Data Presentation, Table 5 Rhetoric figures: classification

		Definition
Figures of	**thinking**	change in words' or propositions' invention and imaginative shape
	meaning (or tropes)	change in words' meaning
	diction	change in words' shape
	elocution	choice of the most suitable or convenient words
	construction	change in words' order inside a sentence
	rhythm	phonic effects

of the presentation to be prepared by selecting words and constructing sentences. This task is strictly related to rhetoric. A classical rhetoric figures classification (found already in Quintilian) is illustrated in Table 5.

This classical classification has been considered unsatisfying and arbitrary and many other classifications have been defined. Among them, the following seems to be in our opinion more useful, suitable, and appropriate in telling statistics: (a) image figures, (b) repetition figures, and (c) technical figures.

Even if rhetoric figures should be used with care ("cum grano salis"), we should take into account that rhetoric is integral part of language in which almost all is metaphor (Lakoff & Johnson, 1980), it seems quite impossible to reduce language to an aseptic form, without a reference code.

The language adopted in presenting and communicating data should be:

– Appropriate to the audience
– Consistent with the message to be transmitted

Besides, in telling statistics, special attention should be paid to wording (choice of proper words to be used), languages (use of specialist terminologies), and tongues (use of languages in international contexts).

Wording Choosing the proper words to be used is not a trivial task. A general (and only apparently foregone) recommendation could be that to use words that has to be
- *Clear and understandable* words: Choosing over-blown and mannered words risks to produce errors in communication and interpretation
- *Correct* in terms of syntax, grammar but also (in case of *in-person* presentation) in terms of language inflection (accents, pronunciation, folk says)

Knowing audience's cultural background could be helpful in order to check the best wording approach.

One of the most important choices to be made concerns the *title* of the presentation: Except for the cases in which rules and procedures exist, the title should be prepared according to an explicative idea. Sometimes it could be shaped like a slogan to be used again along the presentation.

Languages Generally, an individual with a good cultural level possesses from 7,000 to 8,000 words and is able to manage at least one specialist lexicon. So, in arranging a presentation, the composition of the audience should be carefully considered. The communicator's approach should avoid too many specialist terms but also to be too much simple in the lexicon.

A special attention should be paid to use of abbreviations, acronyms, and short forms, which should be clearly explained at the first use of them.

Tongues: Communication in International Contexts Modern English is considered the first global lingua franca and is the dominant international language in communications, science, business, aviation, entertainment, radio, and diplomacy. On the other side, according to Wikipedia, people speaking English as *native language* are around 6 % of world population. This should be taken into particular account since the great part of the international statistical communication uses English as standard language.

This means that, as Niels Keiding – Past-President of the International Statistical Institute – wrote in view of the 56th ISI Conference (held in Lisbon, Portugal – August 2007), the vast majority of people are handicapped in communicating in an international context through a language other than their mother tongue. The consequences could be that not-native-English-speaking people can lose many delicate nuances of their native language in both scientific and informal communication.

At the same time, the standard English language is not exactly the language that native-English-speaking people use in their home countries. The consequences should be minimizing the problem that both kinds of people could face.

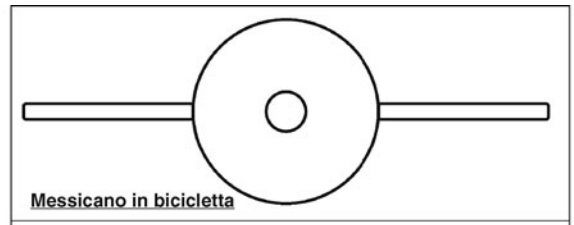
A general recommendation could be that to present and communicate data in an international context by recognizing that many in the audience (sometimes, the majority) are not perfectly skilled in the language used by the presenters. The sentences should be clear and – at same extent – simple. Further, if oral, the presentation should be well supported by the written presentation on the screen.

Actio (Execution) It concerns the way in which the telling, in terms of (i) introduction, (ii) development, (iii) comments, (iv) time/space use, (v) ending, and (vi) feedback (*questions and answers* stage) are managed.

Depicting Statistics: The Tools "Tools" refer to all available instruments aimed at depicting data, by constructing and using graphs, tables, and pictographic supports.

Graphical representations are useful and advantageous instruments in order to better communicate statistics. Graphical representations may have a double function, presenting and describing results and allowing a quick and synthetic interpretation of the observed phenomenon and its trends.

In this perspective, statistical graphics should be considered as a good combination of text, tables, and charts (Statistics Canada, 2003).



Solution: Mexican riding a bike

"De val van Icarus" (Icarus's flight) - painting by Pieter Brueghel de Oude

Data Presentation, Fig. 4 Difficulties in communicating through figures: two examples

The evolution of statistical graphics has found a great boost thanks to three main factors:

(i) Invention of new techniques suitable to complex data structures
(ii) New research results concerning human psycho-physiological perception suggesting correct strategies aimed at presenting quantitative information
(iii) Availability of computer (*software* and *hardware*) instruments allowing complex graphical applications to be managed

Even if a clear limit between advantages and disadvantage in using graphs does not exist, general guidelines can be identified helping in determining the best strategies in depicting statistical information. The pictures illustrated in Fig. 4 are typical examples of graphs unable to communicate the message without their proper caption.

In this perspective, we could image each graph to be classified along a hypothetical continuum whose extremities are respectively "image is worth one thousand words," "image requires one thousand words to be understood." The goal is to make sure and preserve graph's capacity to autonomously communicate the message.

Dressing Statistics: The Clothes "Clothes" refer to the process of dressing statistics. In fact, communicating statistics should be supported also by other elements:

– Text arrangement related the disposition of the text on the used mean (e.g., slide or page).
– Characters and fonts: The choice of the character font should be consistent with the spirit and character of the presentation.
– Colors, which use should take into account their perception, their possible cultural meanings, and the used means. Particular attention should be paid in using colors in graphs where they represent a further code element.

– Other graphical aspects and effect. In this perspective, the use of photos and clipart could be functional to give the audience time to "come up for air." This would allow the audience to reflect and digest. This is especially the case if the photo or clipart is humorous (Kosslyn, 2006, 2007).

Cross-References

- ▶ Data Analysis
- ▶ Data Quality

References

Aristotele. (1996). *Retorica* (trad.it. a cura di Dorati M.). Milano: Oscar Mondadori.

Ellero, M. P. (1997). *Introduzione alla retorica*. Milano: Sansoni Editore.

Eurostat. (2000a). *Definition of quality in Statistics Eurostat Working Group on Assessment of Quality in Statistics*, Eurostat/A4/Quality/00/General/Definition, Luxembourg, April 4–5.

Eurostat. (2000b). *Standard Quality Report, Eurostat Working Group on Assessment of Quality in Statistics*, Eurostat/A4/Quality/00/General/Standard Report, Luxembourg, April 4–5.

Giovannini, E. (2008). *The role of communication in transforming statistics into knowledge, OECD*. Paper to be presented at conference innovative approaches to turning statistics into knowledge, Stockholm, May 26–27 2008.

Kosslyn, S. M. (2006). *Graph design for the eye and mind*. New York: Oxford University Press.

Kosslyn, S. M. (2007). *Clear and to the point*. Oxford: Oxford University Press.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.

Patel, S., Hiraga, M., Wang, L. (World Bank), Drew, D., & Lynd, D. (UNESCO). (2003). *A framework for assessing the quality of education statistics*. World Bank – Development Data Group and UNESCO – Institute for Statistics.

Perelman, C. (2005). *Teoria e pratica dell'argomentazione* (a cura di G. Fornari Luvarà). Soveria Mannelli: Rubettino.

Statistics Canada (2003) *Statistics Canada Quality Guidelines*, Fourth Edition, Statistics Canada, Ottawa, Catalogue No 12-539-XIE.

Vale, S. (2008, July 7–8). *Accessibility and clarity: The most neglected dimensions of quality?* Paper presented at Conference on Data Quality for International Organizations, Rome, Italy, nella Session 3: Dissemination platforms to make data more accessible and interpretable. UNECE.

Data Quality

Ralph L. Piedmont
Pastoral Counseling Department, Loyola University Maryland, Columbia, MD, USA

Definition

Data quality refers to a set of characteristics that statistical data should have in order to properly measure specific phenomena.

Description

An important mnemonic in research is *GIGO*, which stands for "garbage in, garbage out." This device serves to remind researchers that the quality of any statistical analyses is based on the quality of information that is obtained. Valid, substantive data leads to rich analyses capable of informing theory and practice. Poor quality data, no matter how much it may be transformed or manipulated or what type of analysis is used, will lead inevitably to faulty conclusions and tenuous results (ONS, 2007; Rossi & Gilmartin, 1980). Data possessing high quality come from sources that are reliable and valid for the sample with whom they are employed. The use of multiple observations and/or multiple indicators from different information sources (e.g., self vs. observer ratings) adds to the utility and value of information. From a technical perspective, quality data is that which is consistent with the assumptions underlying the statistical analyses to which they are being subjected. In terms of parametric statistics, this would include data that is normally distributed (both on the univariate and multivariate levels), does not possess excessive numbers of ▶ outliers, contains a minimum number of missing cases, and does not evidence any type of systematic distortions (e.g., nonlinearity, correlated errors). All data needs to be screened for these issues prior to being analyzed statistically. The identification of any problems can be addressed either by deleting problematic cases or through transformations of the score distributions.

Cross-References

- ▶ Categorical Data Analysis
- ▶ Data Analysis
- ▶ Data Collection Methods
- ▶ Data Envelopment Analysis
- ▶ Impact of Missing Data on Health-Related Quality of Life Estimation
- ▶ Longitudinal Data Analysis
- ▶ Missing Data
- ▶ Offense Definitions' Impact on Criminal Justice Data Quality

References

ONS (Office for National Statistics). (2007). *Guidelines for measuring statistical quality*. London: National Statistical Publication.

Rossi, R., & Gilmartin, K. (1980). *The handbook of social indicators: Sources, characteristics and analysis*. New York: Garland STPM Press.

Data Reduction

- ▶ Simple Component Analysis

Data Repositories

- ▶ Canadian Research Data Centre Network

Data Repository

- ▶ Data Liberation Initiative (DLI)

Data Visualization

- ▶ Data Analysis

Database of Happiness

- ▶ Databook of Happiness

Databases

- ▶ Inter-university Consortium for Political and Social Research

Databook of Happiness

Ruut Veenhoven
Erasmus Happiness Economics Research Organisation, Erasmus University Rotterdam, Potchefstroom, The Netherlands
Optentia Research Group, North–West University, Potchefstroom, South Africa

Synonyms

Database of happiness; Happiness findings archive

Definition

The "Databook of Happiness" is a reference work that was published in 1984 by Ruut Veenhoven together with "Conditions of Happiness," in which he reviewed the then available research findings on subjective enjoyment of life. It formed the basis of the present World Database of Happiness.

Description

Aim

A complete overview of research findings on subjective enjoyment of life from 1911 to 1975 is presented in the Databook of Happiness, which was published in 1984 (Veenhoven 1984b). This databook limits to facts. Contrary to common literature reviews, it does not consider interpretations of these research findings. The book served as the basis for a synthetic study reported in the book "Conditions of Happiness" that appeared simultaneously in 1984 (Veenhoven 1984a).

Scope

The databook limits to findings obtained using indicators that fit the concept of happiness as the "overall appreciation of one's life as a whole." The results of 245 empirical studies are reported. Together these produced 3,621 separate findings, *distributional findings* on how happy people are in particular populations and *correlational* findings about things that go together with differences in happiness.

Technique

Findings are described in a standardized way, with details about measurement, sampling, and statistical analysis. The findings are then sorted on subject and within subjects by time and nation. The collection can also be searched using a fine-grained subject index. Page-precise references are used to guide users to further details in the original research reports.

Later Development

In the early 1990s an update version of this Databook of Happiness was produced as a five-volume book series that covered the research literature up to 1990. In the late 1990s, the collection was digitalized and made freely available on the internet as the World Database of Happiness (Veenhoven 2012).

Cross-References

► World Database of Happiness

References

Veenhoven, R. (1984a). *Conditions of happiness*. Dordrecht/Boston/Lancaster: D. Reidel Publishing. ISBN. Still available at Springer Press.

Veenhoven, R. (1984b). *Databook of happiness: A complementary reference work to 'Conditions of happiness' by the same author*. Dordrecht/Boston/Lancaster: D. Reidel Publishing. Digital version available at: http://www2.eur.nl/fsw/research/veenhoven/Pub1980s/1984b.htm

Veenhoven, R. (2012). World database of happiness: Archive of research findings on subjective enjoyment of life. Netherlands: Erasmus University Rotterdam. Available at http://worlddatabaseofhappiness.eur.nl

Dating Couples' Sexual Desire Discrepancies

Brian Willoughby
Brigham Young University, Provo, UT, USA

Synonyms

Healthy intimacy

Definition

Sexual desire discrepancies can refer to discrepancies found on sexuality constructs at either the couple or individual level. Sometimes, these discrepancies refer to couple level differences in the desired frequency of sexual activity, and sometimes, they refer to the individual difference between an individual's desired frequency of sexual activity and the actual sexual frequency rate within a relationship. Both of these types of sexual desire discrepancies (at the couple and individual level) have been shown to influence ► sexual satisfaction specifically and relational quality and well-being more generally.

Description

While the frequency of sexual activity within a relationship and the expressed sexual desire between romantic partners are both important aspects of healthy sexuality, relationship researchers have sought to understand not only how overall frequency rates and desire levels impact relationship well-being but also how these constructs work together to create a more holistic picture of the sexual playing field for each couple. The interplay between sexual frequency and sexual desire is of interest to sexuality scholars because it offers an opportunity to understand how two crucial aspects of healthy dating intimacy may corelate and influence each other in ways that impact couple dynamics. One way sexuality and relationship scholars have

sought to understand this complexity has been to explore sexual desire discrepancies at either the couple or individual level. While greater sexual frequency rates (Delamater, Hyde, & Fong, 2008; Liu, 2003; Nicolosi, Moreira, Villa, & Glasser, 2004; Simms & Byers, 2009) and more sexual desire (Brezsnyak & Whisman, 2004; Dennerstein, Hayes, Sand, & Lehert, 2009) are generally related to positive relationship outcomes among dating couples, research has also found that discrepancies between couples on their desired or actual sexual frequency (Davies, Katz, & Jackson, 1999; Simms & Byers, 2009) have a potentially negative effect on relationship well-being. Additionally, individual discrepancies in one's desired rate of sexual frequency and the actual sexual frequency within a relationship have been shown to be detrimental to relational quality in certain circumstances (Willoughby & Vitas, 2012).

Discussion

Sexuality and intimacy are healthy and normal parts of romantic relationships at any point in the life course. As the ▶ prevalence and acceptance of premarital sex has increased over the last 50 years in most industrialized nations (Wells & Twenge, 2005), scholars are becoming increasingly interested in how sexuality influences the quality and trajectories of dating couples. While some scholars have sought to explore what the short- and long-term consequences may be of premarital sexuality for both individuals and couples, other scholars have sought to understand how sexuality within a dating context influences couple processes and relationship well-being. Much of this research has found parallels between sexuality within dating and married partnerships. In many ways, sexual health is very similar and operates across similar pathways for both dating and married couples. For example, within both types of relationships, sexual frequency, expressions of sexual desire, and sexual satisfaction all play important roles in the development and well-being of the relationship. While dating relationships may be more transitory and less stable than more long-term relationships, intimate behaviors and one's satisfaction with the intimacy in the relationship help provide an important foundation for any romantic relationship.

Among the aspects of sexuality that comprise the intimate behavior between dating partners, actual sexual activity rates within romantic partnerships and sexual desire levels for both partners have consistently been viewed as fundamental to sexual and relational satisfaction. Indeed, it is not surprising that the frequency of sexual activity and the desire to engage in sexual activity have been among the most studied aspects of dating sexuality. Generally speaking, research has suggested that increased sexual frequency has a positive effect on relationship outcomes (Delamater et al., 2008; Liu, 2003). Increased desire to engage in sexual activity has also been linked to better relationship outcomes for most couples (Dennerstein et al., 2009). These two aspects of sexuality work in tandem as sexual activity often, although not always, will be preceded by the desire to engage in such activity from one or both partners. In this way, sexual desire acts as the motivator for many individuals to engage in actual sexual activity with their partner. Additionally, a low level of sexual desire by one or both partners is typically viewed as a symptom of relationship distress among both dating and married couples (Davies et al., 1999; Gehring, 2003).

Recently, scholars have focused on how discrepancies across either sexual frequency or sexual desire may additionally affect the quality of relationships at both the couple and individual level. It comes as no surprise that when couples have differing expectations regarding the appropriate amount of physical intimacy in their relationship, their perception of relational quality may decrease. In terms of descriptively documenting these types of discrepancies, Simms and Byers (2009) found among a sample of over 200 undergraduates that women tend to overestimate the desired sexual frequency levels of their male partners. Simms and Byers also found some evidence that higher levels of perceived similarity across partners on levels of sexual desire were associated with higher reported sexual satisfaction. Often, this type of discrepancy is the result of either one partner having unrealistic expectations regarding the frequency of sexual

activity or one partner suffering from low levels of sexual desire to engage in intimate behavior with their partner. Regardless of the source, this type of couple level sexual desire discrepancy has been shown in previous research to be associated with negative couple outcomes (Davies et al., 1999; Simms & Byers, 2009). Specifically, Davies et al. (1999) found among a small sample of dating couples that when individuals in a dating relationship perceived a discrepancy between the partners in their level of sexual desire, lower sexual satisfaction was reported which had a negative impact on overall relationship quality. The scholarship in this area clearly shows that healthy couples are able to create some perceived degree of consensus regarding their desired levels of sexual activity and sexual desire.

Other scholars have sought to understand how sexual frequency and sexual desire operate in tandem at the individual level to help foster positive effects on relationships. This has led some scholars to study individual sexual desire discrepancies (SDD) among dating couples. This type of discrepancy is defined as the difference between one's desired sexual frequency and the actual sexual frequency in the relationship. This individual SDD is in contrast to couple level sexual desire discrepancies which have traditionally been defined as the differences in desired frequency of sexual activity across both partners in a romantic couple. Higher levels of SDD would indicate an individual that desired to have more sexual activity than they are currently having. Negative levels of SDD would indicate individuals who are engaging in sexual activity at rates that are more frequent than they would desire. SDD levels of zero would indicate an individual who is engaging in the level of sexual activity that they desire. With this definition, it is important to keep in mind that SDD is a parallel but unique aspect of dating sexuality and does not speak to the overall rate of sexual activity within the partnership. An individual engaging in sexual activity with their partner every day may have the same SDD level as an individual abstaining from sexual activity with one's partner.

Willoughby and Vitas (2012) were among the first to study this unique type of discrepancy. Using a sample of over 8,000 dating couples, Willoughby and Vitas explored the link between SDD and relationship outcomes and found that higher SDD was associated with more relationship satisfaction but less relationship stability. This suggested that when individuals desired to have more sexual activity than they were actually engaging in with their partner, relationship satisfaction was elevated but the stability of the relationship suffered. Given that higher relationship stability and greater relationship satisfaction are typically viewed as underlying aspects of healthy dating relationships, these initial results only provided a partial picture of how SDD was influencing relationship outcomes. These seemly contradictory results were further explained by the presence of important moderation effects. The association between SDD and relationship outcomes was found to be moderated by both relationship length and gender. Willoughby and Vitas found that although higher SDD was associated with higher reports of relationship satisfaction generally, these results were stronger for those in relationships early in the dating process and for females. Conversely, higher SDD was associated with less stability in relationships where the couple had been together for several years. Taken together, Willoughby & Vitas suggested that higher individual sexual desire discrepancies may have a positive effect on dating relationships early in the dating process but may eventually undermine long-term dating success. It was posited that perhaps high SDD in early dating relationship, particularly for females, serves as a motivating factor to the relationship. Sexual desire has long been viewed as a motivator for actual sexual behavior, and high levels of SDD may encourage individuals to place more time and other resources into a relationship in the hope of increasing the frequency of or initiating the act of sexual intercourse within a relationship. Those individuals who delay wanted sexual activity early in a dating relationship may see an increase in relationship well-being. These findings are related to other empirical studies which have suggested that the delay of sexuality within a dating context is potentially healthy for some couples (Willoughby, Busby, & Carroll, 2012).

These results regarding individual SDD have also been found in other areas of the world as well (Santtila et al., 2008).

In summary, while both sexual frequency and sexual desire are important markers of healthy intimacy with dating partnerships, discrepancies across both sexual frequency and sexual desire at the couple and individual level have proved to be crucial elements of underlying sexual and relational health and well-being for dating couples.

Cross-References

- ▶ Relational Contributions to Optimal Sexual Experiences
- ▶ Relationship Contingency and Sexual Satisfaction
- ▶ Women's Sexual Satisfaction Predictors

References

Brezsnyak, M., & Whisman, M. A. (2004). Sexual desire and relationship functioning: The effects of marital satisfaction and power. *Journal of Sex & Marital Therapy, 30*, 199–217.

Busby, D. M., Carroll, J. S., & Willoughby, B. J. (2010). Compatibility or restraint? The effects of sexual timing on marriage relationships. *Journal of Family Psychology, 24*, 766–774.

Davies, S., Katz, J., & Jackson, J. L. (1999). Sexual desire discrepancies: Effects on sexual and relationship satisfaction in heterosexual dating couples. *Archives of Sexual Behavior, 28*, 553–567.

Delamater, J., Hyde, J. S., & Fong, M. (2008). Sexual satisfaction in the seventh decade of life. *Journal of Sex & Marital Therapy, 34*, 439–454.

Dennerstein, L., Hayes, R., Sand, M., & Lehert, P. (2009). Attitudes toward and frequency of partner interactions among women reporting decreased sexual desire. *The Journal of Sexual Medicine, 6*, 1668–1673.

Gehring, D. (2003). Couple therapy for low sexual desire: A systemic approach. *Journal of Sex & Marital Therapy, 29*, 25–38.

Liu, C. (2003). Does quality of marital sex decline with duration? *Archives of Sexual Behavior, 32*, 55–60.

Nicolosi, A., Moreira, E. D., Villa, M., & Glasser, D. B. (2004). A population study of the association between sexual function, sexual satisfaction and depressive symptoms in men. *Journal of Affective Disorders, 82*, 235–243.

Santtila, P., Wager, I., Witting, K., Harlaar, N., Jern, P., Johansson, A., et al. (2008). Discrepancies between sexual desire and sexual activity: Gender differences and associations with relationship satisfaction. *Journal of Sex & Marital Therapy, 34*, 31–44.

Simms, D. C., & Byers, E. S. (2009). Interpersonal perceptions of desired frequency of sexual behaviours. *The Canadian Journal of Human Sexuality, 18*, 15–25.

Wells, B. E., & Twenge, J. M. (2005). Changes in young people's sexual behavior and attitudes, 1943–1999: A cross-temporal meta-analysis. *Review of General Psychology, 9*(3), 249–261.

Willoughby, B. J., & Vitas, J. (2012). Sexual desire discrepancy: The effect of individual differences in desired and actual sexual frequency on dating couples. *Archives of Sexual Behavior, 41*, 477–486.

Willoughby, B. J., Busby, D. M., & Carroll, J. S. (2012). Differing relationship outcomes when sex happens before, on, or after first dates. *Journal of Sex Research*. http://www.tandfonline.com/doi/full/10.1080/00224499.2012.714012.

Dating Relationships

Rhiannon A. Kroeger
Population Research Center, The University of Texas at Austin, Austin, TX, USA

Synonyms

Couples dating; Romantic unions

Definition

Casual or serious relationships in which the individuals involved are attracted to one another sexually and/or romantically and interact with one another socially but are not living with one another or married to one another.

Description

Many scholars view involvement in romantic relationships as essential for individual development and well-being (Reis, Collins, & Berscheid, 2000). In this way, dating relationships can be seen as important for quality of life. For individuals living

in the United States, dating relationships are becoming increasingly relevant for quality of life. Delays in timing to first marriage and increases in union dissolution translate to a greater proportion of the life course spent in dating relationships (Sassler, 2010).

Existing scholarly research suggests that one way in which dating relationships impact quality of life is through their impact on individual mental health. Research generally illustrates that among non-married and non-cohabiting individuals, those in dating relationships report higher psychological well-being compared to their single counterparts. For example, Kamp Dush and Amato find that those in steady dating relationships have higher subjective well-being than do those in casual dating relationships and that both committed and casual daters have higher subjective well-being than individuals who date non-regularly (Kamp Dush & Amato, 2005). Further, Braithwaite, Delevi, and Fincham find that individuals in college who are in committed dating relationships report fewer mental health problems than their single counterparts (Braithwaite, Delevi, & Fincham, 2010).

As is the case with marital and cohabiting relationships, the social support that dating relationships provide for individuals serves as one reason for the positive impact of dating relationships on mental health (Umberson, 1987). Additionally, like marital and cohabiting relationships, dating relationships provide individuals with social control that deters unhealthy behaviors. For example, individuals in college who are in committed dating relationships engage in less risky sexual behavior than do their single counterparts (Braithwaite et al., 2010).

The extent to which dating relationships provide individuals with psychological benefits depends on various factors. Three important and interrelated moderators of the relationship between dating relationships and psychological well-being are (1) the level of commitment in the relationship, (2) the quality of the relationship, and (3) perceived peer support/approval of the relationship. Concerning level of commitment, individuals in more committed romantic relationships have higher subjective well-being than their counterparts in less-serious unions (Kamp Dush & Amato, 2005) and report higher relationship quality than those in casual unions (note some find this is due to selection) (Paik, 2010). Indeed, research finds that high relationship quality contributes to individual happiness above and beyond personal characteristics (Demir, 2008). When relationship quality is low, it can have consequences for individual well-being. For example, one study finds that when one partner devalues the other, the devalued partner is susceptible to increases in depressive symptoms (Maestas Little et al., 2008). Perceived peer support/approval is also an important moderator of the relationship between dating unions and mental health. Specifically, Blair and Holmberg find that in order for the relationship to have psychological benefits for the partners involved, the partners must perceive that their relationship is supported by those in their social networks (Blair & Holmberg, 2008). Recent empirical work supports this, finding that non-Black individuals in relationships with Blacks report more depressive symptoms and less relationship satisfaction than do their counterparts with non-Black partners. The authors contend that this pattern exists because Black-non-Black relationships often attract lower levels of social support and higher levels of stigma compared to relationships between two non-Black partners (Kroeger & Williams, 2011).

Acknowledgement The author acknowledges support by an F32 NICHD Ruth L. Kirschstein National Research Service Award (F32 HD072616), as well as an NICHD center grant to the Population Research Center at The University of Texas at Austin (R24 HD042849).

Cross-References

▶ Psychological Well-being
▶ Relationship Quality
▶ Social Networks
▶ Social Support

References

Blair, K. L., & Holmberg, D. (2008). Perceived social network support and well-being in same-sex versus mixed-sex romantic relationships. *Journal of Social and Personal Relationships, 25*(5), 769–791.

Braithwaite, S. R., Delevi, R., & Fincham, F. D. (2010). Romantic relationships and the physical and mental health of college students. *Personal Relationships, 17*, 1–12.

Demir, M. (2008). Sweetheart, you really make me happy: Romantic relationship quality and personality as predictors of happiness among emerging adults. *Journal of Happiness Studies, 9*, 257–277.

Kamp Dush, C. M., & Amato, P. R. (2005). Consequences of relationship status and quality for subjective well-being. *Journal of Social and Personal Relationships, 22*, 607–627.

Kroeger, R. A., & Williams, K. (2011). Consequences of black exceptionalism? Interracial unions with blacks, depressive symptoms, and relationship satisfaction. *The Sociological Quarterly*, *52*(3): 400–420.

Maestas Little, K., Amidon, A., Baum, E. S., Chrisman, J. G., Durham, J. A., Rooney, S. B., et al. (2008). Partner devaluation is associated with depression symptoms among depression-vulnerable women with low self-esteem. *Journal of Social and Clinical Psychology, 27*(6), 621–640.

Paik, A. (2010). "Hookups," dating, and relationship quality: Does the type of sexual involvement matter? *Social Science Research, 39*, 739–753.

Reis, H. T., Collins, W. A., & Berscheid, E. (2000). The relationship context of human behavior and development. *Psychological Bulletin, 126*, 844–872.

Sassler, S. (2010). Partnering across the life course: Sex, relationships, and mate selection. *Journal of Marriage and Family, 72*, 557–575.

Umberson, D. (1987). Family status and health behaviors: Social control as a dimension of social integration. *Journal of Health and Social Behavior, 28*, 306–319.

Dating Violence

Leslie Tutty
University of Calgary, Faculty of Social Work, Calgary, AB, Canada

Synonyms

Abuse in romantic relationships; Coercive control in dating; Coercion, sexual; Intimate partner violence; Partner sexual assault; Psychological abuse in dating

Definition

Relationships are the core of society. Youth learn how to interact with others from numerous sources such as family, friends, television, and the Internet. In their teens, dating relationships are particularly important in creating a foundation for later long-term intimate partnerships, whether heterosexual or homosexual. "Dating" or spending time with a person of romantic interest may begin as early as age 11or 12. While adults also date, when considering dating violence, the major concern is teenagers and young adults to about the age of 25. This large time span includes diverse developmental stages and physical changes, with the potential for considerable health and mental health effects if youth are impacted by abuse (Wekerle & Tanaka, 2010).

Description

What does dating ▶ violence look like? A wide range of acts can occur in dating relationships beyond the physical or sexual violence that we usually consider as abusive. In a study conducted by Lavoie, Robitaille, and Hebert (2000), these included death threats, psychological abuse, denigration and insults, jealousy, excessive control, indifference, threats of separation and reprisals, damaging reputations, and harassment after separation. Although both young men and women may act abusively, the abuse of young women by men is more pervasive and usually more severe.

Physical abuse includes shoving, slapping, choking, punching, kicking, biting, burning, hair pulling, using a weapon, threatening someone with a weapon, or forcibly confining someone (Kelly, 2008). These attacks cause both emotional and physical harm. Typically, young men use physical force to assert control, while young women use it to protect themselves and to retaliate or because they fear that their partner is about to assault them. Some women live in terror of such attacks. In contrast, young men rarely fear assaults from young women, generally considering women's use of force to be innocuous.

Sexual harassment, or unwanted sexual attention, is a common experience for students at the start of high school: reported by 44.1 % of girls and 42.4 % of boys in a recent study with 1,734 grade 9 students (Chiodo, Wolfe, Crooks, Hughes, & Jaffe, 2009). Further, these same researchers reported that, several years later, harassed students were significantly more likely than non-harassed students to report other forms of victimization (dating and peer violence) and to report emotional distress, substance abuse, and violent delinquency perpetration. McMaster, Connolly, Pepler, and Craig (2002) reported similar proportions in students from middle schools (grades 6–8): boys were victimized 42 % and perpetrated 36 %; girls were victims 38 % and were perpetrators 21 % of the time.

Sexual assault includes unwanted sexual touching, forcing, or pressuring a partner to consent to sexual activity, rape, and attempted rape and attempting or having intercourse with a person who is under the influence of alcohol or drugs, including the so-called date rape drugs that are administered with the purpose of rendering a victim vulnerable to rape (Abbey, 2002).

Similar to sexual and physical abuse, ▶ emotional abuse varies in its intensity and its consequences. It includes behavior such as insulting or swearing at a partner, belittling them, threatening or terrorizing them, destroying their property or possessions, isolating them from friends and relatives, and treating them with irrational possessiveness or extreme jealousy (Kelly, 2008). Emotional abuse originates in the aggressor's desire to control the other person's behavior. Undermining their partner's self-confidence limits their ability to act independently. Society too often downplays the effects of emotional abuse because there is no visible harm. As a result, communities offer little support to deal with emotional abuse by either men or women.

Notably however, these forms of abuse often co-occur (Sears & Byers, 2010). The act of physically or sexually abusing a partner carries with it explicit emotional abuse: the notion that the abuser has the power to carry out these acts with few repercussions. Sexual violence is often an aspect of physical violence (Smith, White, & Holland, 2003).

How common is violence in dating relationships? A number of studies in both the United States and Canada have attempted to assess the extent to which youth have been victimized by dating partners. These results are consistent across the various studies as exemplified by the following recent studies. Marquart, Nannini, Edwards, Stanley, and Wayman (2007) conducted a large US national study of over 20,000 rural youth, with about 16 % reporting dating violence victimization, with young women being about 3.5 times more likely to have been pushed, hit, or threatened.

Canadians Price and colleagues (2000) studied dating violence in approximately 1,700 English- and French-speaking New Brunswick youth (11–20 years old). They reported significant differences between the percentages of adolescent girls and boys experiencing psychological and/or physical abuse, 22 % and 12 %, respectively, and sexual abuse, 19 % and 4 %, respectively. Overall, 29 % of adolescent girls and 13 % of boys in the sample reported some abuse in their dating relationships.

What is the impact of dating violence? Several studies have documented the possible effects of the victims of dating violence as ranging from depression to anxiety, suicidal ideation, and poor educational outcomes (Banyard & Cross, 2008; Wekerle & Tanaka, 2010), especially for girls, who tend to suffer more serious forms of abuse.

Why does dating violence happen? Not all youth has the same vulnerability to being abused by a dating partner. The interconnections between dating violence; a trauma history; often linked to child maltreatment; and the related adolescent issues of using substances, sexuality, and delinquency have been highlighted in recent studies. Wolfe, Scott, Wekerle, and Pittman (2001) confirmed that female students with a maltreatment history had much higher emotional distress than girls without such a history; boys were much more likely to report both depression and trauma symptoms and to be at greater risk to use threats or physical violence against their dating partners. Similarly, Wolfe, Wekerle, Scott, Straatman, and Grasley (2004) reported that trauma-related symptoms were significantly predictive of dating violence for both boys and girls.

O'Keefe's 1997 US research identified some reasons why adolescent girls and boys behave violently to their dates. The primary reason reported by both men and women was "a way of showing anger," although females were significantly more likely to declare this than males. "Self-defense" was the second most frequently given reason for young women, whereas for young men it was "gaining control of their partner." Other factors included an increased likelihood of violence when one or both had been drinking alcohol. Having been exposed to domestic violence within the family was a significant predictor of inflicting dating violence for males, but not females. Conflict in the relationship and the seriousness of the relationship were significant factors that young women associated with the initiation of dating violence.

Sears, Byers, Whelan, Saint-Pierre, and The Dating Violence Research Team (2006) conducted separate gender focus groups with high school students in New Brunswick to understand their views of physical and psychological abuse in dating relationships. The genders tended to view the behaviors differently and reported less physical but more emotional abuse. For example, they tended to see physical abuse and emotional abuse as abusive only in specific circumstances, such as when jealousy was paired with a threat of physical harm. Boys defined behaviors as abusive by its negative intent, girls by its negative impact. These gender differences have implications for how to engage boys and girls with prevention programming.

In summary, dating violence happens all too frequently to North American youth, with severe consequences to those directly affected. Educating youth and young adults so that they can avoid abusive partners or leave the relationships early is the main goal of dating violence prevention programs.

Preventing Dating Violence

Healthy relationship or dating violence programs are one strategy to protect and prevent young adults from being abused by partners. Commonly offered in middle and high schools, such programs vary from one-time presentations to in-depth curricula (Tutty et al., 2005). School-based violence prevention efforts for youth are the most common form of dating violence prevention. Most provide information in the hope of informing or changing attitudes with respect to problem behaviors, preventing bullying being an obvious example. Others teach about positive (prosocial) skills such a good communication or problem-solving skills so that relationship problems such as dating violence do not develop in the first place.

Another rationale for offering healthy relationship programs is to encourage youth to disclose and seek assistance if they have been abused by a boyfriend or girlfriend. Few researchers have examined adolescents' willingness to seek help related to dating violence. Rather, the literature on dating violence and help-seeking more often focuses on adolescents' unwillingness to seek help or, if they do seek help, to whom do they turn? Ashley and Foshee (2005) reported that 60 % of the adolescents did not seek help with dating violence victimization.

Do violence prevention programs work? Ting (2009) conducted meta-analyses on the effectiveness of 13 healthy relationship programs from 1990 to 2007, concluding that, "overall the program participants improved their knowledge and attitudes towards dating violence" (p. 328). Whitaker et al. (2006) reviewed 11 evaluations of primary prevention programs that address partner violence. Only three evaluations were judged as having high-quality research designs and methods: Foshee et al. (2005) for Safe Dates; Wolfe et al. (2003) for the Youth Relationship Project for high-risk youth, developed by the authors of the Fourth R; and Pacifici, Stoolmiller and Nelson (2001), which primarily focused on sexual coercion. Each reported that the program had positively impacted the students' knowledge. Nine of the 11 studies found at least one positive effect related to the program; however, most of these were with respect to knowledge and attitudes, begging the questions of whether these lead to behavioral changes. Both Safe Dates and the Youth Relationship Project reported improvements in behavior over extended follow-up periods.

Crooks, Wolfe, Hughes, Jaffe, and Chiodo (2008) conducted research on a program entitled the Fourth R with over 1,500 grade 9 students in

10 intervention and 10 control schools using a cluster randomized controlled (RCT) design. Relative to controls, the Fourth R students learned the materials and had significant gains in knowledge and attitudes pertaining to violence, substance use, and sexual health.

Wolfe and colleagues (2009) published another article on the same cluster randomized trial with 2.5-year follow-up to the Fourth R, presenting data from 1722 14- to 15-year-old students from 20 public schools (52.8 % girls). The program was more effective for boys and "reduced PDV (physical dating violence) and increased condom use 2.5 years later at a low per-student cost" (p. 692).

To conclude, if prevention programs are effective in helping youth identify abusive situations and either avoid them or ask for assistance, the long-term health and behavioral consequences of abuse could be drastically reduced. At present, healthy relationship programs are not offered to the majority of students in schools or postsecondary institutions. A relatively modest initiative in such programming could safeguard the next generation.

Cross-References

- ▶ Child Maltreatment: Physical Abuse
- ▶ Domestic Violence
- ▶ Violence Against Women

References

Abbey, A. (2002). Alcohol-related sexual assault: A common problem among college students. *Journal of Studies in Alcohol*, Supplement no. 14, 118–128.

Ashley, O. S., & Foshee, V. A. (2005). Adolescent help-seeking for dating violence: Prevalence, sociodemographic correlates, and sources of help. *Journal of Adolescent Health, 36*, 25–31.

Banyard, V. L., & Cross, C. (2008). Consequences of teen dating violence: Understanding intervening variables in ecological context. *Violence Against Women, 14*(9), 998–1013.

Chiodo, D., Wolfe, D. A., Crooks, C., Hughes, R., & Jaffe, P. (2009). Impact of sexual harassment victimization by peers on subsequent adolescent victimization and adjustment: A longitudinal study. *Journal of Adolescent Health, 45*, 246–252.

Crooks, C. V., Wolfe, D. A., Hughes, R., Jaffe, P. J., & Chiodo, D. (2008). Development, evaluation and national implementation of a school-based program to reduce violence and related risk behaviors: Lessons from the Fourth R project. *Institute for the Prevention of Crime Review, 2*, 109–135.

Foshee, V. A., Bauman, K. E., Ennett, S. T., Suchindran, C., Benefield, T., & Fletcher Linder, G. (2005). Assessing the effects of the dating violence prevention program "Safe Dates" using random coefficient regression modeling. *Prevention Science, 6*(3), 245–258.

Kelly, K. (2008). *Violence in dating relationships. An overview paper*. Ottawa. ON: National Clearinghouse of Family Violence. On-line at: http://www.phac-aspc.gc.ca/ncfv-cnivf/pdfs/fem-2006-dat_e.pdf

Lavoie, F., Robitaille, L., & Hébert, M. (2000). Teen dating relationships and aggression: An exploratory study. *Violence Against Women, 6*(1), 6–36.

Marquart, B. S., Nannini, D. K., Edwards, R. W., Stanley, L. R., & Wayman, J. C. (2007). Prevalence of dating violence and victimization: Regional and gender differences. *Adolescence, 42*, 645–657.

McMaster, L. E., Connolly, J., Pepler, D., & Craig, W. M. (2002). Peer to peer sexual harassment in early adolescence: A developmental perspective. *Development and Psychopathology, 14*, 91–105.

O'Keefe, M. (1997). Predictors of dating violence among high school students. *Journal of Interpersonal Violence, 12*(4), 546–568.

Pacifici, C., Stoolmiller, M., & Nelson, C. (2001). Evaluating a prevention program for teenagers on sexual coercion: A differential effectiveness approach. *Journal of Consulting and Clinical Psychology, 69*(3), 552–559.

Price, E. L., Byers, E. S., Sears, H. A., Whelar, J., & Saint-Pierre, M. (2000). Dating violence amongst new Brunswick adolescents: A summary of two studies. Fredericton, NB: Muriel McQueen Ferqusson Centre for Family Violence Research. Online at: www.unb.ca/web/frederictor/arts/centres/mmfc/-resources/pdfs/adodating-e.pdf

Sears, H. A., & Byers, E. S. (2010). Adolescent girls' and boys' experiences of psychologically, physically, and sexually aggressive behaviors in their dating relationships: Co-occurrence and emotional reaction. *Journal of Aggression, Maltreatment & Trauma, 19*, 517–539.

Sears, H. A., Byers, E. S., Whelan, J. J., Saint-Pierre, M., & The Dating Violence Research Team. (2006). "If it hurts you, then it's not a joke": Adolescents' ideas about girls' and boys' use and experience of abusive behavior in dating relationships. *Journal of Interpersonal Violence, 21*(9), 1191–1207.

Smith, P. H., White, J. W., & Holland, L. J. (2003). A longitudinal perspective on dating violence among adolescent and college-age women. *Journal of American Public Health Association, 93*, 1104–1109.

Ting, S. R. (2009). Meta-analysis on dating violence prevention among middle and high schools. *Journal of School Violence, 8*, 328–337.

Tutty, L., & Bradshaw, C., Thurston, W. E., Barlow, A., Marshall, P., Tunstall, L., Dewar, M. E., Toy-Pries, D., Thomlinson, D., Este, D., Meadows, L., Josephson, W., Dobko, S., Proulx, J., Perrault, S., McDonald, M., & Nixon, K. (2005). *School based violence prevention programs: Preventing violence against children and Youth (Revised Ed.)*. Calgary: AB: RESOLVE Alberta. Online at www.ucalgary.ca/resolve/violenceprevention/

Wekerle, C., & Tanaka, M. (2010). Adolescent dating violence research and violence prevention: An opportunity to support health outcomes. *Journal of Aggression, Maltreatment & Trauma, 19*, 681–698.

Whitaker, D. J., Morrison, S., Lindquist, C., Hawkins, S. R., O'Neil, J. A., Nesius, A. M., et al. (2006). A critical review of interventions for the primary prevention of perpetration of partner violence. *Aggression and Violence Behavior, 11*, 151–166.

Wolfe, D. A., Crooks, C., Jaffe, P., Chiodo, D., Hughes, D., Ellis, W., Stitt, L., & Donner, L. (2009). A school-based program to prevent adolescent dating violence: A cluster randomized trial. *Archives of Pediatric Adolescent Medicine, 163*(8), 692–699.

Wolfe, D. A., Scott, K., Wekerle, C., & Pittman, A. (2001). Child maltreatment: Risk of adjustment problems and dating violence in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(3), 282–289.

Wolfe, D. A., Wekerle, C., Scott, K., Straatman, A., & Grasley, C. (2004). Predicting abuse in adolescent dating relationships over 1 year: The role of child maltreatment and trauma. *Journal of Abnormal Psychology, 113*(3), 406–415.

Wolfe, D. A., Wekerle, C., Scott, K., Straatman, A., Grasley, C., & Reitzel-Jaffe, D. (2003). Dating violence prevention with at-risk youth: A controlled outcome evaluation. *Journal of Consulting and Clinical Psychology, 71*(2), 279–291.

Day Centers

Mona Eklund
Department of Health Sciences, Lund University, Lund, Sweden

Synonyms

Activity day centers; Day structuring programs; Day-care centers; Occupation-based mental health programs

Definition

A community-based nonmedical intervention, based on participation in activity and social interaction.

Description

Research indicates that day center attendance may affect quality of life by mainly two pathways: the social interaction taking place and the activities in which the attendees may engage (Tjörnstrand, Bejerholm, & Eklund, 2011). Day centers differ in nature depending on their target population. This presentation is focused on the adult population and addresses people with psychiatric disabilities, those with intellectual disabilities, and the elderly.

Regarding people with psychiatric disabilities, day center participation tends to improve their quality of life (Rebeiro, Day, Semeniuk, O'Brien, & Wilson, 2001). Ongoing, unpublished research shows that level of engagement in day center activities accounts for 16–25 % of the variation in quality of life. The more engagement, in terms of showing interest, feeling involved, and taking on responsibility, the better perceived quality of life. However, findings are inconclusive, and previous research has not identified a relationship between day center attendance and general quality of life. A more detailed analysis indicated that the day center attendees scored higher than the non-attendees on the quality of life domains of satisfaction with work and satisfaction with economy (Eklund, 2009).

Day centers have also shown to improve the quality of life for people with intellectual disabilities, compared to a campus-based program (Hartnett et al., 2008). The participants found new social roles, hobbies, and work opportunities, which contributed to the increase in quality of life. The research in the area is very scarce, however.

With respect to elderly people, it has been shown that day centers serve as an important meeting place for persons who would

otherwise be isolated in their homes because of physical limitations. Compared to a rehabilitation center, a social day center facilitated psychosocial well-being more (Sviden, Tham, & Borell, 2004).

Research on day centers is very scarce. The most investigated target group seems to be people with psychiatric disabilities, although a review concluded that basically nothing is known about how effective day centers are for well-being in that group (Catty, Burns, Comas, & Poole, 2007). Extremely little is known about how day center participation affects the quality of life among people with intellectual disabilities and among the elderly. That type of research needs to be addressed in the near future. The effect of day center participation on the attendee's quality of life may be seen as a most significant indicator of the quality of day centers. Until a more solid knowledge base is obtained, the role of day centers in promoting quality of life must be considered unclear.

Cross-References

- ▶ Activities of Daily Living
- ▶ Disability
- ▶ Leisure Time

References

Catty, J., Burns, T., Comas, A., & Poole, Z. (2007). Day centers for severe mental illness. *Cochrane Database of Systematic Reviews*, *2007*(1). Art. No.: CD001710. doi:10.1002/14651858.CD001710.pub2.

Eklund, M. (2009). Work status, daily activities and quality of life among people with severe mental illness. *Quality of Life Research, 18*, 163–170.

Hartnett, E., Gallagher, P., Kiernan, G., Poulsen, C., Gilligan, E., & Reynolds, M. (2008). Day service programmes for people with a severe intellectual disability and quality of life: Parent and staff perspectives. *Journal of Intellectual Disabilities, 12*, 153–172.

Rebeiro, K. L., Day, D. G., Semeniuk, B., O'Brien, M. C., & Wilson, B. (2001). Northern initiative for social action: An occupation-based mental health program. *American Journal of Occupational Therapy, 55*, 493–500.

Sviden, G. A., Tham, K., & Borell, L. (2004). Elderly participants of social and rehabilitative day centres. *Scandinavian Journal of Caring Sciences, 18*, 402–409.

Tjörnstrand, C., Bejerholm, U., & Eklund, M. (2011). Participation in day centers for people with psychiatric disabilities – characteristics of the occupations performed. *Scandinavian Journal of Occupational Therapy, 18*, 234–253.

Day Structuring Programs

▶ Day Centers

Day-Care Centers

▶ Day Centers

Daylight

▶ Light and Quality of Life

DCA

▶ Discrete Choice Analysis

De Morton Mobility Index

Megan Davidson
School of Physiotherapy, La Trobe University, Bundoora, VIC, Australia

Definition

The de Morton Mobility Index (DEMMI) is a 15-item, clinician-administered measure of function in older adults.

Description

The de Morton Mobility Index (DEMMI) is a 15-item clinician-rated performance-based measure of mobility in older adults. A large initial item pool was generated from existing instruments, focus groups with clinicians, and patient interviews. Item reduction was achieved on practical grounds and by Rasch analysis to identify a unidimensional set of items (de Morton, Davidson, & Keating, 2008). The 15-items are administered sequentially from easiest to hardest, from bed (3 items), chair (3 items), static balance (4 items), walking (2 items), and dynamic balance (3 items) activities. The total score ranges from 0 to 100 where 0 indicates very poor mobility and 100 is independent mobility. The DEMMI can be administered with minimal equipment by any trained healthcare professional. The DEMMI and supporting materials can be located at the instrument website www.demmi.org.au/demmi/web/home.html. A Dutch translation is available (Jans et al., 2011).

Reliability and Measurement Error

An inter-rater reliability coefficient of r = 0.94 (95%CI 0.86 to 0.98) has been reported in an acute medical inpatient population (de Morton et al., 2008) and r = 0.87 (95%CI 0.76 to 0.94) in a subacute setting (de Morton & Lane, 2010). The minimum detectable change (90 % confidence) has been reported as 9.51 points (de Morton et al., 2008), 12.7 points (de Morton & Lane, 2010), and 13 points (Davenport & de Morton, 2011) in an acute, subacute, and community setting, respectively. For the Dutch translation, the inter-rater reliability was ICC = 0.85 (95%CI 0.71, 0.93), and MDC90 7 points.

Validity and Minimum Clinically Important Difference

DEMMI scores are moderately to strongly correlated with scores on the Barthel Index and the Hierarchical Assessment of Balance and Mobility (HABAM) (de Morton, Davidson & Keating, 2010); with the Lower Extremity Functional Scale (Davenport & de Morton, 2011); and with the 6-m Walk Test, Step Test, timed up and go test, 6-min Walk Test, and modified clinical test of sensory organization and balance (de Morton & Lane, 2010). Another study shows strong correlation with a modified Barthel Index but no correlation with Charlson Comorbidity Index (de Morton, Brusco, Wood, Lawler, & Taylor, 2011). DEMMI scores have been shown to be significantly higher in people being discharged home from acute or subacute care compared to those being discharged to a rehabilitation or residential care setting (De Morton et al., 2010; de Morton & Lane, 2010). In a subacute setting, patients walking independently or with a walking stick had significantly higher DEMMI scores than patients using other walking aids or who were non-ambulant (de Morton & Lane, 2010). In a transitional care setting, there was a significant difference in scores for patients assessed as high level versus low level residential care (de Morton et al., 2011).

The minimum clinically important difference has been reported as 10 points in an acute setting (de Morton et al., 2008, 2010), 8.4 points in a subacute (rehabilitation) setting (de Morton & Lane, 2010), 10–12 (de Morton et al., 2011) in a transitional care setting, and 7 points in a healthy, community-dwelling sample (Davenport & de Morton, 2011).

Head-to-Head Comparisons with Other Scales

The DEMMI has been reported to have similar responsiveness to the HABAM but is more responsive than the Barthel Index (de Morton et al., 2010, 2011). The DEMMI has fewer floor or ceiling effects than the HABAM or the Barthel Index (de Morton et al., 2010).

Strengths

- The DEMMI Scale has interval properties.
- It is practical to administer across the continuum of care.
- Minimum training is required.

Limitations

- Very demanding physical activities are not represented.

References

Davenport, S. J., & de Morton, N. A. (2011). Clinimetric properties of the de Morton Mobility Index in healthy, community-dwelling older adults. *Archives of Physical Medicine and Rehabilitation, 92*, 51–58.

De Morton, N. A., & Lane, K. (2010). Validity and reliability of the de Morton Mobility Index in the subacute hospital setting in a geriatric evaluation and management population. *Journal of Rehabilitation Medicine, 42*, 956–961.

De Morton, N. A., Brusco, N. K., Wood, L., Lawler, K., & Taylor, N. F. (2011). The de Morton Morton Mobility Index (DEMMI) provides a valid method for measuring and monitoring the mobility of patients making the transition from hospital to the community: An observational study.

De Morton, N. A., Davidson, M., & Keating, J. L. (2008). The de Morton Mobility Index (DEMMI): An essential health index for an ageing world. *Health & Quality of Life Outcomes, 6*, 63. doi:10.1186/1477-7525-6-63.

De Morton, N. A., Davidson, M., & Keating, J. L. (2010). Validity, responsiveness and the minimal clinically important difference for the de Morton Mobility Index (DEMMI) in an older acute medical population. *BMC Geriatrics, 10*, 72.

Jans, M. P., Slootweg, V. C., Boot, C. R., de Morton, N. A., van der Sluis, G., & van Meeteren, N. L. (2011). Reproducibility and validity of the Dutch translation of the de Morton Mobility Index (DEMMI) used by physiotherapists in older patients with knee or hip osteoarthritis. *Archives of Physical Medicine and Rehabilitation, 92*, 1898–1905.

Dead-End Jobs

Erik Bihagen and Marita Ohls
Swedish Institute for Social Research, Stockholm University, Stockholm, Sweden

Synonyms

Bad jobs; Labor contracts; Secondary labor market

Definition

A dead-end job (DEJ) can be seen as an occupation that does not offer career opportunities: there are no career ladders and few opportunities for wage increments (Bihagen & Ohls, 2007). There are several possible reasons for assuming that occupations in themselves differ in career chances and therefore that career chances are not only determined by the efforts and characteristics of individuals, e.g., human capital, but also by the occupation individuals are found in. Bihagen and Ohls (2007) suggest and describe a way of constructing measures of the career chances of occupations from data on the typical wage increments of individuals in different occupations based on the International Standard Classification of Occupations (ISCO-88). Measures related to career chances of occupations can be used for a number of purposes, e.g., to study ▶ health and ▶ quality of life (QOL) outcomes. There is a vast literature on socioeconomic status (SES) and health/QOL (cf., Elo, 2009; Graham, 2007), but we do not find any on dead-end jobs and health/QOL. Bihagen and Ohls (2007) used measures of DEJ for shedding light on the question of whether women's career chances in Sweden are due to an overrepresentation of women in occupations that generally lack career chances. Their results indicate that such an overrepresentation is one factor for women's lacking career chances in Sweden.

Related terms for dead-end jobs that have been used in sociological and economical writings are "secondary labor market" (Doeringer & Piore, 1971), "labor contract" (Erikson & Goldthorpe, 1992), or plainly "bad jobs" (Kalleberg, Reskin, & Hudson, 2000). These terms are partly related to occupations' career chances but refer to more than the career chances of an occupation. The perhaps closest concept is labor contract which is part of Erikson and Goldthorpe (1992), definition of social classes. Some occupations (in combination with employment status variables), in larger aggregates as social classes, are characterized by a labor contract, where the lack of career ladders is an important feature. The largest difference concerns the derivation of the measures where DEJ may be derived empirically directly from the indicators of career chances in occupations while the Erikson and Goldthorpe class schema is claimed to be derived in a more theoretical fashion or/and by indicators of employment relationships (Rose & Harrison, 2010).

Description

This description of the concept dead-end job (DEJ) aims to (1) describe why career chances vary between occupations, i.e., the theoretical background of the concept; (2) show how DEJ can be measured; (3) describe some empirical findings related to gender segregation in the Swedish labor market; and (4) suggest some future empirical studies of relevance for DEJ.

Theoretical Background

Although DEJ, as it is defined by Bihagen and Ohls (2007), says nothing about why occupations differ in career chances, there are several previous theoretical ideas why employees within similar occupations *typically* have similar long-term advantages and disadvantages at the job level, i.e., as employees within work organizations. First, occupations differ in the level of specific human capital required for performing the work tasks within the occupation. Specific human capital is attained through work experience and on-the-job training. Hence, the potential replacement cost for the employer, i.e., the cost of replacing one employee with another employee, is higher the more the occupation is associated with acquisition of specific human capital. As a way to lower these costs, employers offer long-term advantages, e.g., career opportunities, for their employees (Doeringer & Piore, 1971; Goldthorpe, 2000). Second, occupations differ in the degree to which work tasks can or cannot be easily monitored, i.e., in the degree to which the outcome of work can be easily measured in terms of quantity and quality. The employer would tend to offer long-term benefits to employees within occupations characterized by monitoring problems as a way to create incentives to perform well (Goldthorpe, 2000). Third, occupations have a history, e.g., in the sense that incumbents of occupations have organized themselves into unions and other associations (Grusky & Sorensen, 1998; Tilly, 1998; Weeden, 2002). Such activities may strengthen formalized career ladders and other long-term advantages linked to certain occupations. Finally, as an additional historical explanation, it has been suggested that occupations with a larger relative inflow of women than men are devalued (England, 1992), which may even concern career opportunities. These three basic explanations for the emergence of a career job are not necessarily as disparate as they may appear here, e.g., jobs with long-term rewards may be created in order to keep replacement costs low, but the advantages may continue to exist even after the rational base for them has disappeared as a consequence of union activities (cf., Doeringer & Piore, 1971).

Turning the argument around, these theories suggest that an occupation would tend to be organized as a DEJ when it is characterized by a low level of acquisition of specific human capital, associated with an easily measured output, and lacks a history of exclusionary practices, or other historical circumstances that serve to enhance career opportunities. Occupations with such characteristics would tend to offer only a low degree of future rewards in terms of additional pay with time spent in the job and possibilities to advance in a hierarchy of positions. The list of reasons for an occupation to be a DEJ should be seen as preliminary: more theoretical ideas may develop in the future, and more research is warranted concerning the relative importance of such reasons.

The Measurement of Dead-End Jobs (DEJ)

At the operational level, a DEJ in Bihagen and Ohls (2007) was defined as an occupation with a generally low level of wage growth for employees staying with the same employer over time. More specifically, the average wage growth for occupations was estimated irrespective of whether the employees changed occupations as long as they stayed with the same employer. Ultimately DEJs should be defined as occupations that generally lack career opportunities in terms of wage increments and promotion chances. It was argued that wage increments and promotion chances are highly associated as they probably have common causes and that a promotion generally results in a wage increment. Bihagen and Ohls (2007) discussed some

problems related to the use of occupational transition data for this purpose: (1) many promotions take place within broad categories of occupations as measured by occupational classifications. (2) Occupational transitions have a clear ceiling above which no further upward transitions are possible (cf., Sørensen & Tuma, 1981). According to Bihagen and Ohls (2007), wage data captures both promotions and other wage increments in an easier way than what would be the case with the use of occupational transition data.

Bihagen and Ohls (2007) argued for *internal* wage growth to be the best indicator of career chances of occupations (and the lack of such). The reason for restricting the interest to wage growth within firms was that being in an occupation within a firm and not experiencing any considerable wage growth was seen as a more clear-cut indicator of holding a dead-end job than having an occupation within a firm and then changing employer but keeping roughly the same wage.

Measuring career chances of occupations with the use of data for individuals who also shift occupation may be seen as peculiar. However, it was argued that career ladders sometimes include occupational shifts. Thus, restricting the analyses to respondents within the same occupation over time would have underestimated the career opportunities of occupational positions that are typically held for a short period of time and left for higher positions (Bihagen & Ohls, 2007).

Dead-End Jobs and Gender Segregation in the Swedish Labor Market

It has been suggested that gender differences in career prospects are mainly due to the concentration of women in dead-end jobs (Granqvist & Persson, 1998; Groot & Maassen van den Brink, 1996). The DEJ hypothesis, i.e., that women's fewer career opportunities are due to their overrepresentation in DEJs, would be supported to the extent that, first, within-firm career chances are similar for men and women who start in the same occupation and, second, that women more often than men are found in such occupations. The results of Bihagen and Ohls (2007) confirm this picture: women in Sweden are more often than men allocated to occupations at lower hierarchical levels with few career opportunities, and such occupations are in the Swedish case often found in the public sector, e.g., in occupations such as occupations relating to personal care. This is in line with the conclusion of Baxter and Wright (2000), who argue that the focus of research on gender differences in career opportunities should be shifted to lower hierarchical levels (cf., Bihagen & Ohls, 2006). According to Baxter and Wright (2000; p. 290), most research within this field is preoccupied with the "glass-ceiling" hypothesis, resulting in a situation in which most attention is paid to the top of hierarchies.

Nonetheless, it is worth stressing that more research is needed in order to compare the explanatory strength of this structural account of career chances with more traditional ones focusing on, e.g., human capital, motherhood penalties, or discrimination. Moreover, the DEJ hypothesis says nothing about why women tend to end up in such occupations.

Future Relevant Research Areas

A measure of occupations' career chances, as a continuous variable or as a categorical, could be of use for several purposes, not the least for studying gender segregation in the labor market. An avenue for future research is to study associations in between career chances of occupations and quality of life indicators: how bad is it to end up in a dead-end job? However, more research is warranted to validate the measure and also to study how stable such measures are across time and countries. There are a number of stratification measures available for researchers, and each of them attempts to measure different aspects of socioeconomic differentiation. Future research would perhaps gain from more comparisons between those. Although the DEJ measure attempts to only cover low career chances, we do not know how it is associated with general income levels of occupations or general skill requirements of occupations, which are both important aspects of social stratification (Tåhlin, 2006).

References

Baxter, J., & Wright, E. O. (2000). The glass ceiling hypothesis. A comparative study of the United States, Sweden, and Australia. *Gender and Society, 14*, 275–294.

Bihagen, E., & Ohls, M. (2006). The glass ceiling – where is it? Women's and men's career prospects in the private vs. the public sector in Sweden 1979–2000. *The Sociological Review, 54*(1), 20–47.

Bihagen, E., & Ohls, M. (2007). Are women over-represented in dead-end jobs? A Swedish study using empirically derived measures of dead-end jobs. *Social Indicators Research, 84*(2), 159–177.

Doeringer, P. B., & Piore, M. J. (1971). *Internal labor markets and manpower analysis*. Lexington, MA: Heath Lexington Books.

Elo, I. T. (2009). Social class differentials in health and mortality: Patterns and explanations in comparative perspective. *Annual Review of Sociology, 35*, 553–572.

England, P. (1992). *Comparable worth. Theories and evidence*. New York: Aldine de Gruyter.

Erikson, R., & Goldthorpe, J. H. (1992). *The constant flux: A study of class mobility in industrial societies*. Oxford: Clarendon.

Goldthorpe, J. H. (2000). *On sociology. numbers, narratives, and the integration of research and theory*. Oxford: University Press.

Graham, H. (2007). *Unequal lives: Health and socio-economic inequalities*. Buckingham: Open University Press.

Granqvist, L., & Persson, H. (1998). *'Career mobility in the private service sector- Are women trapped in "bad" jobs?', EC/DGV – OECD/DEELSA-seminar paper*. Luxembourg: Office for Official Publications of the European Communities.

Groot, W., & Maassen van den Brink, H. (1996). Glass ceilings or dead ends: Job promotion of men and women compared. *Economic Letters, 53*, 221–226.

Grusky, D. B., & Sørensen, J. B. (1998). Can class analysis be salvaged? *The American Journal of Sociology, 103*(5), 1187–1234.

Kalleberg, A. L., Reskin, B. F., & Hudson, K. (2000). Bad jobs in America: Standard and nonstandard employment relations and job quality in the United States. *American Sociological Review, 65*, 256–278.

Rose, D., & Harrison, E. (Eds.). (2010). *Social class in Europe: An introduction to the European socio-economic classification*. Abingdon(Oxon): Routledge.

Sørensen, A. B., & Tuma, B. T. (1981). Labor market structures and job mobility. *Research in Social Stratification and Mobility, 1*, 67–94.

Tåhlin, M. (2006). Class clues. *European Sociological Review, 23*(5), 557–572.

Tilly, C. (1998). *Durable inequality*. Berkeley, CA/London: University of California Press.

Weeden, K. A. (2002). Why do some occupations pay more than others? Social closure and earning inequality in the United States. *The American Journal of Sociology, 108*, 55–101.

Death

► Bereavement

Death and Dying

► Bereavement

Death Penalty Opinion

► Attitudes Toward the Death Penalty

Death Rate

Panagiotis Liargovas
Department of Economics, University of Peloponnese, Tripolis, Greece

Synonyms

Mortality rate

Definition

Death rate is a statistical measure of the change in the number of people living in specific area. Higher death rates result in a decrease in population resulting from deaths in a country, city, or region. ► Quality of life is usually negatively related to death rates.

Description

Death rate is generally determined by the number of deaths occurring during a given period (usually 1 year) per 1,000 persons, also known as ► mortality rate; thus, a death rate of 7.5 in a population of 1,000,000 would mean 7,500 deaths per year in the entire population or 0.75 %

out of the total. Death rate should not be confused with the rate which refers to the number of individuals in poor health during a given time period or the number of newly appearing cases of a disease per unit of time (Koch, 2008). A disease-specific death rate covers deaths due to only one disease and is often reported on the basis of 100,000 persons. The population base may be defined by age, gender, or other characteristics. The risk of death for both sexes is high immediately after birth, diminishing during childhood, and reaching a minimum at 11–13 years of age. The risk then rises again, until at late ages it surpasses that of the first year of life. Generally, the risk of death at any given age is less for females than for males, except during the childbearing years. Together with the birth rate, infant mortality, and life-span, the death rate gives information about the population's ▶ health. The death rate depends on socioeconomic conditions and on the degree to which science and ▶ public health have developed. As recently as the early twentieth century, the principal causes of death throughout the world were infectious diseases. The major cause of death in the economically developed countries since the mid-twentieth century has been noninfectious diseases. In the ▶ developing countries, the determining factors continue to be infectious and parasitic diseases. The death rate, while only a rough indicator of the mortality situation in a country, accurately indicates the current mortality impact on population growth. The importance of the future course of death rate in the aging society of the western world is very high. In contrast to the past, now death rate decline is a powerful cause of population aging (Saunders, 1988). Death rate is significantly affected by age distribution, and most developed countries will eventually show a rise in the overall death rate, in spite of continued decline in mortality at all ages, as declining fertility results in an aging population.

Cross-References

- ▶ Developing Countries
- ▶ Health
- ▶ Mortality
- ▶ Mortality Rates
- ▶ Public Health
- ▶ Quality of Life

References

Koch, G. (2008). *Basic allied health statistics and analysis* (3rd ed.). New York: Delmar-Gengage Learning.

Saunders, J. (1988). *Basic demographic measures: A practical guide for users*. Boston: University of America.

Debate of Ideas

- ▶ Public Opinion

Debt

Christian Suter
Institut de Sociologie, Université de Neuchâtel, Neuchâtel, Switzerland

Synonyms

Financial obligations; Indebtedness; Liabilities

Definition

Debt refers to the financial obligations of individuals, households, companies, governments, or other institutions that are borrowed from, and owed to, one or several creditors or lenders. Debt liabilities require the payment of interest, and/or the amortization of principal, by the debtor to the creditor.

Description

There are various forms of debt. They are usually distinguished by one of the following criteria: type of debtor, type of creditor, maturity

composition of the debt, currency composition of the debt, and the type of debt instruments.

1. Type of debtor: Debts may be incurred by individuals, households, companies, as well as governments (at the federal, state, or local level) and public institutions. Therefore, private debt, owed by individuals, households (personal debt), and companies (corporate debt), has to be distinguished from ► public debt, owed by the government and public institutions of a country.
2. Type of creditor: Regarding the type of creditor, private creditors, official creditors, and multilateral financial institutions are usually distinguished. The most important creditors are private lenders, notably banks and financial institutions, but also companies outside the banking sector. Other private creditors are individuals and households. Official creditors are public institutions, mainly central and local governments and central banks. Multilateral financial institutions, finally, refer to the lending of supranational institutions, notably global institutions like the International Monetary Fund (IMF), the World Bank, and the Bank for International Settlements, but also to regional organizations, like the European Central Bank or the Regional Development Banks. Another important distinction refers to domestic and foreign creditors. Debt held by foreign investors, that is, by nonresidents, is usually denominated in foreign currency and issued in foreign capital markets; this is known as external debt. Domestic debt, on the contrary, refers to debt held by residents of a country.
3. Maturity composition: Debt instruments are usually classified either as short-term or long-term obligations. Short-term debt refers to financial obligations that have a maturity (original or remaining) of 1 year or less. Debt instruments with a maturity (original or remaining) of more than 1 year are usually defined as long-term debt; they also include medium-term debt instruments with a maturity of usually 1–5 years.
4. Currency composition: Debt may be incurred in domestic or foreign currency. Debt instruments denominated in the domestic currency of a country and issued in the domestic capital market are considered as domestic debt. In contrast, debt denominated in a foreign currency and issued in a foreign capital market is known as foreign debt.
5. Type of debt instruments: There is a wide variety of debt instruments. Their relevance varies among debtor and creditor types but also over time, across countries, and between socioeconomic groups. Thus, regarding *individual and household debt*, the most important financial instruments are home mortgages, that is, secured loans for purchasing real estate property, and consumer credits. The latter consists of installment loans for financing the purchase of durable consumer goods (cars, household equipment, hobby/sport equipment), educational loans, credit card debt, etc. Individual debt furthermore includes tax debts and other outstanding bills. Debt instruments for *private business* include bank loans (including short-term cash loans or lines of credit), trade credits (i.e., delayed payments for purchased goods), commercial mortgages, and corporate bonds (long-term, tradable debt instruments issued by a company). Corporate debt has to be distinguished from equity funding and direct investment which imply direct ownership and management control over a given company and are, therefore, not regarded as debt instruments. Regarding ► public debt, the most important instruments include federal or municipal bonds, bank credits, private and official export credits, bilateral and multilateral development assistance, and short- and medium-term stabilization loans (like IMF credits).

In classical economic theory, the desire or necessity to incur debts is often related to the mismatch between desired consumption, investment, or output, on the one hand, and available income, revenues, capital, or savings on the other hand (Barnes & Young, 2003). Thus, regarding individual and household debt, life cycle theories, for instance, argue that income in the earlier stages of households or adults' lives is still low but tend to increase substantially during professional life, particularly for social groups with high education levels and long professional careers, resulting in

a consequent curvilinear lifetime earnings profile. Individuals and households thus tend to borrow money when their income is still low in order to smooth their consumption profile. Similarly, regarding corporate and public debtors, it is argued that borrowing allows them to close the gaps between planned investments/expenditures and actual revenues/available resources.

Debt plays an increasing role in the financing of investment and consumption of individuals, households, companies, as well as governments and public institutions (Carruthers & Kim, 2011). This rising indebtedness is attributed to various factors: at the level of individuals and households, increasing house prices, financial innovations (increasing the accessibility of credit to households), increasing college costs (in the case of educational debt), changing attitudes towards credit, rising income inequality (▶ social inequalities, ▶ income distribution), and slow growth of low wages as well as demographic shifts have been mentioned (Barba & Pivetti, 2009; Chien & Devaney, 2001; Dynan & Kohn, 2007; Ritzer, 1995). Regarding ▶ public debt, liquidity of capital markets, economic cycles, and fluctuations in public revenues (taxes, export earnings) and expenditures, but also political factors, like wars and nation-building processes, played an important role (Suter, 2012).

Many individuals, households, companies, and countries struggle under the weight of excessive debt burdens. Not surprisingly, debt problems, insolvencies, bankruptcies, and default have grown considerably over the past few decades, at the level not only of individuals, households, and companies but also of state and federal governments (Sullivan, Warren, & Westbrook, 2006 and McCloud & Dwyer, 2011 for consumer bankruptcy; Suter, 1992, 2012 for sovereign debt crises).

Several widely used debt ratios and debt burden measures, based on both flow and stock indicators, have been developed to assess the sustainability and the risks of debt, as well as the creditworthiness of debtors. These measures notably refer to liquidity and solvency problems. Liquidity problems concern the debtor's short-term inability to meet scheduled debt service payments (e.g., for the coming year), that is, when a shortage of liquid assets makes it impossible to meet the immediate payments due. Liquidity problems typically arise as a result of unexpected drops in income and revenues. Liquidity problems are often (but not always) related to solvency problems, that is, the long-term incapacity to service debt. The most important solvency indicators relate outstanding debt stocks or flows of debt service payments to income, revenues, and assets. These include the ratio of debt to income; the ratio of debt service payments to income (for individual and household debt); the ratio of debt to financial assets or equity (for corporate debt); the ratio of debt to GDP, fiscal revenue, or exports; and the ratio of debt service payments (total debt service or interest payments only) to exports, public, or fiscal revenues (for public debt; ratio of federal debt to GDP, ratio of personal household debt to GDP, ratio of total country debt to GDP). Indicators of liquidity problems include the ratio of reserves to short-term debt or to the prospective interest payments, the ratio of interest (or debt service) payments to cash flow (for corporate debt), but also indicators of the maturity structure, like the ratio of short-term debt to total debt.

How is debt related to quality of life, individual and societal well-being, and happiness? Although there is a large body of literature on the relationship between economic resources (notably income and wealth) and well-being (relative income), only little research has examined the association between indebtedness and well-being, both on the micro-level (individuals and households) and macro-level (regions, municipalities, states, nations). Most studies dealing with the topic of debt and well-being assume negative impacts, particularly as regards excessive indebtedness, financial troubles and economic ▶ stress, and insolvency (Dean, Carroll, & Yang, 2007; Jacoby, 2002). The empirical evidence, however, is mixed, depending on the dimension of well-being/▶ quality of life, the debt variables included, and the debtors' resources and characteristics. Thus, at the level of individuals and households, Drentea and Lavrakas (2000) found negative effects of both

the ratio of debt to income and an overall debt stress index (but not of credit card default) on physical and self-reported health, whereas Dwyer, McCloud, and Hodson (2011) demonstrated that credit card debt increases mastery and ▶ self-esteem among young adults. Similarly, at country level (i.e., with aggregated data at the national level), some studies report nonsignificant relationships between (public) debt and quality of life, whereas others found negative impacts (for more details cf. ▶ public debt).

More recent studies suggest interaction effects at both the individual and national level. Thus, Dew (2008) demonstrates that level of debt and changes in consumer debts negatively impact on marital satisfaction through relational mechanisms (loss of time together, conflict over finances). Similarly, the cross-national study of Shandra, Nobles, London, and Williamson (2004) shows that the deleterious effects of debt crises on ▶ social development and health are mediated by democracy, that is, countries with a low level of ▶ democracy are affected particularly badly.

This demonstrates that the causal mechanisms which link borrowing, debt, debt increases, or insolvency to subjective well-being and ▶ happiness are not yet fully understood. Three areas would particularly merit further research. Firstly, more comprehensive and more differentiated research on the impact of debt on well-being is needed, differentiating between the various types of debt and between the different dimensions of well-being, and paying more attention to interaction and contextual effects (including social class, occupational and life course transitions, relational resources, government policies, legal system and practice). Secondly, more ▶ comparative analysis and cross-national research is needed, particularly as regards individual and household indebtedness. Thirdly, the long-term consequences of debt for well-being and quality of life of individuals and countries are still unknown. On the individual level, this concerns, for instance, the long-term consequences of child, youth, and student indebtedness; on the national level, the long-term relationship between debt and development trajectories.

Cross-References

- ▶ Bankruptcy
- ▶ Comparative Analysis
- ▶ Federal Debt to GDP, Ratio of
- ▶ Income Distribution
- ▶ Personal Household Debt to GDP, Ratio of
- ▶ Public Debt
- ▶ Social Inequalities

References

Barba, A., & Pivetti, M. (2009). Rising household debt: Its causes and macroeconomic implications – A long-period analysis. *Cambridge Journal of Economics, 33*, 113–137.

Barnes, S., & Young, G. (2003). *The rise in US household debt: Assessing its causes and sustainability* London: Bank of England (Working Paper Series, 206).

Carruthers, B. G., & Kim, J.-C. (2011). The sociology of finance. *Annual Review of Sociology, 37*, 239–259.

Chien, Y., & Devaney, S. A. (2001). The effects of credit attitude and socioeconomic factors on credit card and installment debt. *Journal of Consumer Affairs, 35*, 162–178.

Dean, L. R., Carroll, J. S., & Yang, C. (2007). Materialism, perceived financial problems, and marital satisfaction. *Family and Consumer Sciences Research Journal, 35*, 260–281.

Dew, J. (2008). Debt change and marital satisfaction change in recently married couples. *Family Relations, 57*(1), 60–71.

Drentea, P., & Lavrakas, P. J. (2000). Over the limit: The association among health, race, and debt. *Social Science & Medicine, 50*, 517–529.

Dwyer, R. E., McCloud, L., & Hodson, R. (2011). Youth debt, mastery, and self-esteem: Class-stratified effects of indebtedness on self-concept. *Social Science Research, 40*, 727–741.

Dynan, K. E., & Kohn, D. L. (2007). *The rise in U.S. household indebtedness: Causes and consequences* (Finance and Economics Discussion Series, 2007–37). Washington, DC: Federal Reserve Board.

Jacoby, M. (2002). Does indebtedness influence health? A preliminary inquiry. *The Journal of Law, Medicine & Ethics, 30*, 560–571.

McCloud, L., & Dwyer, R. E. (2011). The fragile American: Hardship and financial troubles in the 21st century. *The Sociological Quarterly, 52*, 13–35.

Ritzer, G. (1995). *Expressing America: A critique of the global credit card society*. Thousand Oaks, CA: Pine Forge.

Shandra, J. M., Nobles, J., London, B., & Williamson, J. B. (2004). Dependency, democracy, and infant mortality. *Social Science & Medicine, 59*, 321–333.
Sullivan, T. A., Warren, E., & Westbrook, J. L. (2006). Less stigma or more financial distress: An empirical analysis of the extraordinary increase in bankruptcy filings. *Stanford Law Review, 59*, 213–256.
Suter, C. (1992). *Debt cycles in the world-economy: Foreign loans, financial crises, and debt settlements, 1820–1990*. Boulder, CO: Westview.
Suter, C. (2012). Debt crises in the modern world-system. In S. Babones & C. Chase-Dunn (Eds.), *Routledge handbook of world-systems analysis* (pp. 215–223). London/New York: Routledge.

Debt Sustainability of Federal Governments

▶ Federal Debt to GDP, Ratio of

Decile Range

Ron Johnston
School of Geographical Sciences, University of Bristol, Bristol, UK

Definition

The decile range is one of a large number of ways of identifying the variation in a set of observations on an interval or ratio measurement scale; it is one of the general family of quantiles which divide a distribution into n equal segments; where $n = 2$, the division is at the median; where $n = 4$, the division is into quartiles; where $n = 10$, the division is into deciles, etc.

For any set of numbers, the range is the difference between the largest and the smallest value. However, whereas many such distributions have a small number of extreme values, most of them cluster relatively close to the median. By using the entire range as an indicator of the variation about the average value, therefore, an analyst may overemphasize the extremes relative to the clustering and suggest that there is greater variation than is really the case in all but a small number of observations (such as the freak months in London when there is no rainfall).

To avoid this problem, analysts use a number of measures of variation that focus on the central part of the distribution. One common measure is the inter-quartile range, which shows the difference between the lower and the upper quartile of a distribution. Thus, if the median annual rainfall for London is 580 mm, the lower quartile is 540 mm, and the upper quartile 610 mm, then the inter-quartile range is 70 mm – in half of all years, the annual rainfall will fall within that range.

The decile range looks at a wider scatter of values. The observations are placed in order from the largest to the smallest and the frequency distribution is divided into ten equal parts – i.e., if there are 100 observations, ten of them fall within each decile. The lowest decile is the first – i.e., 10 % of the observations have a smaller value and 90 % have a larger value; the upper decile is the ninth – 90 % of the observations have a smaller value and 10 % have a larger one. (Where the number of observations is not divisibly by ten, then the location of each decile has to be estimated. If there are 95 observations, for example, the lowest decile lies half-way between the ninth and the tenth observation.) Thus, if the lowest and upper deciles for London's annual rainfall are 510 and 650, respectively, then the inter-decile range is 140 mm; in 80 % of all years, the amount of rain London receives will fall within that range.

References

Rogerson, P. A. (2010). *Statistical methods for geography: A student's guide* (3rd ed.). London: Sage.

Decision Latitude

▶ Task Discretion

Decision Making

Thomas Hyphantis
Department of Psychiatry, University of Ioannina, Ioannina, Greece

Synonyms

Active, shared, or passive participation; Decisional preferences; Decision-making preferences; Medical decision making; Patient participation; Patient's role in medical treatment; Patient-physician collaboration; Treatment choice

Definition

The patient's participation in medical decision making has attracted much attention in recent years, and patient's autonomy has been increasingly emphasized. In the decision-making process, the patient's role may range from an active role, that is, patients decide themselves about treatment, through a sharing role, to a passive role, in which they delegate responsibility of the decision to their physicians (Strull & Charles, 1984; Degner & Sloan, 1992). The traditional paternalistic approach has been extensively challenged, and shared decision making is increasingly considered as an ideal model of physician-patient interaction. In shared decision making, providers and patients exchange information, both express treatment preferences, and after joint deliberation they may reach a mutually accepted decision (Charles, Gafni, & Whelan, 1997). The role the patients would like to assume in the decision-making process is yet to be clarified, but it seems that seeking information and being involved in decision making enhance the coping processes, which in turn promote the adjustment to the disease, at a time when patients experience significant levels of psychological distress.

Description

Treatment decisional preferences have been extensively studied in cancer patients, especially in breast cancer, since treatment of this type of cancer involves difficult choices between medically justified treatment alternatives. It is well established, for example, that both mastectomy and breast-conserving surgery with radiation result in equivalent survival rates in early stages of breast cancer (Veronesi et al., 2002), and women offered a choice of surgical treatment were shown to have better psychological well-being (Ashcroft, Leinster, & Slade, 1986; Fallowfield, Hall, & Maguire, 1994) and quality of life (Hack, Degner, Watson, & Sinha, 2006).

Breast cancer patients' preferences for participation in treatment decisions vary among various countries worldwide and are influenced by cultural, legal, religious, financial, and other factors. In a Canadian study, 44 % of breast cancer patients preferred to share decisions with their physicians (Degner et al., 1997a). Shared decision making was also preferred by 64 % of patients in a US study (Keating, Guadagnoli, Landrum, Borbas, & Weeks, 2002). Although studies from European countries reported lower rates of active and shared decision preferences, still only a small minority (10–17.3 %) wanted to delegate full responsibility for the decision to doctors (Beaver et al., 1996; Wallberg et al., 2000). A recent study of women with breast cancer in Greece, however, showed that the vast majority of Greek women with breast cancer wanted to play a passive role in treatment decision making (71.1 %), with many wanting to delegate responsibility for the decision completely to their physician (45.3 %) (Almyroudi, Degner, Paika, Pavlidis, & Hyphantis, 2011). By comparison, in the Canadian study the proportion of breast cancer patients who preferred a passive role was 34 % (Degner et al., 1997a). Although the relevant percentages reported in Europe are higher, with patients preferring a passive role being 24 % in the Netherlands (Jansen, Otten, & Stiggelbout, 2006) and France (Protiere et al., 2000), 52 % in the UK (Beaver et al., 1996), and 66 % in Sweden

(Wallberg et al., 2000), the rates in Greece remain the highest reported, indicating the impact of the dominating paternalistic model of the doctor-patient relationship in the Greek medical encounter (Almyroudi et al., 2011). It is important to note that in this study, both passive role choice and less information desired were associated with less frequently seeking screening services such as mammography and Pap test pre-diagnostically (Almyroudi et al.), indicating that patient education and abandonment of the traditional paternalistic approach could play a significant part in cancer prevention. In this respect, despite the higher proportions of shared and active decisional preferences reported in most other countries, studies have shown that breast cancer patients often fail to achieve their preferred level of involvement (Bruera, Willey, Palmer, & Rosales, 2001; Wallberg et al., 2000), as doctors underestimate patients' preference for participating in treatment decision making (Bruera et al., 2001).

A resent meta-analysis of studies using the Control Preferences Scale in patients with various types of cancer (Singh et al., 2010) showed that the roles that cancer patients preferred in treatment decision making were 26 % active, 49 % collaborative, and 25 % passive, while the roles that patients reported actually experiencing were 30 % active, 34 % collaborative, and 36 % passive. More women than men reported assuming a passive role, and older patients preferred and were more likely than younger patients to assume a passive role (Singh et al.). The authors concluded that about half of the studied patients with cancer stated that they preferred to have a collaborative relationship with physicians but, although most patients had the decision-making role they preferred, about 40 % experienced discordance, highlighting the need for incorporation of individualized patient communication styles into treatment plans. This need is further supported by evidences suggesting that women who received chemotherapy and reported having played a more passive role in treatment decision making had significantly greater distress and lower cancer-specific quality of life at 12-week post-consultation (Hack et al., 2010), and that women who indicated at baseline that they were actively involved in choosing their surgical treatment had significantly higher physical and social functioning and significantly less fatigue than women who assumed a passive role (Hack et al., 2006). It has been also showed that active involvement and shared decision making benefit cancer patients in general (Gattellari, Butow, & Tattersall, 2001), while meeting the individuals' preferences had also positive effects on outcomes such as increased patient satisfaction, reduced decisional conflict, and improved compliance with treatment in several medical illnesses (Anderson et al., 1995; Shepherd, Tattersall, & Butow, 2007). Therefore, it has been suggested that health-care providers should make progress toward a more patient-centered care, providing the patients with the appropriate information and the choices available for their treatment, but always being sensitive in detecting signs of psychological distress or discontent (Almyroudi et al., 2011).

Measurements

Singh et al. (2010) have recently published a comprehensive meta-analysis of studies using the most widely used instrument for reliably assessing patients' treatment decision preferences, the Control Preferences Scale (Degner, Sloan, & Venkatesh, 1997b; Hack, Degner, & Dyck, 1994). The Control Preferences Scale has been developed by Hack and colleagues (Hack et al., 1994) in an effort to develop a reliable and easy-to-administer instrument to measure the degree of control a patient desires over his or her medical decisions wherein patients were asked to rank five different roles in order of preference. The development of the scale was based on the unfolding theory by Coombs (1964). The Control Preferences Scale asks patients two questions about how much decision-making control they would like to have and how much decision-making control patients perceived that they actually experienced. There are five response

Decision Making, Fig. 1 The Control Preferences Scale's Card A – active role (Published after the kind permission of Prof. L. Degner and Prof. T. Hack. English version available from Prof. T. Hack at: THack@sbrc.ca; Greek version available from Prof. T. Hyphantis at: tyfantis@cc.uoi.gr)

Decision Making, Fig. 2 The Control Preferences Scale's Card B – active collaboration role (Published after the kind permission of Prof. L. Degner and Prof. T. Hack. English version available from Prof. T. Hack at: THack@sbrc.ca; Greek version available from Prof. T. Hyphantis at: tyfantis@cc.uoi.gr)

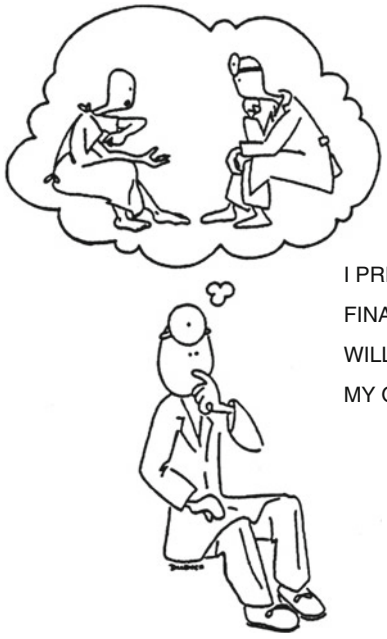
categories with associated stick figure drawings for each of the following five control options: active role (Fig. 1), active collaboration (Fig. 2), shared decision preferences (Fig. 3), passive collaboration (Fig. 4), and passive role (Fig. 5).

The responses can be further collapsed into three categories with preferred roles ranging from the patient being the primary decision maker (A), through shared decision making (C), to the patient being the passive recipient of the physician's decisions (E) (Degner et al., 1997) (Fig. 6).

The Control Preferences Scale has been applied in several studies worldwide, and studies

I PREFER THAT MY DOCTOR AND I SHARE RESPONSIBILITY FOR DECIDING WHICH TREATMENT IS BEST FOR ME.

Decision Making, Fig. 3 The Control Preferences Scale's Card C – shared decision making (Published after the kind permission of Prof. L. Degner and Prof. T. Hack. English version available from Prof. T. Hack at: THack@sbrc.ca; Greek version available from Prof. T. Hyphantis at: tyfantis@cc.uoi.gr)

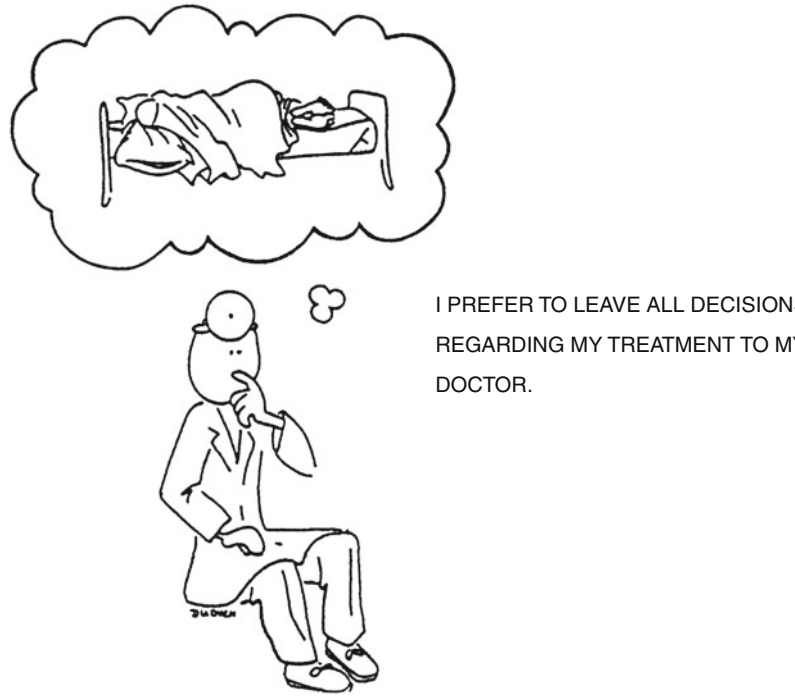


I PREFER THAT MY DOCTOR MAKES THE FINAL DECISION ABOUT WHICH TREATMENT WILL BE USED, BUT SERIOUSLY CONSIDERS MY OPINION.

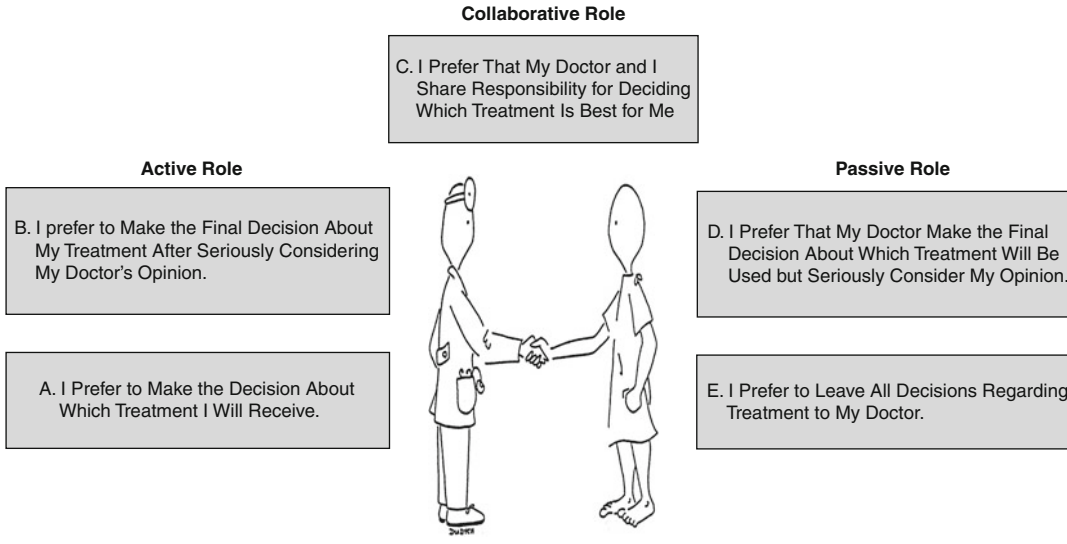
Decision Making, Fig. 4 The Control Preferences Scale's Card D – passive collaboration (Published after the kind permission of Prof. L. Degner and Prof. T. Hack. English version available from Prof. T. Hack at: THack@sbrc.ca; Greek version available from Prof. T. Hyphantis at: tyfantis@cc.uoi.gr)

have shown that it is a brief and valid measure of the patients' treatment decision preferences (Degner et al., 1997a, 1997b) with good psychometric properties in diverse samples (Adams, Drake, & Wolford, 2007).

Since participation in treatment decisions presupposes that the patient has been provided with accurate information about the treatment options, their potential benefits, and side effects, an assessment of patients' information needs usually accompanies the assessment of patients' treatment decisional preferences. The most widely used tool for the assessment of patients' information needs is the Cassileth's Information Styles Questionnaire (Cassileth et al., 1980), which assesses patient's general and specific information preferences. It consists of three parts. Part one measures the amount of information details desired by patients on a five-point Likert scale. Part two assesses the desire for specific types of information concerning disease, treatment options, and psychosocial needs, on a three-point Likert scale. Finally, in part three, patients are asked to choose a statement that best describes their general attitude toward information regarding their illness.



Decision Making, Fig. 5 The Control Preferences Scale's Card E – passive role (Published after the kind permission of Prof. L. Degner and Prof. T. Hack. English version available from Prof. T. Hack at: THack@sbrc.ca; Greek version available from Prof. T. Hyphantis at: tyfantis@cc.uoi.gr)



Decision Making, Fig. 6 The Control Preferences Scale (Degner et al., 1997b)

Cross-References

- ▶ Active Coping
- ▶ Adaptation
- ▶ Attitude Measurement
- ▶ Breast Cancer Patients, Surgery, and Quality of Life
- ▶ Care Needs, Supportive
- ▶ Character Strengths
- ▶ Choice

- Health Determinants
- Human Rights
- Locus of Control
- Mastectomy
- Medical Care, Satisfaction with
- Moral Theories
- Need Fulfillment
- Need Theory
- Oncology
- Patient-Physician Communication
- Perceived Freedom
- Preference Satisfaction Theories
- Preference-Based Measures of Health-Related Quality of Life
- Psychological Adjustment to Illness Scale (PAIS)

References

Adams, J. R., Drake, R. E., & Wolford, G. L. (2007). Shared decision-making preferences of people with severe mental illness. *Psychiatric Services, 58*(9), 1219–1221.

Almyroudi, A., Degner, L. F., Paika, V., Pavlidis, N., & Hyphantis, T. (2011). Decision making preferences and information needs among Greek breast cancer patients. *Psycho-Oncology, 20*(8), 871–879.

Anderson, R., Funnell, M., Butler, P., Arnold, M., Fitzgerald, J., & Feste, C. (1995). Patient empowerment: Results of a randomized controlled trial. *Diabetes Care, 18*, 943–949.

Ashcroft, J. J., Leinster, S. J., & Slade, P. D. (1986). Mastectomy vs breast conservation: Psychological effects of patient choice of treatment. In M. Watson & S. Greer (Eds.), *Psychological issues in malignant disease*. Oxford: Pergamon Press.

Beaver, K., Luker, K. A., Owens, R. G., Leinster, S. J., Degner, L. F., & Sloan, J. A. (1996). Treatment decision making in women newly diagnosed with breast cancer. *Cancer Nursing, 19*(1), 8–19.

Bruera, E., Willey, J. S., Palmer, J. L., & Rosales, M. (2001). Treatment decisions for breast carcinoma: Patient preferences and physician perceptions. *Cancer, 94*(7), 2076–2080.

Cassileth, B. R., Zupkis, R. V., Sutton-Smith, K., & March, V. (1980). Information and participation preferences among cancer patients. *Annals of Internal Medicine, 92*, 832–836.

Charles, C., Gafni, A., & Whelan, T. (1997). Shared decision making in the medical encounter: What does it mean? (Or it takes at least two to tango). *Social Science & Medicine, 44*(5), 681–692.

Coombs, C. H. (1964). *A theory of data*. New York: Wiley.

Degner, L. F., & Sloan, J. A. (1992). Decision making during serious illness: What role do patients really want to play? *Journal of Clinical Epidemiology, 45*, 941–950.

Degner, L. F., Kristjanson, L. J., Bowman, D., Sloan, J. A., Carriere, K. C., O' Neil, J., et al. (1997a). Information needs and decisional preferences in women with breast cancer. *Journal of the American Medical Association, 277*(18), 1485–1492.

Degner, L. F., Sloan, J., & Venkatesh, P. (1997b). The control preferences scale. *The Canadian Journal of Nursing Research, 29*, 21–43.

Fallowfield, L. J., Hall, A., & Maguire, P. (1994). Psychological effects of being offered choice of surgery for breast cancer. *BMJ, 309*, 448.

Gattellari, M., Butow, P. N., & Tattersall, M. H. N. (2001). Sharing decisions in cancer care. *Social Science & Medicine, 52*, 1865–1878.

Hack, T. F., Degner, L. F., & Dyck, D. G. (1994). Relationship between preferences for decisional control and illness information among women with breast cancer: A quantitative and qualitative analysis. *Social Science & Medicine, 39*(2), 279–289.

Hack, T. F., Degner, L. F., Watson, P., & Sinha, L. (2006). Do patients benefit from participating in medical decision making? Longitudinal follow-up of women with breast cancer. *Psycho-Oncology, 15*, 9–19.

Hack, T. F., Pickles, T., Ruether, J. D., Weir, L., Bultz, B. D., Mackey, J., et al. (2010). Predictors of distress and quality of life in patients undergoing cancer therapy: Impact of treatment type and decisional role. *Psycho-Oncology, 19*(6), 606–616.

Jansen, S. J. T., Otten, W., & Stiggelbout, A. M. (2006). Factors affecting patients' perceptions of choice regarding adjuvant chemotherapy for breast cancer. *Breast Cancer Research and Treatment, 99*, 35–45.

Keating, N. L., Guadagnoli, E., Landrum, M. B., Borbas, C., & Weeks, J. C. (2002). Treatment decision making in early-stage breast cancer: Should surgeons match patients' desired level of involvement? *Journal of Clinical Oncology, 20*(6), 1473–1479.

Protiere, C., Viens, P., Genre, D., Cowen, D., Camerlo, D., Gravis, G., et al. (2000). Patient participation in medical decision-making: A French study in adjuvant radio-chemotherapy for early breast cancer. *Annals of Oncology, 2*, 39–45.

Shepherd, H. L., Tattersall, M. H. N., & Butow, P. N. (2007). The context influences doctors' support of shared decision making in cancer care. *British Journal of Cancer, 97*, 6–13.

Singh, J. A., Sloan, J. A., Atherton, P. J., Smith, T., Hack, T. F., Huschka, M. M., et al. (2010). Preferred roles in treatment decision making among patients with cancer: A pooled analysis of studies using the Control Preferences Scale. *The American Journal of Managed Care, 16*(9), 688–696.

Strull, W. M., & Charles, B. (1984). Do patients want to participate in medical decisions? *Journal of the American Medical Association, 252*(21), 2290–2294.

Veronesi, U., Cascinelli, N., Mariani, L., Greco, M., Saccozzi, R., Luini, A., et al. (2002). Twenty-year follow-up of a randomized study comparing breast-conserving surgery with radical mastectomy for early breast cancer. *The New England Journal of Medicine, 347*(16), 1227–1232.

Wallberg, B., Michelson, H., Nystedt, M., Bolund, C., Degner, L. F., & Wilking, N. (2000). Information needs and preferences for participation in treatment decisions among Swedish breast cancer patients. *Acta Oncologica, 39*, 467–476.

Decisional Preferences

► Decision Making

Decision-Making Preferences

► Decision Making

Decomposition

► Top-Down QOL Models

Decorative Arts

► Arts and Quality of Life

Decreasing Returns to Scale

► Diminishing Returns

Deductive Logic

► Validity, Logical

Defensible Space and Crime

► Impact of Housing Design on Crime

Defining Urban Areas, Quality of Life

Vicente Royuela, Javier Romani and Jordi Suriñach
AQR-IREA Research Group, University of Barcelona, Barcelona, Spain

Synonyms

Territorial grouping using quality of life criteria; Territorialization

Definition

A multicriteria methodology to define the territorialization of the region of Catalonia (Spain) is presented. We adopt the classification of human needs proposed by Maslow (1975), which can be used to implement a multidimensional measurement of ► quality of life. We adopt simultaneously several criteria and techniques of grouping the territory: administrative areas, commuting-based algorithms, and gravitational techniques. These points help us build a system of multicriteria urban areas consistent with the overall use of time by individuals.

Description

Introduction

We adopt the Maslow (1975) theory of ► human needs in order to build a system of multicriteria urban areas consistent with the overall use of time of individuals, coherent with the idea of quality of life, which is the main force in the decision of localization of individuals. As an alternative to

traditional, single-criterion territorializations, we combine different criteria and complementary grouping techniques.

New territorial trends concerning to the local environment cause the effects of local policy to go beyond the municipality area and face the rigidity of the administrative demarcations: officially, at the Spanish level, the local units are the municipalities (NUTS-V level in the European Union territorial classification) and the provinces (NUTS-III). We consider the need for the existence of an intermediate territorial unit. Ideally speaking, this territorial unit should consist of a group of neighboring municipalities, with important ties of union, such as flows of people, goods, services, and information between them.

Our grouping methodology cannot be restricted to the economic flows but also to all the daily activities of the individuals, which means multidimensionality of criteria.

To define urban systems based on a multidimensional strategy, we have followed several steps:

1. Election and specification of the criteria upon which the urban systems will be designed.
2. Compilation of the necessary data for this territorialization.
3. Selection of particular methodologies related to each of the considered dimensions. Several complementary grouping methodologies were used in order to achieve flexibility and robustness in our results.
4. Elaboration of the final territorialization: the final results for each single variable are presented in a double scale of systems and subsystems. This final phase considers simultaneously all the dimensions and levels.

Criteria in the Definition of the Urban Systems

In order to define the basic criteria for the construction of the urban systems of Catalonia, the concept of *human needs* must be introduced. Maslow (1975) sees five different kinds of needs: *physiological needs*, *health and security*, *ownership and love*, *need to being loved*, and *self-fulfillment*. Once we have fulfilled the most basic needs, we are ready for other needs. Some authors have criticized this classification, but there's an almost general consensus in the idea of quality of life being a multidimensional concept (Doyal & Gough, 1994; Heller, 1978; Wish, 1986). We need to study all its facettes in order to reach a full definition of quality of life. Thus, our framework has to deal with information related to the normal activities of individuals.

Another problem is the existence of nonlinearities in the provision of services along the territory. For example, one big infrastructure as a big hospital or a university can give service to a large territory, whereas a primary school covers a narrower space. The final chosen criteria are the following ones: labor, education, health, shopping, and leisure.

Data Base Description

The analysis focuses on the region of Catalonia (NUTS II). Catalonia is divided into four provinces (NUTS III), Barcelona the most populated one, with 76 % of the region's inhabitants: 4,628,277 in 1996. Catalonia has 946 municipalities (NUTS-V), which are our basic unit of measurement.

On this territory we collected data related to the formerly selected areas:

Labor: Data related to labor ▶ commuting comes from 2001 Census. They let us know the territorial distribution of workers and their travel-to-work habits.

Education: The 2001 Census data related to education offer the amount of daily travelers from homes to their place of study. Administrative adscriptions of primary schools to secondary schools are also used.

Health services: These data consider the administrative ascriptions of health areas. There are three levels, with different amounts of health services. We also collected the amount of services located in every municipality.

Shopping: We have collected data of the number of retail shops in all municipalities, and their commercial space, measured in squared meters.

Leisure: Cultural and sport facilities. We have collected data about libraries, disaggregated by their typology, to build a weighted library index using the relative importance of libraries.

We also considered museums, art galleries, theaters, cinemas, and auditoriums. Using information about the number of visitors and spectators of all cultural facilities, we have calculated the weights of an *overall cultural facilities index*: museums – 25 %, cinemas – 70 %, and theaters – 5 %. Finally, we also used information about sports facilities. Using the number of federative licenses in Spain for every sport, we weighted all different sport facilities, getting a final *index of sport facilities*. In order to compute a final index of culture, leisure, and sport, we used the Time Use Survey 2002–2003 in Spain to weight the amount of time that people devote to practice sport or to assist to cultural activities. These final weights were Libraries, 12 %; Cultural facilities, 45 %; and Sport facilities, 43 %.

We also used 5-year cohort population pyramids, from the 2001 Census, and travel time between municipalities.

Brief Description of the Chosen Methodologies

Different methodologies, depending on the type of information available, have been used: commuting-based algorithms, gravitational and electrical equilibrium forces, multidimensional scaling and clustering methods, and administrative criteria.

Commuting-Based Algorithms

Commuting-based algorithms are used for commuting flow data, like workers' or students' commuting flows. This methodology has been widely used in many countries for small area definition purposes. The most used method is the *local labor markets*, first proposed by Fox and Kumar (1965) and based in the use of daily commuting flows. Smaller municipalities are aggregated to larger ones, where an important fraction of the residents in smaller municipalities commute daily. Authors, like Coombes, Green, and Openshaw (1986), Smart (1974) Van Der Laan (1998), or Pacinelli (1998), have developed this idea into algorithms, which are capable of automatically aggregating the municipalities into local labor markets (Casado-Díaz & Coombes, 2004 is a good survey). Palacio (1998), Casado-Diaz (2000), Castañer, Vicente, and Boix (2000), Royuela and Vargas (2009), or Romaní, Suriñach, and Artís (2006) have implemented these algorithms for different Spanish regions. These algorithms have been adapted and used successfully in different countries and regions, like the United Kingdom, the Netherlands, Italy (ISTAT, 1997, 2002), or Denmark (Andersen, 2002). Roca-Cladera and Moix (2005) stress the importance of the interaction between areas.

We have adapted Romaní et al. (2006) methodology, similar in some aspects to the MIRABELLE algorithm used in France (Casado-Díaz & Coombes, 2004; INSEE, 1998a, 1998b). We consider this algorithm an improvement over previous methodologies, due to its nonhierarchical nature, and it has been used for both labor and study commuting flows. Its main characteristics are as follows:

First, we consider flows ($i - j$) from each municipality to the rest: each municipality i is clustered with the municipality j that receives the largest commuting flow from i, but only if this flow is larger than 10 % of all the employed workers living in i. This procedure is repeated, thus aggregating municipalities until all flows larger than 10 % have been used.

Municipalities which have not been grouped in the first step are aggregated to the *system* (group of municipalities, as defined above) to whom they send the largest commuting flow.

The *urban systems* (aggregations of municipalities) obtained are revised: the objective is to find any municipality that might have been clustered into a group because of a large commuting flow to a single municipality of this group, but, when aggregate flows are considered, shows a higher attachment to a different group.

The resulting *urban systems* are constrained to fulfill the following criteria:

Defining Urban Areas, Quality of Life, Table 1 Number of territorial aggregations. Labor and studies

	Municipalities	Subsystems	Systems
Labor commuting	946	84	62
Study commuting	946	153	73

- *Self-containment*: External inflows and outflows are minimized. The number of workers who both live and work in the *urban system* should be as high as possible.
- *Size* (*population*): A lower (30,000) and a higher (200,000) population limit is considered desiderable. Anyway, this condition is not too strict, and these figures have been scaled down for the education systems.
- *Subdivision of larger systems*: Following the same criteria used to create the *urban systems*, the larger ones can be divided into *subsystems*.
- *Coincidence between urban systems and administrative boundaries*: In some cases, municipalities are assigned to an *urban system* which mostly belongs to a *provincia* (NUTS-III) different from the municipality's. In such cases, a trade-off rule is developed to ensure that each municipality is kept in the *provincia* it belongs unless ties with municipalities from other *provincias* are strong.

This methodology ascribes each municipality into a higher-order territorial division (*urban systems* and *urban subsystems* (see Table 1)).

Gravitational and Electrical Forces Models and Multivariate Scaling and Clustering Methods

These techniques have been used when the only information available was the offer and demand of services (commercial, cultural, leisure, and sports). The objective is to identify the influence areas of some municipalities, which play an *attraction* role. The role of a municipality depends on the different attraction forces. We will consider *gravitational* and *electrical* forces. These magnitudes are calculated from the supply and demand of the different services (retail, cultural, leisure, and sports services). We define the following forces:

$$GFSS_{ij} = \mathrm{S_i} * \mathrm{S_j}/\mathrm{d_{ij}}^b;$$
$$\mathrm{GFDD_{ij}} = \mathrm{D_i} * \mathrm{D_j}/\mathrm{d_{ij}}^b;$$
$$\mathrm{EF_{ij}} = \mathrm{dif_i} * \mathrm{dif_j}/\mathrm{d_{ij}}^b$$

Being

i, j Municipalities

S_j Quantity of service supplied in municipality j

D_j Demand of the service at municipality j

$dif_{ij} = S_i - D_j$ Difference between supply at municipality i and demand at municipality j

d_{ij} = Distance between municipality i and municipality j

$GFSS_{ij}$ Gravitational force supply-supply between municipality i and municipality j

$GFDD_{ij}$ Gravitational force demand-demand between municipality i and municipality j

EF_{ij} Electric force between municipality i and municipality j. dif_i and dif_j must have opposite signs

These expressions reflect the intensity of the attraction force between municipalities i and j. The greater this force, the larger the flows between both municipalities. Each force can be used to identify a different type of aggregation (Costa, Navarro, & Rovira, 1996). The best aggregations of municipalities are found using a combination of both electrical and gravitational forces:

$$\mathrm{F_{ij}} = \left(\mathrm{GFSS_{ij}} + \mathrm{EF_{ij}}\right)/2$$

F_{ij} is the arithmetical mean of the electrical and gravitational forces. Costa et al. (1996) used a quadratic potence (b = 2), while we use a cubic potence (b = 3), which allows us to impose a larger importance to the proximity of retail, cultural, and leisure services. This is consistent with the Catalan retail market structure (a strong weight of small shopping premises). A second reason for using this potence (b = 3) is that no contiguity conditions have been added in the clustering methods used in the next steps.

Defining Urban Areas, Quality of Life, Table 2 Number of territorial aggregations as a function of cut distance: commerce and culture

	Number of municipalities	First aggregation ($dist_1 = 0.0049$)	Second aggregation ($dist_2 = 0.0153$)	Third aggregation ($dist_3 = 0.0365$)	Fourth aggregation ($dist_4 = 0.3885$)
Commerce: retail shops	946	261	181	139	40
Commerce: retail area	946	162	101	69	24
Leisure and culture	946	158	104	77	48

Cut distances have no direct economic meaning

Defining Urban Areas, Quality of Life, Table 3 Number of territorial aggregations: commerce and culture

	Municipalities	Subsystems	Systems
Commerce: retail shops	946	160	79
Commerce: retail area	946	123	62
Leisure and culture	946	166	75

Defining Urban Areas, Quality of Life, Table 4 Number of territorial aggregations from administrative criteria: school and health facilities

	Municipalities	Subsystems	Systems
School	946	740	220
Health	946	188	46

Demand forces are proxied by the municipality's population. In order to calculate electrical forces, the supply measures of retail services (number of retail shops and total retail area) and the Culture and Leisure offering indexes have been rescaled so that their sum equals the municipal population.

Once the magnitude of attraction forces between each pair of municipalities is calculated, multidimensional scaling and clustering methods (as in Royuela and Duque 2013) can be used to aggregate municipalities into systems and subsystems. We have opted for a hierarchical cluster aggregation. The distance between each pair of elements ($i \rightarrow j$) is the inverse of the force F_{ij}.

There are no definite criteria to decide the number of systems (aggregations of municipalities). We can define a function of the number of aggregations and the cut distance (Table 2).

The municipality with the largest supply of shopping, culture, and leisure services is considered *head municipality*. We have a complete list of groups of municipalities (with their corresponding head) for each aggregation level. This will be useful later to solve any existing conflict among the aggregation criteria.

Lastly, in order to have a tool for comparing the results using different criteria, a restriction to the aggregation process has been added: the importance of the resulting groups of municipalities must be proportional to the number of municipalities included. The results are shown in Table 3.

This method ensures the homogeneity of systems and subsystems without the previous restriction of municipalities being adjacent. On the other side, the use of this criterion assumes a certain error margin: Costa et al. (1996) obtain a 75 % success using gravitational and electrical forces when comparing with known commuting ascriptions.

Administrative Criteria as a Proxy of the Political and Social Context

This methodology has been used when other data were unavailable, or as a complement for previous territorializations. We have analyzed all legal and administrative ascriptions to higher-order urban systems. We have also analyzed the supply of education and health services for each municipality in order to choose the head of each system or subsystem (Table 4).

Defining Urban Areas, Quality of Life, Table 5 Use of time of individuals (Catalonia, 2002–2003)

Activities	% of individuals who perform the activity	Average daily time for individuals who perform the activity	Average daily time for all individuals
0 Self-care	100.00	11:29	11:29
1 Work	38.90	7:57	3:05
2 Education	13.00	5:26	0:42
3 Home and family	82.20	3:38	2:59
4 Voluntary work and meetings	8.60	2:11	0:11
5 Social life and leisure	56.60	1:56	1:05
6 Sports and open-air activities	35.70	2:00	0:43
7 Hobbies and games	16.20	1:42	0:16
8 Media	86.50	2:33	2:12
9 Trips and other nonspecified	84.90	1:30	1:16

Defining Urban Areas, Quality of Life, Table 6 Weights of the different commuting criteria

Criteria	Weights
Work	45.0 %
Education	13.8 %
Shopping	13.8 %
Health	13.8 %
Culture and leisure	13.8 %

Ponderation of the Previous Criteria and Final Territorialization

The previous steps have led us to find *unidimensional* aggregations of municipalities (each one of them defined using one criterion, or a few, closely related criteria). We need a methodology to combine them into one, multidimensional territorialization, which encompasses all criteria. Rules to solve disagreements between criteria must also be developed.

The previous criteria are related to the individuals' regular activities: people work and study daily. They shop and assist to leisure and cultural activities several times a week, and many people visit a health center at least once a month. Thus, our final aggregations of municipalities must be a weighted average of the previous territorializations, as each one of them reflects a single activity performed at regular intervals. The weights should depend on the importance that each of these activities has for an average person.

We have consulted the *Time Use Survey, 2002–2003*, by the Spanish Statistics Institute (INE). Table 5 shows the main results for Catalonia.

Work is the most important of all activities that might imply trips, education, sports, and hobbies, home and family taking a secondary role. Shopping is included in home and family activities, while health care is included in self-care. Our final ponderation for time use is the one displayed in Table 6.

Once the weight of each criterion is decided, the ascription of each municipality is analyzed. All aggregations must have a head municipality with a minimum level of economic and social services. This task is performed at two levels (urban systems and urban subsystems).

If a municipality (i) is tied by all criteria to a head municipality (j), this adscription is considered final. If there are contradictions between criteria, the decision depends on the weights. Flow criteria (commuting or educational) are considered more reliable than the ones based in gravitational and electrical forces. As previous studies (Costa et al., 1996) have obtained a 25 % of error chance with these criteria, their weights have been lowered in the same proportion.

Thus, the following steps have been taken in order to decide the definitive ascriptions:

1. Analyze each municipality's capability as a potential head of a subsystem or a system when all criteria are taken into account (Table 4). A minimum size of three municipalities or 2,000 residents for subsystems has

been imposed. We have followed the same restrictions for labor or study commuting data (Sect. 4.1), although these limits have been relaxed, proximity being more important for aspects like education or shopping than for working. We have obtained 123 *subsystems*, which can be aggregated into 64 *overall systems* (Table 7).

2. Calculate the ascriptions of each municipality to systems and subsystems according to all criteria.
3. Analyze if all these ascriptions belonged to a municipality considered an *overall head*, as defined in 1.
4. Ascribe each municipality to its head of *subsystem* or *overall system*. If a municipality is tied to the same head for all criteria, the ascription is straightforward. If there are several options, the municipality is tied to the head to whom it shows more ascriptions. In case of a draw between two heads, commuting criteria have been used, as they are considered error-free, while gravity and electric forces have an error margin of about 25 %. If the destination municipality of the main labor commuting flow was not a head, study commuting flows have been used instead.

Defining Urban Areas, Quality of Life, Table 7 Number of territorial aggregations considering a pool of different criteria

	Municipalities	Subsystems	Systems
Overall criterion	946	123	64

Our results show a higher number of groups (64) than the administrative division in *comarcas* (41). Map 1 shows *overall systems* for Catalonia, while Maps 2–8 show adscriptions to all the individual criteria considered.

Conclusions

We have analyzed the main reasons for daily travel of Catalan population. Although the main reason for daily travel is commuting, it represents only 45 % of the total daily travel

Defining Urban Areas, Quality of Life, Map 1 Final multicriteria (64 systems)

Defining Urban Areas, Quality of Life, Map 2 Labor commuting (62 systems)

Defining Urban Areas, Quality of Life, Map 3 Study commuting (73 systems)

Defining Urban Areas, Quality of Life, Map 4 High school administrative adscriptions (220 systems)

Defining Urban Areas, Quality of Life, Map 5 Retail shopping: shops (79 systems)

Defining Urban Areas, Quality of Life, Map 6 Retail shopping: shopping area (62 systems)

Defining Urban Areas, Quality of Life, Map 7 Health administrative adscriptions (46 systems)

Defining Urban Areas, Quality of Life, Map 8 Leisure and culture (75 systems)

time of an average Catalan worker. Other daily displacements include shopping, studying, leisure, and health. When designing territorialization algorithms, these travels have to be considered.

The availability of data is not the same for all these types of displacements: accurate travel data exist for work and school commutes, but not for shopping, leisure or health displacements. Thus, different methodologies have been used depending on the data available. We have used algorithms based on commuting flows (when known), electrical and gravitational forces when we only had information about supply and demand of basic services, and we included administrative information to complete our data. A common methodology is needed to bring together all these single-criterion territorializations. We have opted for an aggregation based in Maslow's (1975) classification of human needs and the use of time associated to them.

Cross-References

- ▶ Time Trade-Off
- ▶ Urban Areas

References

Andersen, A. K. (2002). Are commuting areas relevant for the delimitation of administrative regions in Denmark? *Regional Studies, 36*(8), 833–844.

Casado-Díaz, J. M. (2000). Local labour market areas in Spain: A case study. *Regional Studies, 34*(9), 843–856.

Casado-Díaz, J.M. & Coombes, M.G. (2004). Delineation of Local Labour Market Areas (LLMAs). NECTAR Cluster 4 Workshop, Alicante, Spain.

Castañer, M., Vicente, J., & Boix, G. (Coor.). (2000). *Areas urbanas y movilidad laboral en España*. Girona: Servei de Publicacions, Universitat de Girona. http://iei.ua.es:9673/commuting/Libroareasurbanas.html.

Coombes, M. G., Green, A. E., & Openshaw, S. (1986). An efficient algorythm to generate official statistical reporting areas: The case of the 1984 travel-to-work

areas revision in Britain. *Journal of the Operational Research Society, 37*, 943–953.
Costa, A., Navarro, S., & Rovira, C. (1996). *El ajuste de la movilidad laboral obligada mediante modelos de atracción. El caso del Censo de Población 1991 de Cataluña*. Pamplona, Spain: XXII Reunión de Estudios Regionales.
Doyal, L., & Gough, I. (1994). *Teoría de las necesidades humanas*. Madrid, Spain: Icaria/FUHEM.
Fox, K. A., & Kumar T. K. (1965). *The functional economic area: Delineation and implications for economic analysis and policy*. Papers and proceedings of the Regional Science Association, 15, 57–85.
Heller, A. (1978). *Las teorías de las necesidades en Marx*. Madrid, Spain: Península.
INSEE. (1998a). *Les decoupages du territoire*. INSEE Méthodes nums. 77, 77 and 78. Paris.
INSEE. (1998b). *Les zonages : Enjeaux et méthodes*. INSEE Méthodes num. 83, Paris.
ISTAT. (1997). *I sistemi locali del lavoro*. Rome: Author.
ISTAT. (2002). *Metodologia utilizzata per l'estime sull'occupazione residente e le persone in cerca di occupazione nei sistemi locali di lavoro per gli anni 1998–2000*. Rome: Author.
Maslow, A. H. (1975). *Motivación y personalidad*. Barcelona, Spain: Sagitario.
Pacinelli, A. (1998). Sull'autocontenimento del lavoro nei sistemi locali del lavoro dell'Italia peninsulare. Un'analisi esplorativa dei SLL dell'Italia peninsulare. *Economia e Lavoro, 32*(2), 73–90.
Palacio, G. (dir.). (1998). *Cohesió, centralitat i cohesió iterativa a Catalunya*: *1981–1986–1991–avanç 1996*. Barcelona, Spain: Departament d'Obres Públiques, Generalitat de Catalunya.
Roca-Cladera, J., & Moix, M. (2005). The interaction value: Its scope and limits as an instrument for delimiting urban systems. *Regional Studies, 39*(3), 357–373.
Romaní, J. Suriñach, J., & Artís, M. (2006). Mobilitat laboral obligada i sistemes urbans a la provincia de Barcelona, 1991–2001. In: *Informe territorial de la província de Barcelona* (pp. 191–220). Barcelona, Spain: Cambra Oficial de Comerç, Indústria i Navegació de Barcelona. Available at: http://www.cambrabcn.org/c/document_library/get_file?uuid=acf514c5-353c-46f5-a53f-3f82492cced4&groupId=1533402.
Royuela, V. & Duque, J.C. (2013). HouSI: Heuristic for delimitation of housing submarkets and price homogeneous areas. *Computers, Environment and Urban Systems, 37*(1), 59–69.
Royuela, V. & Vargas, M. A. (2009). Defining housing market areas using commuting and migration algorithms: Catalonia (Spain) as a case study. *Urban Studies, 46*(11), 2381–2398.
Smart, M. W. (1974). Labour market areas: Uses and definition. *Progress in Planning, 2*(4), 238–253.
Van Der Laan, L. (1998). Changing urban systems: An empirical analysis at two spatial levels. *Regional Studies, 32*, 235–247.
Wish, N. D. (1986). Are we really measuring the quality of life? Well-being has subjective dimensions, as well as objective ones. *American Journal of Economics and Sociology, 45*(1), 93–99.

Defining Well-Being: Local Versus Public Policy Definitions

Francisco Zorondo-Rodríguez[1], Aili Pyhala[1] and Victoria Reyes-García[2]
[1]Institute of Environmental Science and Technology, Autonomous University of Barcelona, Barcelona, Spain
[2]ICREA and Institute of Environmental Science and Technology, Autonomous University of Barcelona, Barcelona, Spain

Synonyms

Local indicators; Local means of well-being; Local satisfiers

Definition

Measures of well-being aim to estimate and improve well-being levels among people. For that, well-being measurement tools should balance the views of local community members and their definitions of well-being with the indicators used by government and development organizations. The balance between both approaches would contribute to the adequate measurement of well-being at the local level. The study emphasizes the need for local communities to become more involved in the process of evaluation and improvement of their own well-being.

Description

Introduction. The involvement of local community members and their views into the making of public policies of well-being has become a keystone in the design of local well-being measurement tools (Swain & Hollar, 2003). In this sense, the definition and evaluation of well-being depend on the social, economic, and environmental attributes of each community (Sirgy, 2011). Nevertheless, a valid tool to measure well-being guided by well-established theories would encourage and strengthen comparisons across studies and partnerships across agencies. The challenge then for an accurate well-being measurement tool lies in achieving a balanced match between bottom-up and top-down approaches.

A well-balanced dialogue between top-down and bottom-up well-being approaches would strengthen both the sensibility and the ability of well-being-related public policies to predict future outcomes (Hagerty et al., 2001). In particular, this balance would allow for an environment in which people can develop their full potential and lead productive, creative lives in accordance with their needs and interests, as emphasized by the United Nations Development Programme (UNDP) in their definition of *human development*. Nowadays, UNDP's definition of human development is accepted worldwide, and its ▶ Human Development Index (HDI) is one of the tools most widely used by policy makers around the world.

Here, we analyze the correspondence between this standard well-being measurement tool, the ▶ Human Development Index (HDI), and the local concept of well-being. Specifically, we assess whether the elements defined by local people as the most important to fulfill their well-being, hereafter referred to as "local means," match with indicators adopted by the HDI. We use cross-sectional data from a case study in Kodagu district (state of Karnataka, ▶ India).

Study Site. The main tool to measure well-being in Kodagu is the Human Development Report (HDR) (Government of Karnataka, 2006), which also represents the main approach to conceptualize well-being adopted by local authorities. According to HDR, Kodagu ranks fourth out of the 27 districts of Karnataka in the ranking of HDI. Kodagu has one of the highest levels of literacy, income, child immunization, school attendance rate, and education infrastructure in Karnataka (Government of Karnataka, 2006). Nevertheless, the HDR recognizes that much remains to be done, mainly in terms of infant mortality, access to basic facilities, gender and class inequalities, and rural-urban disparities.

Methodology. We visited the study site between November 2008 and April 2009. We interviewed a total of 114 individuals from different settlements in Kodagu using a free-listing technique to capture the local concept of well-being. This technique is based on cultural consensus theory and allows us to capture the agreement among people in a particular domain of knowledge, in this case, indicators (material and nonmaterial) of well-being. Free listings also capture the relative saliency of each elicited element within the sample of individuals (Puri, 2011). We asked individuals the following: "Think about the important things in your life. Can you list all the important things you can think of?" We prompted respondents to list as many elements as they could conceive. We then asked respondents to explain why they considered each element important. Previously, we had tested a set of questions, and we chose the question described above because it was the phrasing that people understood best. We then compared the list of elements elicited by people against the indicators used by the HDR. The correspondence was based on similarities (and dissimilarities) of the underlying concept behind each elicited element and each HDR's indicator.

Results. The individuals interviewed listed elements corresponding to 40 local means important to fulfill their well-being. Our results show similarities and dissimilarities between local means listed and HDR indicators. Similarities were found in aspects of ▶ health, nutrition, formal ▶ education, economy, and household ▶ security. On the other hand, people also elicited elements which are not included in the

HDR indicators, including items related to economic security, social and familiar relationships, environment, agriculture, communication and transport, ▶ spirituality, and governance. We also found that gender development, child labor, and some indicators of health and education were included in the latest HDR for the area but were not listed by any of the respondents.

Discussion and Conclusions. A good match between local means considered important for local people and official indicators of well-being would allow for a much more realistic estimation and assessment of well-being at a local level. Our study shows a mismatch between local means and regional government indicators used to assess well-being. This finding suggests that public policies on well-being in Kodagu neglect the well-balanced dialogue between top-down and bottom-up approaches as a strategy to get meaningful measurement tools. In order to assist such a process, our study provides a set of elements that could be used as plausible local indicators of well-being. The combination of both top-down and bottom-up approaches could also promote a healthy debate between citizens and local authorities, fostering good governance. Studies like this one play an important role in emphasizing the need for local communities to become more involved in the process of evaluation and improvement of their own well-being. We suggest that the local efforts on well-being should focus on getting a more complete list of local means as well as maintain periodic and long-term assessments on local means and well-being levels. We suggest that future research should focus on understanding how local means related to well-being evolve and assessing their suitability for use as indicators of well-being.

Cross-References

- ▶ Aboriginal Community Well-Being Index
- ▶ Community Capacity Building
- ▶ Community Indicators and Public Interest
- ▶ Community QOL Measures
- ▶ Human Well-Being in India

References

Government of Karnataka. (2006). *Human development report in Karnataka 2005*. Bangalore, India: Planning and Statistics Department, Government of Karnataka.

Hagerty, M. R., Cummins, R. A., Ferriss, A. L., Land, K., Michalos, A. C., Peterson, M., et al. (2001). Quality of life indexes for national policy: Review and agenda for research. *Social Indicators Research, 55*, 1–96.

Puri, R. K. (2011). Documenting local environmental knowledge and change. In H. Newing, C. Eagle, R. K. Puri, & C. W. Watson (Eds.), *Conducting research in conservation: A social science perspective* (pp. 146–169). New York: Routledge.

Sirgy, M. (2011). Theoretical perspectives guiding QOL indicator projects. *Social Indicators Research, 103*, 1–22.

Swain, D., & Hollar, D. (2003). Measuring progress: Community indicators and the quality of life. *International Journal of Public Administration, 26*, 789–814.

Definitional Framework for the Concept of Well-Being

Shlomit Levy
A. Harman Institute of Contemporary Jewry, The Hebrew University of Jerusalem, Jerusalem, Israel

Definition

The literature refers to the notion of well-being in a variety of ways, such as a state characterized by ▶ happiness, ▶ health (physical and mental), and prosperity; a good satisfactory condition of existence; a person's good; and society's good. It follows, then, that the concept of well-being is multivariate – as are most behavioral terms – and its study requires a definitional framework to facilitate a view of this multivariate complexity. Such a definitional framework is made possible by adopting the facet theory approach that suggests looking at the concept of "well-being" as a multivariate one and views each of the previous attempts at a definition as emphasizing a specific aspect of the multifaceted concept.

Definitional Framework for the Concept of Well-Being,
Fig. 1 Faceted definition of "Well-Being"

"An item belongs to the universe of well-being items if and only if its domain asks for a {cognitive / affective / instrumental} assessment of {level / treatment} of the state of social group (g) in some life area (1), and the range is ordered from {very satisfactory / to / very unsatisfactory} according to the normative criterion of the respondent for that area of life" (Levy and Guttman, 1975, p.364).

Description

Defining Well-Being as a Multivariate Concept

The concept of "well-being" is broad, as reflected in the variety of ways it is defined (see above). Most of the definitions coincide with Kurt Lewin's seminal "life-space" theory, according to which people perceive an objectively defined environment in a psychologically subjective form. For example, Diener (2000) conceptualizes subjective well-being (SWB) as composed of three components: (1) ▶ life satisfaction as a whole and with domains; (2) positive affect, experiencing many pleasant emotions and moods; (3) experiencing relatively low levels of negative moods. Similar conceptualizations concerning this psychological and complex response with respect to well-being can be found in many publications in the field (to mention but a few: Campbell, 1976, Michalos, 1991). The term "well-being" is thus multivariate, and its study requires a definitional framework to facilitate a view of this multivariate complexity. Accordingly, a definition of the concept of well-being must refer to its multivariate nature on the one hand (for this matter, see also Diener, & Fujita, 1995, Kim-Prieto, Diener, Tamir, Scollon, & Diener, 2005, Veenhoven, 2000) and to the commonality that holds its various aspects together on the other. Most attempts at a definition of well-being relate mainly to its common meaning in the sense of life satisfaction (Abrams, 1973, Andrews, 1974, Diener, 1994, Hall, 1973, Veenhoven, 1991) or to the realization of people's "universal highest-order goals" (i.e., substantive needs) of physical and social well-being. For the purpose of theory construction and research design, it has been found useful to define concepts through the universe of items with which the theory is concerned (Guttman, 1982). This requires specifying facets for the domain (question part) and the range (possible answers) of the items. Accordingly, the universe of well-being items was formally defined in terms of facets as follows Fig. 1:

This definition specifies the psychological response in terms of several facets that classify the content of the observations on well-being. One facet specifies the subject whose well-being is being studied: an individual or any social group. Morrison, Tay and Diener (2011) indicate the lack of well-being studies that examine the interrelations between personal and national satisfaction, whether in overall terms or for specific life domains that are important for the understanding of societal well-being (they found only two major studies that examined this issue). The subject's satisfaction (see also Veenhoven, 2000) concerns a situation (or treatment thereof) in a variety of life domains (e.g., family, health, economy, and religion) that are assessed in different modalities – i.e., cognitive, affective, and instrumental (see also discussion in Andrews, 1974, Andrews & McKennell, 1980, Andrews & Withey, 1976, Bradburn, 1969, Campbell, 1976, Kim-Prieto et al., 2005, Ostrom, 1969, Wilkening, 1982).

The facet approach allows to view each of the previous attempts at a definition as emphasizing a specific aspect of the multifaceted concept. However, something must hold all these aspects together, and this commonality is sought in

Definitional Framework for the Concept of Well-Being, Fig. 2 Guttman's faceted definition of "Attitude"

"An item belongs to the universe of attitude items if and only if its domain asks about behavior in a {cognitive / affective / instrumental} modality toward an object, and its range is ordered from {very positive / to / very negative} towards that object" (Guttman, in Gratch 1973, 1982: Levy 1985).

terms of a common range – namely, extent of "satisfaction." There are two conditions for a universe of items to have a common range: (1) the range of each item in the universe must be *ordered and* (2) the ranges must have a *uniform meaning* of their orders regardless of their actual phrasing. The problem of meaning is semantic (substantive) and is related to the general framework of the research, while phrasing is a technical problem.

The suggested "satisfaction" range for well-being items is clearly related to the concept of "relative deprivation" introduced by Samuel A. Stouffer in the morale research for the American Army in World War II (Stouffer, Suchman, DeVinney, Star, & Williams, 1949, pp. 125–130). According to this hypothesis, satisfaction with one's situation depends not so much on an objective assessment of that situation but on the discrepancy between this situation and one's expectations. For example, in the economic area, objective income cannot by itself indicate the level of economic well-being, though it is certainly related to it. A better indicator would be a subjective assessment of satisfaction with the objective situation such as "sufficiency of income." Here the respondent is implicitly asked to assess his expectations from a given situation (income). This coincides with Michalos's ▶ multiple discrepancies theory (MDT) regarding the discrepancy between what one has and what one wants (1991). Such an item shows how it is possible to study personal economic well-being without even knowing what the actual income is (of course, for policy making much more information is needed). Furthermore, the concept of the range from "very satisfactory" to "very unsatisfactory" implied in the faceted definition of well-being is to be understood as *normative*. Indeed, this understanding appears in the literature. For example, Shin and Johnson (1978) have defined well-being as "a global assessment of a person's ▶ quality of life according to his own chosen criteria" (p. 478). Though norms may vary from respondent to respondent, it can be assumed that respondents of a certain society have essentially similar well-being norms on the life areas studied.

Well-Being Is Attitudinal

The above definition implies that the universe of well-being items is a subuniverse of attitudinal items. This proposition is supported by Guttman's definition of the universe of attitudinal items that reads as follows (Guttman, 1973); Fig. 2:

The well-being items are classified according to the modality facet. Furthermore, the well-being range of "very satisfactory" to "very unsatisfactory" is a special case of the attitudinal range of "very positive" to "very negative." Thus, each well-being item has its domain, and its range conforms to those necessary and sufficient for attitudinal items (Levy, & Guttman, 1975, p. 369). This concept of well-being as an attitude is also stated by different authors such as Andrews and Mckennel (1980, p. 127), who claim that "measures of perceived ('subjective') well-being ... are fundamentally measures of attitudes." Similarly, Veenhoven (1991, p. 2) suggests in his discussion on the concept of happiness that we can speak of happiness as an "attitude towards one's life." However, these authors do not offer any systematic examination of their proposition, as suggested by Levy and Guttman (1975).

Conclusions

The use of the facet approach in constructing the definitional framework for the concept of well-being enables to view each of the previous attempts at a definition, as emphasizing a specific aspect of this multivariate concept. This definitional framework places emphasis mainly on the universe of items with which the theory is concerned, thus serving as a systematic guide for item construction.

Scientific definitions can never be "correct" or "incorrect"; rather, they can be reliable (or clear). Hypotheses are classified as correct or incorrect. Scientific definitions are not fruitful by themselves but only in partnership with other concepts. The issue is whether they fit into some partnership that leads to some forms of empirical lawfulness. Indeed, this is the case regarding the above definitional framework for well-being (Levy, 1990, Levy and Sabbagh 2008) and other disciplines (see the entry "► Facet Theory" in this encyclopedia). The faceted definitional framework helps ensure clarity and ► reliability and also facilitates formulation of empirical lawfulness. Furthermore, it helps ensure continuities in research.

Cross-References

► Facet Theory
► Faceted Definitions
► Structure of Well-being: A Facet Approach

References

Abrams, M. (1973). Subjective social indicators. *Social Trend (HMSO), 4*, 35–49.

Andrews, F. M. (1974). Social indicators of perceived life quality. *Social Indicators Research, 1*, 279–299.

Andrews, F. M., & McKennell, A. C. (1980). Measures of self-reported wellbeing: Their effective, cognitive and other components. *Social Indicators Research, 8*, 127–155.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of perceived wellbeing*. New York: Plenum Press.

Bradburn, N. M. (1969). *The structure of psychological wellbeing*. Chicago: Aldine.

Campbell, A. (1976). Subjective measures of wellbeing. *American Psychologist, 31*, 117–124.

Diener, E. (1994). Assessing subjective wellbeing: Progress and opportunities. *Social Indicators Research, 31*, 103–157.

Diener, E. (2000). Subjective wellbeing. *American Psychologist, 55*, 34–43.

Diener, E., & Fujita, F. (1995). Resources, personal strivings, and subjective wellbeing. *Journal of Personality and Social Psychology, 68*, 275–286.

Guttman, L. (1973). The history of the institute. In H. Gratch (Ed.), *Twenty-five years of social research in Israel* (pp. 11–38). Jerusalem: Jerusalem Academic Press.

Guttman, L. (1982). What is not what in theory construction. In R. M. Hauser, D. Mechanic, & A. Haller (Eds.), *Social structure and behavior* (pp. 331–348). New York: Academic Press.

Hall, J. (1973). Measuring the quality of life using sample surveys. In G. J. Stober & D. Schumacher (Eds.), *Technology assessment and quality of life* (pp. 93–101). Amsterdam: Elsevier.

Kim-Prieto, C., Diener, E., Tamir, M., Scollon, C., & Diener, M. (2005). Integrating the diverse definitions of happiness: A time-sequential framework of subjective wellbeing. *Journal of Happiness Studies, 6*, 261–300.

Levy, S. (1985). Lawful roles of facets in social theories. In D. Canter (Ed.), *Facet theory: Approaches to social research* (pp. 59–96). New York: Springer.

Levy, S. (1990). The mapping sentence in cumulative theory construction: Wellbeing as an example. In J. J. Hox & J. de Jong-Gierveld (Eds.), *Operationalization and research strategy* (pp. 155–177). Amsterdam: Swets & Zeitlinger.

Levy, S., & Guttman, L. (1975). On the multivariate structure of wellbeing. *Social Indicators Research, 2*, 361–388.

Levy, S., & Sabbagh, C. (2008). The wellbeing of the self's personality: A structural analysis. *Social Indicators Research, 89*(3), 473–485.

Michalos, A. C. (1991). *Global report on student wellbeing, volume 1: Life satisfaction and happiness*. New York: Springer.

Morrison, M., Tay, L., & Diener, E. (2011). Subjective wellbeing and national satisfaction: Findings from a worldwide survey. *Psychological Science, 22*(2), 166–171.

Ostrom, T. M. (1969). The relationship between the affective, behavioral, and cognitive components of attitude. *Journal of Experimental Social Psychology, 5*, 12–30.

Shin, D., & Johnson, D. (1978). Avowed happiness as an overall assessment of the quality of life. *Social Indicators Research, 5*(1), 475–492.

Stouffer, S. A., Suchman, E. A., DeVinney, L. C., Star, S. A., & Williams, R. M., Jr. (1949). *The American soldier: Adjustment during army life. Studies in social psychology in world war II*. Princeton, NJ: Princeton University Press.

Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research, 24*, 1–34.
Veenhoven, R. (2000). The four qualities of life: Ordering concepts and measures of good life. *Journal of Happiness Studies, 1*, 1–39.
Wilkening, E. A. (1982). Subjective indicators and quality of life. In R. M. Hauser, D. Mechanic, & A. Haller (Eds.), *Social structure and behavior* (pp. 429–441). New York: Academic Press.

Definitions of Measurement Properties

► COSMIN: Consensus-Based Standards for the Selection of Health Status Measurement Instruments

Deinstitutionalisation Process of Arduin, Quality of Life as Leading Principle

Jos van Loon
Department of Special Education, University of Ghent, Gent, Belgium
Arduin Foundation, Middelburg,
The Netherlands

Synonyms

Dismantling institutional care

Definition

The deinstitutionalization of an institute for people with intellectual disabilities, guided by the quality of life framework by Schalock and Verdugo (2002).

Description

Introduction

Arduin is a Dutch organization providing services for people with intellectual disabilities. First established in 1969, Arduin was organized, under the name "Vijvervreugd," as a residential care institution, day nursery, and a day care center serving persons with intellectual disabilities. In 1994, when the organization came under new management, there was clearly insufficient quality of care in several respects. A course of action was drawn up. The essential and consequent attitude in this process was that a person with an intellectual disability should be enabled to decide himself how to give meaning and completion to his life. This made necessary a completely different way of organizing as common in the care for people with intellectual disabilities in the Netherlands until then, namely, the individual person as the smallest organizational unit, including the splitting up of home living and care. Especially the emancipation and self-determination of people with intellectual disabilities were the most important starting point for quality of life (van Loon & Van Hove, 2001). Within Arduin, inclusion, emancipation, and self-determination are from then on considered to be fundamental to secure the best possible quality of life for people with intellectual disabilities. The new Arduin became an independent, refocused organization. The action plan that was developed to bring about the necessary changes was based on a quality of life focus and the supports paradigm. Specifically, as a consequence of adopting a quality of life perspective, Arduin was transformed from an institution to a new community-based organization, focusing on supporting each individual who, in the first place, himself or herself determines what he or she needs. Vijvervreugd, the institution in the town of Middelburg, was closed. The separation between the three life spheres-accommodation, work/daily activities, and leisure is fundamentally important in the process of deinstitutionalization and promotion of quality of life.

At present, Arduin serves about 720 persons: 516 for 24 h a day (living and work/daily activities), 21 who get support in their homes, 24 short stay (weekends and holidays), and 159 who come to Arduin for (support in) work/daily activities. People live in over 150 normal houses in the community, spread over a wide region, work

full time in a great variety of businesses or day centers, and are supported by support workers according to their needs. An important motto in forming this organization was "common what can, special what has to."

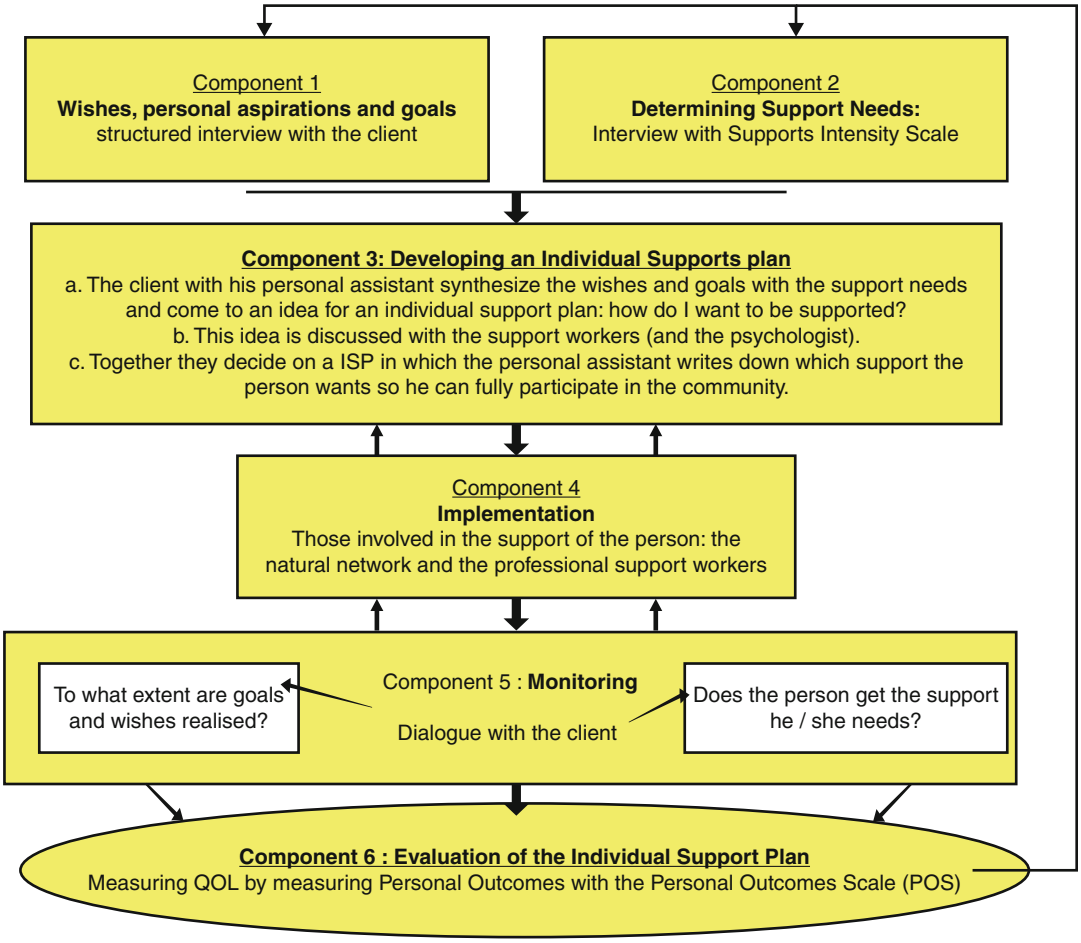
Quality of Life as Leading Principle in the Deinstitutionalization Process of Arduin

A Clear Focus and Creativity in Pursuing This A focus on quality of life and on the support paradigm was continuous during the program changes. The concept of quality of life was operationally defined and implemented through the eight core domains on quality of life found in the international quality of life literature (Schalock & Verdugo, 2002). From a large action research project, we concluded that from these eight domains inclusion, self-determination and personal development were especially influential in the shift from "total care" – as organized within the traditional institutional care – to "support" (van Loon & Van Hove, 2001).

The individual is encouraged to develop from a position of dependence to one of self-determination. There is a clear focus on long-term person-referenced outcomes. It was essential in the process of change that the implications of the focus on quality of life (QOL) were carried through consistently in all of the resolutions made. Every decision, at the organizational level as well as at the level of the individual client, had to contribute to the personal outcomes of the clients. This "from right to left thinking" (Schalock, 2001) was accentuated in the decision to dismantle the institution, in choosing a coaching style of management directed toward autonomy and self-direction, in abolishing a lot of bureaucracy, as well as in the development of a person-centered support system, a housing bureau and a vacancy bank for clients, etc. In this consequential policy of focusing on QOL and supports, sometimes a lot of creative thinking is necessary. For example, because of the expanding costs of transport, Arduin once started its own taxi company to reduce the costs of buying cars (taxi company has lower taxes when buying a car). There are no problems, only challenges. Regarding the focus on QOL, there is no "yes BUT,. . .".

System of Supports Important for the embedding of improving quality of life in an organization is consumer involvement (Schalock, Gardner, & Bradley, 2007): an essential organizational strategy involves incorporating consumers in meaningful roles. As the essential question here is, to what degree consumers are involved in the development and implementation of their ISPs, Arduin developed an individualized supports system (Fig. 1), that is, person-centered (i.e., based on the person's interests, preferences, needs, and natural support network), responsive (i.e., based on a dialog between the person and those involved in the supports plan), flexible across the life span, proactive (i.e., equalizing opportunities with fellow citizens, empowers the person, generating effective social inclusion, and increasing social/community participation), and data based (i.e., based on the pattern and intensity of support needs and evaluated in terms of facilitating personal outcomes) (van Loon, Claes, Vandevelde, Van Hove, & Schalock, 2010).

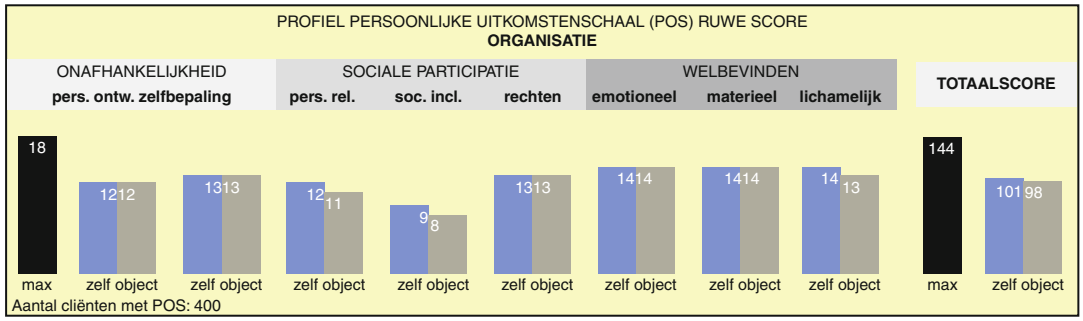
At first a structured interview is held emphatically with the person, his/her parents, or relatives on the person's desired life experiences and goals, using the same areas of supports as in the Supports Intensity Scale (SIS; Thompson et al., 2004). This is component 1. In this interview the person is asked on each domain of the SIS, sections 1, 2, and 3, what the present situation is; what he thinks of the present situation; and what his ideal situation would be. This is written in an electronical format on the web-based program. Then the SIS (component 2) is (electronically) administrated again emphatically with the person, his/her parents, or relatives. The data from components 1 (the interview on the person's desired life experiences and goals) and 2 (the SIS) are then automatically, by the computer program, combined into an application, which gives an overview of the goals of a person and the supports he/she needs to achieve these goals,



Deinstitutionalisation Process of Arduin, Quality of Life as Leading Principle, Fig. 1 Design of a person-centered supports system

within a QOL framework. On this base the individual supports plan is written by the personal assistant, in dialogue with the client and the support workers (component 3), and then implemented by support staff and the natural network of the person (component 4). The outcomes of the supports are monitored on the same elements (component 5) and evaluated by measuring personal outcomes by interviewing the person and a professional (with two different subscales) with the Personal Outcomes Scale (van Loon et al., 2008) (component 6). The results of this evaluation can/will result in an adjustment of goals, perspectives, and needs of supports and subsequently in the individual supports plan. All elements of this supports system are made electronically in web-based applications. This alignment between SIS, individual supports plan, and quality of life creates an excellent opportunity to support people methodically in improving their quality of life: measuring quality of life gets a place in a support methodology, with the aim to continuously improve the quality of life of people.

Quality Management: Evidence Based and Focusing on QOL In Arduin the choice was made to focus in the quality management on



Deinstitutionalisation Process of Arduin, Quality of Life as Leading Principle, Fig. 2 Example of a Personal Outcomes Scale Profile with raw scores for the organization

quality of life instead of quality of care: what is necessary in the organization to enhance personal outcomes. In a quality of care, perspectives of staff and facility are usually more influential than perspectives of the clients. The kinds of results that are of importance in a quality of care system are often conceived in an easy-to-reach-and-measure way. This means that value-based evaluation is less popular. Although every service pretends to know what it is aiming at, the quality of care system gives no guarantee that existing knowledge about good predictors for quality of life, such as social inclusion, self-determination, and personal development, is implemented (van Loon & Van Hove, 2001). Thus, one frequently finds an emphasis on impairment, categorization, homogenous grouping, health and safety, and control (De Waele et al., 2005). The main concern for quality of care strategies is typically the process (Maes et al., 2000). This focus on the process allows organizations to invest a lot of time and energy in their own (management) structures and arrangements, always "being on the way." Sometimes this process approach inhibits decisiveness and in some cases even covers the abandonment of principles.

Basic to an organization's commitment to a quality of life and individualized supports delivery model are the fundamental beliefs that (a) the quality of life of people with disabilities is composed of those same factors (i.e., core domains) and relationships that are important to all persons; (b) a person's quality of life is enhanced by empowering persons to participate in decisions that affect their lives; (c) quality of life is enhanced by the acceptance and full integration of persons into their local communities; and (d) a person's quality of life is enhanced through the provision of individualized supports (Brown & Brown, 2003; Schalock et al., 2000; Schalock & Verdugo, 2002; Schalock, Verdugo, Bonham, Fantova, & van Loon, 2008).

This means that indicators for good quality of an organization are (evidence-based) outcome-based indicators, linked to the quality of life of the clients. Inputs and processes ("enablers" in the European Foundation on Quality Management (EFQM)-Model on Quality Management, 2011) as well as personal outcomes and program or organization outputs ("results" in the EFQM-Model on Quality Management) should be related to QOL. In this respect the data on the interviews with the Personal Outcomes Scale can generate organization and location profiles that can be used as (one of the) important key performance results (Fig. 2).

Cross-References

▶ Intellectual Disability

References

Brown, I., & Brown, R. I. (2003). *Quality of life and disability: An approach for community practitioners*. London: Jessica Kingsley.

De Waele, I., van Loon, J., Van Hove, G., & Schalock, R. L. (2005). Quality of Life versus Quality of Care: Implications for People and Programs. *Journal of Policy and Practice in Intellectual Disabilities*, 2 (3/4), 229–239.

European Foundation on Quality management. (2011). EFQM-Excellence Model Retrieved May 27, 2011, from http://www.efqm.org/en/.

Maes, B., Geeraert, L., & Van den Bruel, B. (2000). Development a model for quality evaluation in residential care for people with intellectual disability. *Journal of Intellectual Disability Research, 44*, 544–553.

Schalock, R. L. (2001). *Outcomes-based evaluation* (2nd ed.). New York: Kluwer Academic/Plenum.

Schalock, R., Brown, R. T., Cummins, R., Mattikka, L., Felce, D., & Brown, I. (2000). Conceptualization, measurement and application of the concept of quality of life: A consensus document symposium. *Journal of Intellectual Disability Research, 44*, 452–452.

Schalock, R. L., Gardner, G. F., & Bradley, V. J. (2007). *Quality of life for people with intellectual and other developmental disabilities: Applications across individuals, organizations, communities, and systems*. Washington, DC: American Association on Intellectual and Developmental Disabilities.

Schalock, R., & Verdugo, M. A. (2002). *Handbook on quality of life for human service practitioners*. Washington, DC: American Association on Mental Retardation.

Schalock, R. L., Verdugo, M. A., Bonham, G. S., Fantova, F., & van Loon, J. (2008). Enhancing personal outcomes: Organizational strategies, guidelines, and examples. *Journal of Policy and Practice in Intellectual Disabilities, 5*(4), 276–285.

Thompson, J. R., Bryant, B. R., Campbell, E. M., Craig, E. M., Hughes, C. M., Rotholz, D. A., et al. (2004). *Supports intensity scale*. Washington, D.C: American Association on Mental Retardation.

van Loon, J., & Van Hove, G. (2001). Emancipation and self-determination of people with learning disabilities and down-sizing institutional care. *Disability & Society, 16*, 233–254.

van Loon, J., Van Hove, G., Schalock, R., & Claes, C. (2008). Persoonlijke Ondersteuningsuitkomsten Schaal. *Schaal voor de beoordeling van de individuele kwaliteit van bestaan*. Antwerpen-Apeldoorn: Garant.

van Loon, J., Claes, C., Vandevelde, S., Van Hove, G., & Schalock, R. L. (2010). Assessing individual support needs to enhance personal outcomes. *Exceptionality, 18*, 1–10.

Deliberative Democracy

▶ Community Participation

Delight(s)

▶ Pleasure(s)

Delinquency

▶ Deviance

Demand for Approval Scale

▶ Need for Approval Measures

Demand for Education

▶ Human Capital Models

Demand-Control-Social Support Model of Work Stress

▶ Occupational Stress in a Multicultural Workplace

Demands on the Government Index

▶ Public Attitudes Toward the State in Asia-Pacific Region

Dementia and Purpose in Life Models

▶ Dementia and Self-Reported Purpose in Life

Dementia and Self-Reported Purpose in Life

Wingyun Mak[1], Silvia Sörensen[2] and Cameron J. Camp[3]
[1]Department of Psychology, CUNY Lehman, Bronx, NY, USA
[2]Department of Psychiatry, University of Rochester School of Medicine and Dentistry, Rochester, NY, USA
[3]Center for Applied Research in Dementia, Solon, OH, USA

Synonyms

Adaptation-coping model; Dementia and purpose in life models; Meaning of life in dementia; Perceived purpose in dementia; Person-environment model; Progressively lowered stress threshold model

Definition

A person with dementia's reason(s) for living that can result from meaningful activity participation and/or function to motivate and organize goals, behaviors, and/or emotions.

Description

The notion of purpose in life stems from Aristotle's philosophical discussion of living well, or ▶ eudaimonia, which entails utilizing one's full potential to achieve the highest good (Aristotle, 350 B.C./1947). He argues that the ultimate telos, or purpose, for humans is to achieve eudaimonia, though there is also purpose on a smaller scale behind the pursuit of every activity (e.g., writing things down in a calendar to avoid forgetting about them). Having purpose in life is important because it shapes one's perception of the self and the world, and ▶ motivation for activity (see McKnight & Kashdan, 2009).

In the last century, scholars have elaborated on Aristotle's discussion by highlighting the importance of purpose in life for well-being. For example, Jahoda (1958) noted that having a purpose would facilitate the setting and reaching of goals and ultimately promote good mental health. Yalom (1980) categorized meaninglessness as one of the main concerns of the human condition. Frankl (1959), a psychiatrist and also a Holocaust survivor, advocated for the pursuit of purposeful living regardless of life's circumstances. During his time in a concentration camp, he observed that even the simplest tasks could provide people with a sense of purpose and, in turn, a reason to continue living. He, among others, concluded that lacking purpose in life might lead to psychopathology including depression and ▶ anxiety or, in extreme situations, death (Allport, 1961; Boyle, Barnes, Buchman, & Benette, 2009; Frankl, 1959; Yalom, 1980).

The growing focus on "personhood" in dementia research (e.g., Bender & Cheston, 1997; Kitwood, 1997; Logsdon et al., 2002) has highlighted the importance of having ▶ meaning in life for a person with dementia (PWD). Having purpose is an important determinant of well-being in mild-to-moderate (Beard, Knauss, & Moyer, 2009; Dröes et al., 2006) as well as moderate-to-severe (Clare, Rowlands, Surr, & Downs, 2008) dementia but is often lacking in everyday life (Clare et al., 2008; Cohen-Mansfield, Marx, & Werner, 1992). Purpose in life is achieved through the medium of activity involving the self and/or others (Phinney, Chaudray, & O'Connor, 2007). Activities may range from the abstract, such as imagining something or thinking about someone, to the more tangible, such as reading, cooking, or visiting a friend.

An individual's personality and interests, as well as the social roles he or she acquires across time (Christensen, 1999; Havighurst, 1973), guide the choice of activities that convey purpose. As dementia severity worsens, the individual becomes more dependent on external resources (e.g., people, environmental adaptations) and less able to draw upon internal resources like new strategies to initiate activities (Nygard, 2004). Simultaneously, the number of social roles

may diminish in late life (Moen, Erickson, & Dempster-McClain, 2000) and with the progression of dementia (Phinney, 2002). Taken together, engaging in meaningful activity and achieving a sense of purpose in life may become more challenging in dementia.

Discussion

Determining activities that will help a PWD develop a sense of purpose is a challenging endeavor. Research in this area offers empirically based activities or guiding themes that may facilitate activity program development. Though this area of research is still in its formative stages, activities shown to promote a sense of purpose in dementia seem to share a common theme of social interaction and connection (Ettema et al., 2005). People affected by dementia repeatedly describe losing the ability to reach out to others (Holst & Hallberg, 2003). Whether this loss is due to cognitive impairment or lack of opportunity likely depends on the individual and his or her particular circumstances, but the fact that PWD are able to connect with others when given the opportunity and proper assistance implicates more than just cognitive loss.

Engaging in altruistic deeds, even in the absence of direct social contact, may promote a feeling of usefulness in people with dementia. Mak (2011) designed a protocol in which people with mild-to-moderate dementia made greeting cards for soldiers overseas and sick children. Participants created designs on the cards and some wrote messages of encouragement. After completing the card activity, they reported an elevated sense of purpose. Although they did not directly interact with the card recipients, they felt a sense of accomplishment for having helped someone in need. People with dementia often report feeling useless (Dröes et al., 2006), and opportunities in which they are able to reach out to others can be beneficial. Even engaging in simple tasks like sorting playing cards from local casinos to send to soldiers overseas or nurturing an injured baby bird back to health (Camp, Zeisel, & Antenucci, 2011) can be positive experiences for older adults with dementia.

Intergenerational volunteerism has also been an effective way to promote purposeful living in people with dementia. In a randomized control trial, George and Singer (2011) found that reading and singing with kindergartners and relaying past experiences to sixth graders made the PWDs feel that as "mentors" they were contributing something valuable to a receptive audience. Additionally, the participants found it was refreshing to befriend young people who interacted with them with little regard to their dementia diagnosis. Camp and his colleagues (e.g., Camp & Lee, 2011) have achieved similar results with PWDs mentoring preschool children, using Montessori-based activities/lessons. While sense of purpose was not directly measured, PWDs frequently commented on the meaningfulness of this type of interaction. The success and positive effects of this type of programming have been replicated by other researchers as well (Gigliotti, Morris, Smock, Jarrott, & Graham, 2005)

One of the reasons for the success of intergenerational volunteerism is that it provides PWDs with new social roles that serve as a scaffolding for engaging in meaningful tasks. Other activities that provide new social roles function similarly. For example, Camp and colleagues have identified small group activities like Memory Bingo or reading discussion groups that can be led by people with dementia. Memory Bingo is a group activity that involves cued recall from long-term memory (Camp, 1999). Memory Bingo involves presenting the first part of a well-known phrase or association (e.g., "A stitch in time saves . . .;" "Romeo and . . ."). If the word that finishes the phrase or association is on a card in front of a PWD taking part in the activity, the card is turned over or covered or put in a box. When all answers have been discovered, the game is won. The reading activity involves having PWDs in a group, with each person taking a turn reading a page of the story aloud while the other participants follow along. At the end of each story are questions or information items for discussion. Skrajner et al. (2012) found that people with mild to moderate dementia could lead activity groups and engage

people with more severe dementia performing these types of structured activities. These reading groups resulted in more active engagement and observed ▶ pleasure. Leaders or group facilitators felt a sense of self-efficacy and pride in leading their groups, and some members of the reading group also reported a greater sense of social belongingness as a result of participating. Given that people with dementia often complain that they are of no use to anyone, providing them opportunities in which they can help others is highly meaningful.

Importance of Individualization

There are a variety of activities that will enhance a sense of purpose in life in dementia, but what determines their effectiveness may depend on whether the activity fits the individual's interests and abilities. People with dementia have reported that being able to continue their daily lives in effort to preserve the continuity between past and present selves (i.e., before and after developing dementia) is adaptive (Beard et al., 2009). Even taking part in daily chores around the home can be meaningful as it cultivates a sense of normalcy and familiarity in spite of the effects of the disease (Phinney et al., 2007). Additionally, engaging in activities that emphasize the roles with which they have identified most may be beneficial. In a group of people with severe dementia (MMSE: 10.5), Cohen-Mansfield et al. (2006)) found that careful assessment of interests and favored roles, followed by prescription of appropriate activities, resulted in positive gains in affect and engagement as well as fewer instances of agitation. Consistent with these and other findings (Gitlin et al., 2009; Phinney et al., 2007), we suggest the assessment of individual preferences and interests is essential for determining an effective activity intervention.

Identifying activities that are consistent with the individual's interests and favored social roles must also be placed in the context of the person's abilities and environment. People with dementia become increasingly vulnerable to changes in their environment and less capable of accessing internal resources to cope with difficulties (Lawton & Simon, 1968). Consequently the match between the person's capabilities and his or her environment is crucial for achieving well-being, including a sense of purpose in life. Lawton's person-environment model (Lawton & Nahemow, 1973) states that in order to achieve positive affect, adaptive behavior, and maximal performance potential, there must be a balance between one's abilities, termed "competence," and one's environmental demands, termed "press." In the case of dementia, declining cognitive abilities lower one's competence, and unless appropriate environmental changes are made, the person-environment balance might fall outside of the adaptive range, leading to negative affect or maladaptive behaviors.

Gitlin et al. (2009) employed this person-environment approach in their in-home activity intervention for people with dementia. Their protocol included cognitive and motor testing, clinical interview, in-home observation, environmental assessment, and caregiver involvement and training to systematically determine an activity program that would be most suitable for the PWD. People with greater functional ability were given more complex tasks, whereas those with diminished functional ability were given tasks that were productive but less complicated (e.g., towel folding). Environments were altered to facilitate activity participation for each individual. After 4 months, the attention to individual interests, abilities, and environment resulted in affective gains and reduction in behavioral problems. Camp et al. (2010) have reviewed methods of assessing persons with moderate to advanced dementia using activities as a means of assessing remaining strengths and competencies. Together with assessments of personal histories and interests, such information can direct selection of appropriate activities for PWD, including those in more advanced stages. Other models that also emphasize the balance between environment and individual include Hall and Buckwalter's (1987) progressively lowered stress threshold model, which is set in the context of care provision, and Dröes and colleagues' adaptation-coping model (Finnema, Droes, Ribbe, & van Tilburg, 2000).

Research Needs

Learning how to promote purpose in life in dementia is a promising area of research for investigators interested in promoting well-being or ▶ quality of life in dementia. Currently there are three main areas that require more inquiry. First, the quality of measurement of purpose in life could be improved. To our knowledge there are no validated scales measuring purpose in life for dementia-specific populations, though some scales tangentially address this construct (e.g., Quality of Life-Alzheimer's Disease scale, Logsdon, Gibbons, McCurry, & Teri, 2002). Ryff's (1989) Psychological Well-Being Purpose in Life subscale, which is non-dementia-specific, has been used successfully with older adults with mild-to-moderate dementia (Mak, 2011), though there are no established ▶ norms yet. Without proper measurement tools, individual study results remain tentative. Refining and unifying the definitions of purpose in life and well-being in dementia is absolutely essential.

Second, what we know about purpose in life in dementia is generally limited to people who are not in the late stages of dementia. The measurement of purpose depends on the self-reporting abilities of the person with dementia, which narrows the pool of assessable participants to those with mild-to-moderate dementia severity (Logsdon et al., 2002) and reduces the generalizability of a research study. We need a better understanding of purpose in life in later stages of dementia, how to measure it accurately when language capabilities are compromised, and when the use of a proxy respondent is appropriate. For example, people with severe dementia who are more engaged seem to exhibit more positive and less maladaptive behaviors (e.g., Cohen-Mansfield et al., 2006), but it is unclear whether this is reflective of greater purpose in life, per se. It is also unknown whether using a family proxy report is a better alternative to a third-party observational approach. Perhaps an overarching question is whether the components of well-being change with the progression of dementia, and if so, (1) how do they change and (2) are they distinguishable.

Lastly, purpose in life must be included in the broader study of well-being in dementia. In part due to the measurement issues listed above, we currently lack the data to provide a comprehensive understanding of purpose in life in dementia and how it relates to well-being as cognitive impairment worsens. It will be important to have a large aggregate of comparable data in order to develop individualized person-level or environment-level interventions that optimize the person with dementia's potential for purposeful living.

Concluding Remarks

Though we are still in the formative stages of understanding purpose in life in dementia and translating that knowledge into effective interventions, the growing amount of research done in this area suggests continued progress. The work conducted thus far emphasizes the critical need to provide meaning to the lives of PWDs, as well as how much more we need to learn about this area. However, the return on the time and energy invested in this enterprise will be tremendous, both in terms of reducing challenging behaviors in PWDs and also improving quality of life for them and those who provide their care. Perhaps the most important consideration to make in regards to people with dementia is to remember that they are "more than dementia" (Beard et al., 2009, p. 234). The desire for continuity in everyday life is not much different from people without dementia. In addition to considering interests, preferred social roles, abilities, and environments, applying this type of perspective into program development for people with dementia may provide useful guidance for successful interventions.

References

Allport, G. (1961). *Pattern and growth in personality*. New York: Holt, Rinehart and Winston.

Aristotle (350 B.C./1947). Nichomachean ethics. (W. D. Ross, Trans.). In R. McKeon (Ed.), *Introduction to Aristotle*. New York: Modern Library.

Beard, R. L., Knauss, J., & Moyer, D. (2009). Managing disability and enjoying life: How we reframe dementia through personal narratives. *Journal of Aging Studies, 23*, 227–235.

Bender, M. P., & Cheston, R. (1997). Inhabitants of a lost kingdom: A model of the subjective experiences of dementia. *Ageing and Society, 17*, 517–532.

Boyle, P. A., Barnes, L. L., Buchman, A. S., & Bennett, D. A. (2009). Purpose in life is associated with mortality among community-dwelling older persons. *Psychosomatic Medicine, 71*, 574–579. doi:10.1097/PSY.0b013e3181a5a7c0.

Camp, C. J. (1999). Memory interventions for normal and pathological older adults. In R. Schulz, M. P. Lawton, & G. Maddox (Eds.), *Annual review of gerontology and geriatrics* (Vol. 18, pp. 155–189). New York: Springer.

Camp, C. J., & Lee, M. M. (2011). Montessori-based activities as a trans-generational interface for persons with dementia and preschool children. *Journal of Intergenerational Relationships, 9*, 366–373.

Camp, C. J., Skrajner, M. J., Lee, M. M., & Judge, K. S. (2010). Cognitive assessment in late stage dementia. In P. A. Lichtenberg (Ed.), *Handbook of assessment in clinical gerontology* (2nd ed., pp. 523–547). New York: Wiley.

Camp, C. J., Zeisel, J., & Antenucci, V. (2011). Implementing the "I'm Still Here Approach": Montessori methods for engaging persons with dementia. In P. E. Hartman-Stein & A. La Rue (Eds.), *Enhancing cognitive fitness in adults* (pp. 401–417). New York: Springer.

Clare, L., Rowlands, J., Bruce, E., Surr, C., & Downs, M. (2008). The experience of living with dementia in residential care: An interpretative phenomenological analysis. *The Gerontologist, 48*, 711–720.

Cohen-Mansfield, J., Marx, M. S., & Werner, P. (1992). Observational data on time use and behavior problems in the nursing home. *Journal of Applied Gerontology, 11*, 111–121. doi:10.1177/073346489201100109.

Cohen-Mansfield, J., Parpura-Gill, A., & Gohander, H. (2006). Utilization of self-identity roles for designing interventions for persons with dementia. *Journals of Gerontology Psychological Sciences, 61*, P202–P212.

Dröes, R.-M., Boelens-Van Der Knoop, E. C. C., Bos, J., Meihuizen, L., Ettema, T. P., Gerritsen, D. L., et al. (2006). Quality of life in dementia in perspective: An explorative study of variations in opinions among people with dementia and their professional caregivers, and in literature. *Dementia, 5*, 533–559. doi:10.1177/1471301206069929.

Ettema, T. P., Dröes, R.-M., de Lange, J., Ooms, M. E., Mellenbergh, G. J., & Ribbe, M. W. (2005). The concept of quality of life in dementia in the different stages of the disease. *International Psychogeriatrics, 17*, 353–370. doi:10.1017/S1041610205002073.

Finnema, E., Dröes, R.-M., Ribbe, M., & van Tilburg, W. (2000). A review of psychosocial models in psychogeriatrics: Implications for care and research. *Alzheimer Disease and Associated Disorders, 14*, 68–80.

Frankl, V. (1959). *Man's search for meaning*. London: Hodder and Stoughton.

George, D. R., & Singer, M. E. (2011). Intergenerational volunteering and quality of life for persons with mild to moderate dementia: Results from a 5-month intervention study in the United States. *The American Journal of Geriatric Psychiatry, 19*, 392–396. doi:10.1097/JGP.0b013e3181f17f20.

Gigliotti, C., Morris, M., Smock, S., Jarrott, S. E., & Graham, B. (2005). An intergenerational summer program involving persons with dementia and preschool children. *Educational Gerontology, 31*, 425–441.

Gitlin, L. N., Winter, L., Earland, T. V., Herge, E. A., Chernett, N. L., Piersol, C. V., & Burke, J. P. (2009). The tailored activity program to reduce behavioral symptoms in individuals with dementia: Feasibility, acceptability, and replication potential. *The Gerontologist, 49*, 428–439. doi:10.1093/geront/gnp087.

Hall, G., & Buckwalter, K. (1987). Progressively lowered stress threshold: A conceptual model for care of adults with Alzheimer's disease. *Archives of Psychiatric Nursing, 1*, 399–406.

Havighurst, R. J. (1973). Social roles, work, leisure, and education. In C. Eisdorfer & M. P. Lawton (Eds.), *The psychology of adult development and aging* (pp. 598–616). Washington, DC: American Psychological Association.

Holst, G., & Hallberg, I. R. (2003). Exploring the meaning of everyday life, for those suffering from dementia. *American Journal of Alzheimer's Disease and Other Dementias, 18*, 359–365.

Jahoda, M. (1958). *Current concepts of positive mental health*. New York: Basic Books.

Kitwood, T. (1997). The experience of dementia. *Aging & Mental Health, 1*, 13–22. doi:10.1080/13607869757344.

Lawton, M. P., & Nahemow, L. (1973). Ecology and the aging process. In C. L. Eisdorfer & M. P. Lawton (Eds.), *Psychology of adult development and aging* (pp. 619–674). Washington, DC: American Psychological Association.

Lawton, M. P., & Simon, B. (1968). The ecology of social relationships in housing for the elderly. *Gerontologist, 8*, 108–115.

Logsdon, R., Gibbons, L., Mccurry, S., & Teri, L. (2002). Assessing quality of life in older adults with cognitive impairment. *Psychosomatic Medicine, 64*, 510–519.

Mak, W. (2011). Self-reported goal pursuit and purpose in life among people with dementia. *Journals of Gerontology Psychological Sciences, 66B*, 177–184. doi:101093/geronb/gbq092.

McKnight, P. E., & Kashdan, T. B. (2009). Purpose in life as a system that creates and sustains health and well-being: An integrative, testable theory. *Review of General Psychology, 13*, 242–251. doi:10.1037/a0017152.

Moen, P., Erickson, M. A., & Dempster-McClain, D. (2000). Social role identities among older adults in a continuing care retirement community. *Research on Aging, 22*, 559–579.

Nygard, L. (2004). Responses of persons with dementia to challenges in daily activities: A synthesis of findings from empirical studies. *The American Journal of Occupational Therapy, 58*, 435–445. doi:10.5014/ajot.58.4.435.

Phinney, A. (2002). Living with the symptoms of Alzheimer's disease. In P. B. Harris (Ed.), *The person with Alzheimer's disease: Pathways to understanding the experience* (pp. 49–74). Baltimore: The Johns Hopkins University Press.

Phinney, A., Chaudhury, H., & O'Connor, D. L. (2007). Doing as much as I can do: The meaning of activity for people with dementia. *Aging & Mental Health, 11*, 384–393. doi:10.1080/13607860601086470.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081. doi:10.1037/0022-3514.57.6.1069.

Skrajner, M. M., Haberman, J. L., Camp, C. J., Tusick, M., Frentiu, C., & Gorzelle, G. (2012). Training nursing home residents to serve as group activity leaders: Lessons learned and preliminary results from the RAP project. *Dementia, 11*, 263–274.

Yalom, I. D. (1980). *Existential psychotherapy*. New York: Basic Books.

Dementia Quality of Life Instrument

Katharina Schmidt
Department of Psychological Assessment and Differential and Personality Psychology,
Freie Universität Berlin, Berlin, Germany

Synonyms

DQoL

Definition

DQoL is a 29-item instrument to be used as an interview with patients suffering from dementia in order to assess their perceived quality of life in several domains.

Description

Brod, Stewart, Sands, and Walton (1999b) developed DQoL as a patient-administered measure of the perceived quality of life of persons with mild or moderate levels of dementia (as, e.g., indexed by the mini-mental state examination (MMSE), Folstein, Folstein, and McHugh (1975): MMSE $>= 13$ in the original study; some applications include patients with an MMSE $>= 10$).

The construction of the instrument was based on a conceptual framework of quality of life in dementia; this was assisted by different focus groups (caregivers, health-care providers, persons with dementia). Several pilot studies were conducted to decide about methodological aspects like formatting, item construction, and administration procedures in order to appropriately regard and respect the specific needs of dementia populations.

The final version of the instrument comprises 29 items, distributed on 5 scales of 3–11 items. The interview is introduced as "some questions about your life." The items are presented with the corresponding response scales printed on a card to be placed in front of the interviewed person. The scales Self-Esteem (feel confident, satisfied with, accomplish something, make own decisions), Positive Affect/Humor (humor, feeling of happiness, contentment, hopefulness), Negative Affect (worry, frustration, depression, anxiety, sadness, loneliness, fear, irritability, nervousness, embarrassment, anger), and Feelings of Belonging (feeling lovable, liked, useful) are to be rated for frequency, with the categories (1) never, (2) seldom, (3) sometimes, (4) often, and (5) very often. The scale Sense of Aesthetics has to be rated concerning the extent to which the respondent has enjoyed several experiences (e.g., listening to sounds of nature, looking at colorful things), with the categories (1) not at all, (2) a little, (3) somewhat, (4) mostly, and (5) very.

The authors suggest adding a last item to rate overall quality of life, like "Overall, how would you rate your quality of life?" (Brod et al., 1999b, p. 34), with a 5-point Likert scale as response set: (1) bad, (2) fair, (3) good, (4) very good, and (5) excellent. This item has not been explored in the pilot studies of the authors. However, Mador, Clark, Crotty, and Hecker (2002) used this item as a self-report as well as a proxy measure (caregivers) and found an intercorrelation of

0.32 ($p < .05$; $n = 122$) which is comparable to intercorrelations of self- and proxy measures of well-being and quality of life (for demented persons and their caregivers: e.g., Logsdon, Gibbons, McCurry, & Teri, 2002; Novella et al., 2001; Ready, Ott, & Grace, 2004; Selai, Trimble, Rossor, & Harvey, 2001). In other studies, an overall score is computed (e.g., Chiu et al., 2010).

DQoL has been used in about a dozen studies to evaluate interventions (e.g., evaluation of occupational therapy, Graff et al., 2006). Translations are available in Chinese (Chiu, Shyu, Liang, & Huang, 2008, 2010), Dutch (Bosboom & Jonkers, 2001, as cited in Graff et al., 2006), Finnish (Cahill et al., 2004), German (e.g., Hornung, 2008), Japanese (Suzuki, Uchida, Kanamori, & Ooshiro, 2005), Lithuanian (Cahill et al., 2004), Norwegian (Cahill et al., 2004; Torvik, Kaasa, Kirkevold, & Rustøen, 2010), and Spanish (Lucas-Carrasco, Gómez-Benito, Rejas, & Brod, 2011a). There is also a UK version (Karim, Ramanna, Petit, Doward, & Burns, 2008).

Reliability

Data for reliability reported here stem – when not mentioned otherwise – from a study with dementia patients ($N = 95$), with an MMSE $> = 13$, reported by Brod et al. (1999b). A subsample ($n = 18$) was tested twice with an interval of 2 weeks.

Internal Consistency (Standardized Alpha)

The range of standardized alpha for the scales was between 0.67 (Feelings of Belonging) and 0.89 (Negative Affect); the mean was 0.79, the median 0.80. Ready et al. (2004) reported comparable parameters for their sample of healthy elderlies and patients with MCI and mild dementia ($N = 79$). Adler and Resnick (2010) examined $N = 386$ mildly or moderately demented nursing home residents. In their study, alpha coefficients were slightly lower between 0.53 (Feelings of Belonging) and 0.84 (Negative Affect); the mean was 0.67, the median 0.65.

Results for the Chinese version were found to be comparable with the original study, Feelings of Belonging being the less consistent scale (0.53) and the other scales showing a consistency between 0.84 and 0.94 and a mean of 0.81 (Chiu et al., 2010). The Spanish, Japanese, Norwegian, and UK versions yielded comparable results (Lucas-Carrasco, Gómez-Benito et al., 2011a; Karim et al., 2008; Suzuki et al., 2005; Torvik et al., 2010).

Test-Retest

Test-retest reliability was measured in different ways:

(a) The correlations of three single items that had been repeated directly after the first interview range from 0.54 (frequency of having felt content) to 0.75 (extent of pleasure from listening to music).
(b) Two-week test-retest coefficients of the scales for a subsample of patients ($n = 18$) reached from 0.64 (Negative Affect) to 0.90 (Positive Affect), with a mean of 0.74 and a median of 0.72. In the Spanish, Japanese, and UK studies, results turned out to be comparable (Lucas-Carrasco, Gómez-Benito et al., 2011a; Karim et al., 2008; Suzuki et al., 2005).
(c) Adler and Resnick (2010) realized a 4-month as well as a 12-month follow-up that revealed test-retest correlations of 0.60 and 0.64, respectively.
(d) Carpenter, Kissel, and Lee (2007) examined elderly couples. One-week stability for all DQoL items together and differentiated by cognitive impairment turned out to be 0.56 (demented subjects) to 0.68 (healthy subjects) on average; the difference was not significant.

Reliability coefficients did not differ across the observed levels of dementia ($13 = >$ MMSE $< = 17$ vs. MMSE >17; Brod et al., 1999b).

Validity

Content and Face Validity

Based on the results of three focus groups of experts (people with dementia, caregivers, healthcare professionals), a disease-specific model of quality of life in dementia was conceptualized

and subsequently mapped by the five scales of DQoL (Brod, Stewart, & Sands, 1999a); the wording of the items was evaluated in several pilot studies. However, whereas aesthetics as an illness-specific domain are represented in the final instrument, items measuring social interaction could not be included, because they did not fit the required psychometric criteria. Thus, DQoL is limited to the five dimensions mentioned. Brod et al. (1999b) suggest to measure data concerning social interaction via proxy instruments.

Construct Validity

Interscale Correlations. Brod et al. (1999b) reported moderately to high positive values for the interscale correlations of Positive Affect, Feelings of Belonging, and Self-Esteem (0.63, 0.67, and 0.57, respectively). For (absence of) Negative Affect and Sense of Aesthetics, a low intercorrelation was observed (0.09), and both scales were weakly correlated with the three other scales (0.18–0.38). In the UK study by Karim et al. (2008), interscale correlations were comparable. In a study in Taiwan, a similar structure was observed for the Chinese version, though intercorrelations with Negative Affect were somewhat higher (Chiu et al., 2008).

Adler and Resnick (2010) calculated a stepwise regression of the overall quality of life rating on the subscales of DQoL. Whereas Self-Esteem, Positive, and Negative Affect explained together about 30 % of the observed variance, Feelings of Belonging and Sense of Aesthetics did not contribute to predict the overall quality of life rating.

Factor Structure. In order to verify the factor structure of the DQoL, Ready, Ott, and Grace (2007) interviewed 67 patients with dementia and mild cognitive impairment (MCI); their exploratory analyses revealed a three-factor solution representing Positive and Negative Affect as well as Aesthetics. The items of the Feelings of Belonging and Self-Esteem did not show up as distinct factors in these analyses. Their results for a corresponding caregiver report were similar.

Adler and Resnick (2010) report the results of confirmatory factor analyses (CFA) for each subscale of the DQoL and Rasch analyses. In sum, CFAs showed fair (Sense for Aesthetics, Negative Affect, Positive Affect) to good (Feelings of Belonging, Self-Esteem) fit. Rasch analyses underscored that the response patterns for every scale turned out to be appropriate.

Convergent Validity. Convergent validity may be examined in different ways. For DQoL, there are results with respect to (a) different sources of the information (self/proxy), (b) different measures of quality of life (same concept, different instruments), and (c) several related concepts like depression and anxiety that should be inversely related to quality of life.

Agreement of proxy measures of quality of life with self-reports of the patients is especially important when interviewing cognitively impaired persons, given the doubts that have been expressed concerning the veridicality of evaluations of demented persons. Studies comparing DQoL as a self-report measure with a proxy measure (adaptation of the instrument to proxy perspective) showed a heterogeneous pattern of correlations. For example, Ready et al. (2004) interviewed patients with MCI and mild Alzheimer's disease as well as healthy controls and their proxies. They did not find a concordant pattern of relationships between self- and proxy reports in all three groups; however, their subsample sizes were rather small ($23 =< n =< 30$).

Selwood, Thorgrimsen, and Orrell (2005) realized a study with three different measures of quality of life in demented persons at two time points (data from t_1 are reported in Thorgrimsen et al., 2003). They reported moderate to high intercorrelations of DQoL with both Quality of Life-Alzheimer's Disease Scale (QoL-AD; Logsdon, Gibbons, McCurry, & Teri, 1999) (t_1 0.69/t_2 0.85) and EuroQoL-5 Domain (EQ-5D; EuroQoL Group, 1990, cited after Selwood, Thorgrimsen, & Orrell, 2005) (t_2 0.63). The Spanish version was moderately correlated with the scale of psychological quality of life measured by the World Health Organization Quality of Life instrument (WHOQOL-BREF; Lucas-Carrasco, Laidlaw, & Power, 2011b).

A third aspect of convergent validity concerns correlations to instruments measuring related constructs, such as depression that should be correlated to emotional aspects of quality of life in

contrast to cognitive and social aspects. In order to determine the relation of the DQoL Scales with a field-tested indicator for depression, Brod et al. (1999b) calculated the correlations of DQoL with the results of the Geriatric Depression Scale (GDS; Yesavage, Brink, & Rose, 1983); the Positive and Negative Affect Scales of the DQoL were strongly correlated with the GDS score (−0.61 and 0.64, respectively). Self-Esteem and Feelings of Belonging were weakly to moderately correlated. Results of the Spanish versions of both instruments are comparable (Lucas-Carrasco et al., 2011a). Similarly, Selwood et al. (2005) found a strong relationship between the overall score of DQoL and the Cornell Scale for Depression in Dementia (CSDD; Alexopoulous et al., 1988, cited after Selwood et al., 2005) as well as for the Rating for Anxiety in Dementia (RAID; Shankar et al., 1999, cited after Selwood et al., 2005).

Discriminant Validity. Cognitive function as screened by the MMSE did not correlate with DQoL in several studies (Lucas-Carrasco et al., 2011a; Selwood et al., 2005) as has been found for other measures of quality of life as well. Others found mean differences between subsamples depending from their cognitive status (e.g., Chiu et al., 2008).

There was no relation found between functional status, assessed by the Barthel Index (Mahoney & Barthel, 1965), and quality of life measured by DQoL (Lucas-Carrasco et al., 2011a).

Discussion

In spite of doubts whether patients suffering from dementia are able to give meaningful information on their quality of life, it can be shown that this is possible for a selected set of domains as done when constructing the DQoL (at least for persons with mild or moderate levels of dementia). The fact that evidence for reliability and factor structure could be shown across various cultures underscores the utility of this instrument, not only to evaluate the quality of life for practical reasons, but also for cross-cultural research. However, it should not be ignored that evidence from self-report is different from evaluation of (significant) others (family, professional caregiver, observers). Given that there is no "golden standard" to evaluate dementia-specific quality of life, the DQoL as a self-report measure adds the precious perspective of the patient him- or herself.

References

Adler, E., & Resnick, B. (2010). Reliability and validity of the dementia quality of life measure in nursing home residents. *Western Journal of Nursing Research, 32*(5), 686–704.

Alexopoulous, G. S., Abrams, R. C., Young, R. C., & Shamoian, C. A. (1988). Cornell scale for depression in dementia. *Biological Psychiatry, 23*, 271–248.

Bosboom, P., & Jonkers, K. (2001). Dutch version of the Dqol. Amsterdam: VU University.

Brod, M., Stewart, A. L., & Sands, L. (1999a). Conceptualization of quality of life in dementia. *Journal of Mental Health and Aging, 5*(1), 7–19.

Brod, M., Stewart, A. L., Sands, L., & Walton, P. (1999b). Conceptualization and measurement of quality of life in dementia: The Dementia Quality of Life Instrument (DQoL). *The Gerontologist, 39*(1), 25–35.

Cahill, S., Begley, E., Topo, P., Saarikalle, K., Macijauskiene, J., Budraitiene, A., et al. (2004). 'I know where this is going and I know it won't go back': Hearing the individual's voice in dementia quality of life assessments. *Dementia: The International Journal of Social Research and Practice, 3*(3), 313–330. doi:10.1177/1471301204045163.

Carpenter, B. D., Kissel, E. C., & Lee, M. M. (2007). Preferences and life evaluations of older adults with and without dementia: Reliability, stability, and proxy knowledge. *Psychology and Aging, 22*(3), 650–655. doi:10.1037/0882-7974.22.3.650.

Chiu, Y., Chiu, Y., Hsu, W., Lee, S., Chen, S., & Kao, H. (2010). Developing a Chinese quality of life in dementia instrument for patients with early-to-moderate dementia: An exploratory test of validity. *Journal of Clinical Nursing, 19*(15–16), 2174–2184.

Chiu, Y., Shyu, Y., Liang, J., & Huang, H. (2008). Measure of quality of life for Taiwanese persons with early to moderate dementia and related factors. *International Journal of Geriatric Psychiatry, 23*(6), 580–585.

EuroQoL Group. (1990). EuroQoL: a new facility for the measurement of health related quality of life. *Health Policy, 16*, 199–208.

Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). Mini-Mental State (a practical method for grading the state of patients for the clinician). *Journal of Psychiatric Research, 12*, 189–198.

Graff, M. L., Vernooij-Dassen, M. M., Zajec, J., Olde-Rikkert, M. M., Hoefnagels, W. L., & Dekker, J. (2006). How can occupational therapy improve the daily performance and communication of an older patient with dementia and his primary caregiver? *Dementia: The International Journal of Social Research and Practice, 5*(4), 503–532.

Hornung, J. (2008). *Lebensqualität von Demenzpatienten und deren Angehörigen* [*Quality of life of patients with dementia and their relatives*]. Dissertation, Universität Hamburg. Retrieved August 30, 2011, http://d-nb.info/989410153/34

Karim, S. S., Ramanna, G. G., Petit, T. T., Doward, L. L., & Burns, A. A. (2008). Development of the Dementia Quality of Life Questionnaire (D-QOL): UK version. *Aging & Mental Health, 12*(1), 144–148. doi:10.1080/13607860701616341.

Logsdon, R. G., Gibbons, L. E., McCurry, S. M., & Teri, L. (1999). Quality of life in Alzheimer's disease: Patient and caregiver reports. *Journal of Mental Health and Aging, 5*(1), 21–32.

Logsdon, R. G., Gibbons, L. E., McCurry, S. M., & Teri, L. (2002). Assessing quality of life in older adults with cognitive impairment. *Psychosomatic Medicine, 64*(3), 510–519.

Lucas-Carrasco, R., Gómez-Benito, J., Rejas, J., & Brod, M. (2011a). The Spanish version of the dementia quality of life questionnaire: A validation study. *Aging & Mental Health, 15*(4), 482–489.

Lucas-Carrasco, R., Laidlaw, K., & Power, M. J. (2011b). Suitability of the WHOQOL-BREF and WHOQOL-OLD for Spanish older adults. *Aging & Mental Health, 15*(5), 595–604.

Mador, J., Clark, M., Crotty, M., & Hecker, J. (2002). Utility weighted measures of quality of life in Alzheimer disease. *Alzheimer Disease and Associated Disorders, 16*(3), 202.

Mahoney, F. I., & Barthel, D. W. (1965). Functional evaluation: The Barthel Index. *Maryland State Medical Journal, 14*, 61–65.

Novella, J. L., Jochum, C. C., Jolly, D. D., Morrone, I. I., Ankri, J. J., Bureau, F. F., et al. (2001). Agreement between patients' and proxies' reports of quality of life in Alzheimer's disease. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 10*(5), 443–452. doi:10.1023/A:1012522013817.

Ready, R. E., Ott, B. R., & Grace, J. (2004). Patient versus informant perspectives of quality of life in mild cognitive impairment and Alzheimer's disease. *International Journal of Geriatric Psychiatry, 19*(3), 256–265. doi:10.1002/gps.1075.

Ready, R. E., Ott, B. R., & Grace, J. (2007). Factor structure of patient and caregiver ratings on the Dementia Quality of Life instrument. *Aging, Neuropsychology, and Cognition, 14*(2), 144–154.

Selai, C. E., Trimble, M. R., Rossor, M. N., & Harvey, R. J. (2001). Assessing quality of life in dementia: Preliminary psychometric testing of the Quality of Life Assessment Schedule (QOLAS). *Neuropsychological Rehabilitation, 11*(3–4), 219–243. doi:10.1080/09602010042000033.

Selwood, A., Thorgrimsen, L., & Orrell, M. (2005). Quality of life in dementia–A one-year follow-up study. *International Journal of Geriatric Psychiatry, 20*(3), 232–237.

Shankar, K. K., Walker, M., Frost. D., & Orrell, M. (1999). The development of a valid and reliable scale for rating anxiety in dementia (RAID). *Aging Mental Health, 3*, 39–49.

Suzuki, M., Uchida, A., Kanamori, M. & Ooshiro, H. (2005). [Development of the Dementia Quality of Life Instrument – Japanese version]. *Nihon Ronen Ihakkai Zasshi*, 42(4), 423–431.

Thorgrimsen, L. L., Selwood, A. A., Spector, A. A., Royan, L. L., de Madariaga Lopez, M. M., Woods, R. T., et al. (2003). Whose quality of life is it anyway? The validity and reliability of the Quality of Life-Alzheimer's Disease (QoL-AD) Scale. *Alzheimer Disease and Associated Disorders, 17*(4), 201–208. doi:10.1097/00002093-200310000-00002.

Torvik, K., Kaasa, S., Kirkevold, Ø., & Rustøen, T. (2010). Pain and quality of life among residents of Norwegian nursing homes. *Pain Management Nursing, 11*(1), 35–44.

Yesavage, J., Brink, T., & Rose, T. (1983). Development and validation of a geriatric depression scale: A preliminary report. *Journal of Psychiatry Research, 17*, 37–49.

Dementia, Effect of Physical Exercise on ADL Performance

Elisabeth Burge[1], Armin von Gunten[2] and Nicolas Kuhne[3]
[1]University of Applied Sciences Western Switzerland, Geneva, Switzerland
[2]University Hospital Lausanne, Lausanne, Switzerland
[3]Occupational Therapy Department, University of Applied Sciences Western Switzerland, Lausanne, Switzerland

Definition

Physical ▶ exercise is supposed to delay deterioration of the ability to perform basic ▶ activities of daily living (ADL) among people with moderate to severe dementia and thereby improve their quality of life (QOL).

Description

Dementia currently affects 36 million people worldwide. Dementia is characterized by a decline of cognitive functions such as memory, language, recognition, reasoning, and judgment. It frequently leads to behavioral dysfunction usually labeled as behavioral and psychological symptoms of dementia (BPSD). The risk of developing dementia increases with age; thus, the number of people with dementia will increase worldwide over the coming decades along with the aging population. Dementia can be assessed with specific instruments, such as variety of neuropsychological tests, the Functional Assessment Staging of Alzheimer's Disease, or the Clinical Dementia Rating Scale. Dementia represents an important part of the eldercare, ▶ Care, elder.

Activities of daily living (ADL) comprise basic activities like feeding, toileting, grooming, maintaining continence, putting on clothes, bathing, as well as walking and transferring (such as moving from bed to wheelchair). Moderate to severe dementia impacts people's ability to perform ADL due to both cognitive and neuropsychiatric impairments. Loss of ADL performance increases the need of support by others and leads to important direct and indirect ▶ health-care costs (Kang et al., 2007), ▶ caregiver burden (Luppa et al., 2012), as well as premature nursing home placement (Steeman et al., 1997). Exercise aiming at improving endurance has a positive influence on the cardiovascular system of aging people (Heyn et al., 2008), and regular practice of ▶ physical activity can delay loss of muscle strength in the elderly. Important parameters promoting ADL performance among elderly people are moderate exercise intensity (Paterson & Warburton, 2010) and regularity of the training (Rolland et al., 2007). Moderate physical exercise can therefore preserve ability to perform ADL in people with dementia.

Daily activity is important for both physical and mental health. Physical abilities like strength, endurance, balance, and mobility are required for many non-sedentary activities as different as ▶ gardening, going for a walk around the neighborhood, or dancing, ▶ dance and the quality of life. Different physical activity programs are documented (Rolland et al., 2007; Santana-Sosa et al., 2008). Most of them include strength and balance exercises, gait training, and endurance. There is no practice guideline available defining content and application modalities for physical exercise for people with moderate to severe dementia (Yu & Kolanowski, 2009). The presence of many different disabilities among this fragile population could explain the absence of practice guidelines (Taylor et al., 2004). However, it remains unclear which parameters (modality, frequency, duration of the sessions, individual vs. group activities) are the most effective (Burge et al., 2011).

Occupation is central to the care of people with dementia. Physical activity programs should bring immediate benefits to participants in maintaining identity, providing a sense of usefulness and enjoyment, pleasure, engagement, meaning, and ▶ happiness (Egan et al., 2006). When physical activity is proposed, caregivers consider maintenance of functional independence as the most important goal (Harmer & Orrell, 2008), while other components, like meaningfulness and immediate pleasure, seem more important to the participants. In order to be motivating and fully beneficial, physical activity programs should therefore promote ▶ physical well-being and simultaneously respond to other human needs such as psychological and social needs. There is a growing body of evidence that ▶ music in advanced stages of dementia can help to improve participation and performance of patients involved in physical activity programs (Clair & O'Konski, 2006; Hulme et al., 2010). Thus, physical exercise in groups accompanied by music could more easily respond to the expectations of demented patients and increase their adherence to a physical activity program than individual exercise performed without music.

Generic ADL scales like the ▶ Barthel Index, the ▶ Katz Activities of Daily Living Scale, or the ▶ Functional Independence Measure (FIM) are most frequently used for the assessment of ADL performance. Dementia-specific assessments are also available, such as the disability assessment for dementia (DAD) (Gelinas et al., 1999).

Although they are clinically relevant ▶ measurement methods, their sensitivity to change is weak (Littbrand et al., 2009), especially for moderate to severe stages. The choice of a standardized tool to assess ADL performance is difficult. Dementia-specific ADL scales have been developed, but no recommendations are available (Desai et al., 2004). The Changes in Advanced Dementia Scale is an interesting specific ADL assessment tool. Its psychometric qualities are adequate (McCracken et al., 1993) and it includes a mobility item.

Discussion

Several studies (Kwak et al., 2008; Steinberg et al., 2009; Stevens & Killeen, 2006) showed that physical activity programs significantly improved ADL performance in people with moderate to severe dementia. Rolland et al. (2007) observed a small but clinically meaningful delay of ADL performance loss in the group who followed a physical activity program during 12 weeks. Though encouraging, the positive effects of physical exercise on ADL performance warrant further investigation in order to determine the most effective modalities. A patient's low ADL dependency reduces caregiver burden as well as costs related to care and influences positively the quality of life of both patient and caregiver. It is possible that the positive effect of exercise on quality of life is not only due to improved ADL performance. Physical exercise (regular walking training) may act on cognition (Winchester et al., 2012) and improve mood among people with moderate to severe dementia (Thuné-Boyle et al., 2012); however, these effects need further investigation.

Cross-References

- ▶ Activities of Daily Living
- ▶ Aging Population
- ▶ Barthel Index
- ▶ Behavioral Dysfunction
- ▶ Caregiver, Burden
- ▶ Clinical Dementia Rating Scale
- ▶ Dance and the Quality of Life
- ▶ Disability
- ▶ Exercise
- ▶ Functional Independence Measure
- ▶ Gardening
- ▶ Health-Care Costs
- ▶ Human Needs
- ▶ Katz Activities of Daily Living Scale
- ▶ Measurement Methods
- ▶ Music
- ▶ Physical Activity
- ▶ Physical Well-Being
- ▶ Pleasure
- ▶ Pleasure, Engagement, Meaning, and Happiness

References

Burge, E., Kuhne, N., Berchtold, A., Maupetit, C., & von Gunten, A. (2011). Impact of physical activity on activity of daily living in moderate to severe dementia: A critical review. *European Review of Aging and Physical Activity, 9*, 27–39.

Clair, A. A., & O'Konski, M. (2006). The effect of rhythmic auditory stimulation (RAS) on gait characteristics of cadence, velocity, and stride length in persons with late stage dementia. *Journal of Music Therapy, 43*(2), 154–163.

Desai, A. K., Grossberg, G. T., Grossberg, G. T., & Sheth, D. N. (2004). Activities of daily living in patients with dementia: Clinical relevance, methods of assessment and effects of treatment. *CNS Drugs, 18*(13), 853–875.

Egan, M., Hobson, S., & Fearing, V. (2006). Dementia and occupation: A review of the literature. *Canadian Journal of Occupational Therapy, 73*(3), 132–140.

Gelinas, I., Gauthier, L., McIntyre, M., & Gauthier, S. (1999). Development of a functional measure for persons with Alzheimer's disease: The disability assessment for dementia. *American Journal of Occupational Therapy, 53*(5), 471–481.

Harmer, B. J., & Orrell, M. (2008). What is meaningful activity for people with dementia living in care homes? A comparison of the views of older people with dementia, staff and family carers. *Aging & Mental Health, 12*(5), 548–558.

Heyn, P. C., Johnson, K. E., & Kramer, A. F. (2008). Endurance and strength training outcomes on cognitively impaired and cognitively intact older adults: A meta-analysis. *The Journal of Nutrition, Health & Aging, 12*(6), 401–409.

Hulme, C., Wright, J., Crocker, T., Oluboyede, Y., & House, A. (2010). Non-pharmacological approaches for dementia that informal carers might try or access: A systematic review. *International Journal of Geriatric Psychiatry, 25*(7), 756–763.

Kang, I. O., Lee, S. Y., Kim, S. Y., & Park, C. Y. (2007). Economic cost of dementia patients according to the limitation of the activities of daily living in Korea. *International Journal of Geriatric Psychiatry, 22*(7), 675–681.

Kwak, Y. S., Um, S. Y., Son, T. G., & Kim, D. J. (2008). Effect of regular exercise on senile dementia patients. *International Journal of Sports Medicine, 29*(6), 471–474.

Littbrand, H., Lundin-Olsson, L., Son, T. G., & Kim, D. J. (2009). The effect of a high-intensity functional exercise program on activities of daily living: A randomized controlled trial in residential care facilities. *Journal of American Geriatrics Society, 57*(10), 1741–1749.

Luppa, M., Riedel-Heller, S., Stein, J., Leicht, H., König, H., van den Bussche, H. et al. (2012). Predictors of institutionalisation in incident dementia – Results of the German study on ageing, cognition and dementia in primary care patients (AgeCoDe Study). *Dementia and Geriatric Cognitive Disorders, 33*(4), 282–288.

McCracken, A., Gilster, S., Connerton, E., Canfield, H., & Painter-Romanello, M. (1993). Developing a tool to measure functional changes in advanced dementia. *Nursing connections, 6*(2), 55–66.

Paterson, D. H., & Warburton, D. E. (2010). Physical activity and functional limitations in older adults: A systematic review related to Canada's physical activity guidelines. *International Journal of Behavioral Nutrition and Physical Activity, 7*, 38.

Rolland, Y., Pillard, F., Klapouszczak, A., Reynish, E., Thomas, D., Andrieu, S., et al. (2007). Exercise program for nursing home residents with Alzheimer's disease: A 1-year randomized, controlled trial. *Journal of American Geriatrics Society, 55*(2), 158–165.

Santana-Sosa, E., Barriopedro, M. I., Lopez-Mojares, L. M., Perez, M., & Lucia, A. (2008). Exercise training is beneficial for Alzheimer's patients. *International Journal of Sports Medicine, 29*(10), 845–850.

Steeman, E., Abraham, I. L., & Godderis, J. (1997). Risk profiles for institutionalization in a cohort of elderly people with dementia or depression. *Archives of Psychiatric Nursing, 11*(6), 295–303.

Steinberg, M., Leoutsakos, J. M., Podewils, L. J., & Lyketsos, C. G. (2009). Evaluation of a home-based exercise program in the treatment of Alzheimer's disease: The maximizing independence in dementia (MIND) study. *International Journal of Geriatric Psychiatry, 24*(7), 680–685.

Stevens, J., & Killeen, M. (2006). A randomised controlled trial testing the impact of exercise on cognitive symptoms and disability of residents with dementia. *Contemporary Nurse, 21*(1), 32–40.

Taylor, A. H., Cable, N. T., Faulkner, G., Hillsdon, M., Narici, M., & Van Der Bij, A. K. (2004). Physical activity and older adults: A review of health benefits and the effectiveness of interventions. *Journal of Sports Sciences, 22*(8), 703–725.

Thuné-Boyle, I., Iliffe, S., Cerga-Pashoja, A., Lowery, D., & Warner, J. (2012). The effect of exercise on behavioral and psychological symptoms of dementia: Towards a research agenda. *International Psychogeriatrics, 24*(7), 1046–1057.

Winchester, J., Dick, M., Gillen, D., Reed, B., Miller, B., Tinklenberg, J. et al. (2012). Walking stabilizes cognitive functioning in Alzheimer's disease (AD) across one year. *Archives of Gerontology and Geriatrics, 56*(1), 96–103.

Yu, F., & Kolanowski, A. (2009). Facilitating aerobic exercise training in older adults with Alzheimer's disease. *Geriatric Nursing, 30*(4), 250–259.

Democracy

▶ Community Participation
▶ Democracy and Quality of Life

Democracy and Bureaucracy

Ali Farazmand
Florida Atlantic University, Boca Raton, FL, USA

Synonyms

Bureaucratic politics; Democratic politics; Governance; Government; Group politics; Partisan politics; Policy politics; Program; Public administration; Representative bureaucracy; System maintenance

Description

Introduction

Bureaucracy has proven to be one of the oldest, most resilient, and most enduring institutions in history. As the most powerful instrument of government and governance, it has survived millennia of political and social changes, revolutions, and upheavals from the dawn of civilizations to the present. Political masters have come and gone, but none has been able to do away with

bureaucracy. In contrast, ▶ democracy does not have a long history, except for some sporadic practices in primitive forms and scale in ancient Greece, as fantasized in the West. What do bureaucracy and democracy really mean? Are they compatible or contradictory? What do bureaucratic and democratic politics mean? And by the same token, what does bureaucratization and democratization mean? What perspectives can possibly explain these two institutional phenomena, particularly in the age of globalization? What effect does bureaucracy have on the quality of citizens' lives? This short entry addresses these important questions. A full version of this entry is found in Farazmand, 2010.

Visiting the Empire

Perspectives on Bureaucracy and Bureaucratic Theory

Borrowing Herbert Simon's metaphor on ▶ decision making (Simon, 1979), we visit the colonies of the empire of bureaucracy in search for its eminent limestones. We discover a whole density of population that comprise perspectives, studies, and practices that can hardly be missed by anyone on the planet where human species live – even the most free and wildest animals cannot escape it. While the population of studies and perspectives as well as writers and speakers spread all over the social sciences, the density seems to be focused in sociology, economics, political science, public administration, and organization theory – oh yes, history and civilization too. The inhabitants include liberals, conservatives, advocates, opponents, and neutral observers from all disciplines and walks of life, classical, neoclassical, institutionalists, and revolutionaries. Visiting the colonies makes one wonder how the empire started, who the pioneers were, who mastered the beast, who perfected it, and why has it become so hated as well as loved. Volumes of books and articles may not be enough to answer these questions, much less this short synoptic entry. We begin visiting this empire without surveying its many colonies – a task beyond this limited space.

Bureaucracy has gained a pejorative reputation over time and has often been associated with red tape, delay, corruption, and stifling processes in getting things done. It has also gained a negative reputation for being a repressive instrument of domination, control, and class rule in the hands of ruling elites. But bureaucracy and bureaucratization have also been historically recognized for providing institutional processes through which benefits to large mass society can be provided for various reasons. This has been shown by historical evidence (Antonio, 1979; Eisenstadt, 1963, 1993; Etzioni, 1983; Farazmand, 2009b, c, 2010) or standardization and efficient administration of colonial territories by modern empires (Farazmand, 2009b; Subramaniam, 1998).

Two perspectives explain the meanings of bureaucracy. One is the Weberian ideal-type concept of bureaucracy as the most efficient type of organization based on formal, merit, and rational characteristics. In reality, an ideal-type bureaucracy rarely exists – approximation or a combination of merit and patronage is what really operates. Exceptions aside, some societies are better organized along Weberian lines, while others still dwell in early colonies.

Weber's coinage of bureaucracy also offers a "comparative" approach if not methodology of studying modern organization and administration. Many inhabitants of the bureaucratic colonies have missed this key feature of Weber's idealization managing large-scale organizations and societies. Why? Has there been a shortage of inhabitants interested in such studies? Hardly so, and the answer seems to be more of preoccupation with other features of bureaucracy for obtaining political control, organizational efficiency, and managerial effectiveness in administration. This colony of "comparative studies" is underpopulated and is in need of scholarly works, particularly in the age of globalization of corporate capitalism and of global empire building.

The second meaning of bureaucracy refers to any large organization or institution organized with structure, process, and normative values, rules, and regulations as well as a mix of merit and patronage and record systems. Waldo (1948, 1992), Eisenstadt (1963), and others, including this writer (Farazmand, 2009b, 2010), are known for espousing this view. A handful of historical

bureaucratic empires, such as the ancient world-state Achaemenid Empire of Persia, Imperial Rome, the British Empire in India, the Prussian/German and French empires both at home and in colonies, as well as the American bureaucracy, resemble a high degree of professionalization close to Weberian bureaucratic model. The former Soviet Union bureaucracy – huge on a world scale – was claimed to be meritorious and professionalized, but studies are needed to reveal details worthy of scholarly research consideration. Such studies need to be conducted free from ideological and political biases. Bureaucracy has survived 8000 years of political and social changes and upheavals in the Near/Middle East, particularly early Iran and Persia, Egypt, India, Assyria, and Babylon (Farazmand, 2001, 2009c, 2010; Frye, 1975; Olmstead, 1948). As a concept or organization, bureaucracy is the most powerful institution of governance and administration in both government and business enterprise. It is an organizational system no one can escape (Marx, 1967; Weber, 1947).

Bureaucratic Politics and Democratic Theory

In another study, Farazmand has (Farazmand, 1989) identified several types of politics: group politics, partisan politics, program and policy politics, and bureaucratic politics. While each of these political types serves particular interests or purposes, bureaucratic politics serves as a "key instrument" in accomplishing or achieving the goals of all other politics. It is the bureaucracy – both civilian and military – that is the institutional arm or machinery of government, one that carries out policies and programs and accomplishes political goals. This raises the central questions of who the bureaucracy serves, who controls it, and how this works as a process. These are fundamental questions that social scientists, revolutionary leaders, and administrators have tackled for millennia.

Can bureaucracy be neutral? Perspectives abound, but the majority agrees that whoever controls the institutions of government also controls and uses the bureaucracy as an instrument of power and rule – including class rule. Highly influenced by Karl Marx (1967), Max Weber (1947) agreed that ideal bureaucracy rarely exists or operates and has a tendency to "overtower" society (1984) and that bureaucracy is a "powerful instrument of power of the first order" in the hands of those who control it – whether a monarch, an elected president, or autocratic dictator (Weber, 1947, 1984), as it was in the imperial Rome (Antonio, 1979) or the last stage of the Persian Empire (Eisenstadt, 1963; Farazmand, 2009c).

Several perspectives may explain bureaucratic politics in a broader sense. It means internal organizational politics of bureaucracy by those in key positions favoring particular policies, programs, and or ideas. It also means playing with bureaucratic rules to slow down or expedite certain ideas and programs through policy "implementation." The psychological impacts of bureaucracy on individual citizens and or employees working are enormous and documented by psychologists and anthropologists (see Merton, 1940, 1957; Parsons, 1951; Hummel, 1976), with huge implications for ▶ quality of life and environment.

The role of bureaucracy in society, therefore, is manifested through policy implementation, role clarification, class rule, regulatory function, ▶ development, destruction, and political system maintenance or enhancement (Farazmand, 1989a). Neoconservative and neoclassical economic theorists of the "public choice" theory circles (i.e., Downs, 1967; Niskanen, 1971; Wilson, 1989) have written a lot on the antidemocratic side of bureaucracy, while others have done equal critique of the beast that stifles quality of life and represses humanity and environment. They prescribe "privatization and corporatization" to maximize citizens' self-interest individualism. These critics rarely speak of military bureaucracy. Bureaucracy is a powerful instrument of system maintenance, and all bureaucracies perform this function; it becomes a powerful "instrument of class rule" by those who rule society, whether a capitalist ruling class (ala Karl Marx, 1967, and Lenin, 1971; Mosca, 1939), a few rich oligarchs and "ruling power elite" (Mills, 1956; Parenti, 1988, 2010), or any person – whether a dictator, a monarch, an elected president, or a council (Weber, 1947, 1967, 1968, 1984).

While most developing countries experienced direct colonial rule of Western empires, with the exception of Iran or Persia and Turkey (former Ottoman), which were empires themselves right into the twentieth century, and Thailand. Post-World War II "political" independence has meant little but a continuation of bureaucratic and economic rule by remote control and through a new class of "comprador bourgeoisie" to borrow from Lenin (Lenin, 1971). The new class of military and civilian bureaucratic elites are the actual "agents of the neocolonial rule," agents acting in harmony with the interests of foreign imperialism (see Farazmand, 1989b; Kelly, 2007). Escaping the global empire's grip is not easy, as most developing nations need foreign aid often coming from the West, but none comes without conditions that bind them with neocolonial grip over their lives and governance systems (Amsden, 2007).

The third perspective on bureaucratic politics is explained by "bureaucratism," a process and phenomenon that involves use and abuse of power and authority by bureaucrats in positions of power for personal and political purposes. Creating a dynamic that can also be purely for personal gain (see Farazmand, 1989a). The fourth explanation of bureaucratic politics is summed up in the "bureaucratization" process and phenomenon, an issue beyond the scope of this short entry; bureaucratization is both political to curtail decentralization and autonomous power centers or structures – such as feudal lords – in favor of more concentrated power structures by kings, elected presidents, or other officials. It is also a "social or class leveling" practice to break the class hierarchy and spread access to government and its privileges of society among "common citizens." Historical evidence shows this to be the case in ancient Persia and Rome and contemporary United States.

Finally, bureaucracy and change or revolution is another huge topic that requires separate treatment (see, e.g., Farazmand, 2009c, especially Chapters 32–35). Three theoretical perspectives inform this relationship: One is the "neutrality" of bureaucracy, Wilson's view, or at least one attributed to him (Wilson, 1887); the second as an opposite view sees bureaucracy politically involved at all levels with all social and normative values and rejects the neutrality doctrine in governance and administration. Dwight Waldo and Robert Dahl made this point since the late 1940s, a view I also concur with (Farazmand, 2010). The third view on bureaucracy is espoused by Marx, Lenin, and revolutionary leaders and sees it a dangerously powerful obstacle to revolutionary change. It must be changed or replaced, but two different viewpoints have emerged within this revolutionary perspective: one for abolishing the bureaucracy of the old regime immediately, while the other arguing in favor of its "gradual change" and replacement. Lenin (1971) prevailed in the great debate right after the Bolshevik Socialist Revolution of Russia in 1917 (Lenin, 1971). Similar patterns developed after the Iranian Revolution of 1978–1979 (Farazmand, 1989b) – I support this view of bureaucracy as well.

Democracy and Democratic Politics

Like the colonies of bureaucracy, the colony of democracy has also been inhabited by many from all disciplines that include idealists, realists, conservatives, liberals, democrats, and revolutionaries, both secular and religious. The empire has many colonies, and all contend superior qualities, and none seems to acknowledge diversity as a quality for coexistence. So, the "colonies" grow, and the search for absolute truth continues in a march through the age of rapid globalization in which the more dominant "colonies" claim ownership, control, and monopoly of ideas, ideals, and features of the empire.

From the dawn of human civilizations, rulers, philosophers, and thinkers have tried to create ideal societies. Ancient Greek philosopher ▶ Plato conceived an ideal state in his *Republic*; the Persian philosopher of the tenth century Farabi, also known as the Second Teacher in history after Aristotle, developed the "ideal city state" in his book, *Madineh Fazele;* and Western philosophers like Locke, Hobbs, Rousseau, Montesquieu, Bentham, Mill, and the American Founding Fathers also proposed forms or models of government. The latter tried to prescribe

institutions and systems of government to promote ▶ equality, rule of law, ▶ liberty, collective mechanism, separation of powers, constitutional rule, and other forms of ▶ citizen participation in government and administration. So did the revolutionary leaders of the Russian Bolshevik Revolution by visioning a classless society under communism. Similarly, the postrevolutionary Iran tries to create an "ideal society" based on social and economic justice and through a mix of presidential and parliamentary systems of government, direct popular election, and Islamic sanctions. All strove to create an "ideal society and governance." Yet, neither ideal society nor true democracy has emerged anywhere as a political system in the world as of yet.

Democracy is an illusory term in need of extensive definitions, explanations, and interpretations, a task beyond the space limitation of this short entry. First, all democratic theories imply, explicitly or implicitly, a number of characteristics common to all democratic systems of societies – such as the role of the constitution, rule of law, respect for minority rights, elections and other forms of representation, citizen participation in political activities, accountability, and responsiveness; most of these characteristics rarely exist in any democracy, but a degree of their presence or practice may be found in various societies or political systems. Second, variations among democracies abound, as political cultures and traditions play key intervening variables. Third, pure or ideal democracy does not exist, or is at best rare. Fourth, the larger the society and more complex its sociocultural and political orientations are, the more complex and less democratic that democracy tends to become. Fifth, the more technologically advanced, the less democratic and more bureaucratic the society tends to become, as specialized knowledge and technical expertise are not comprehensible to average citizens. Finally, there are officially known democracies that have no constitutions and practice undemocratic activities, and their people are treated as "subjects of monarchs or queens, not 'citizens,'" hence a contradiction in democratic theory in practice because subjects can determine their destiny. Finally, there are also "exclusionary-," racially, or religious-based political systems that are officially known as democracies but actually practice exclusion of people based on religion, race and ethnicity, culture, or color – they even practice apartheid systems.

Theories of democracy also abound: group theory, pluralist theory, populist theory, elite theory, market theory, and socialist theory. Using a continuum on democratic theories, three perspectives emerge: On the far right, conservatives are found under various names (US Republicans, British Conservative Party), on the far left are socialists and revolutionaries (Cuba, USSR, Mao's China), and in the middle is a spectrum of so-called names and tendencies (Democrats or liberals in the USA or Europe), all with values in Western political culture composed of individualism, property, liberty, and equality, with the exclusion in practice of certain people of color, gender, race, etc., as history has shown in Europe, United States, and Australia, some as late as the 1960s – Native Americans and Blacks as well as women in the United States – the latter gained voting rights early in the twentieth century.

The dynamics of democracy are further explained by the variations in forms of political systems and degrees of citizen participation in the political process. Generally speaking, the three types of democratic political systems which use election as a rule are the parliamentary system (e.g., Germany, India), the presidential system (e.g., US system), and the mixed parliamentary and strong presidential system (e.g., France, Iran). Socialist systems may also have elections, both directly and indirectly through representation, but direct democracy is rare and possible only in small population-based towns or villages, hence the case for "representative democracies," in which citizens have to rely on elected representatives who tend to "logroll" through give-and-take strategies with opposing colleagues in order to get things done, and this adds more complexity to the politics of democracy.

The politics of democracy are explained by several perspectives. One on the far right complains against bureaucracy and big government; another perspective sees democracy deficient as a

form of government. Plato considered democracy deficient and based on the "rule of the mob," with human sentiment playing a key role in determining who should rule, subject to manipulation by money and personality power. To Plato, democracy means "plutocracy" or rule by the rich.

Contemporary critics of democracy also point out the power of money and wealth, not formal elections or official names, to rule; they consider "plutocracy" as the norm of governance in bourgeoisie democracy, with a few rich who dominate the vast majority of the "powerless" (Parenti, 1988, 2010). The third view comes from the left, the socialists and revolutionary progressives who see democracy in capitalism a rhetorical cover for class exploitation and repression of the vast majority of people by the few super rich capitalist class. This group of critics also notes contradictions between what the Western democracies claim through rhetorical slogans and what they actually practice in other nations around the world – ignoring human rights and violating democratic values in favor of national economic or business interests. This perspective criticizes industrial democracies for practicing neocolonial and imperialist ideas, invading rich developing nations for political and economic reasons and dominating the world by forming an oligarchic hegemony (Agnew, 2005; Kelly, 2007; Parenti, 1988, 2010).

Reconciling Bureaucracy and Democracy?

Implications for Quality of Life

Can bureaucracy and democracy be reconciled? Are they mutually exclusive institutions of modern governance? Bureaucracy stands for continuity, order, efficiency, standardization, and rationalization of government administration. It stands for fairness through universal application of rules and regulation, and as such bureaucracy is compatible with and serves the interests and goals of democracy. Democracy stands for election, representation, responsiveness, expediency, accountability, and citizen participation in the democratic process of government. Yet democracy has been less efficient, often eclipsed by ▶ corruption and other problems. The world of the last quarter century has experienced massive reforms in governments and administrative systems, all toward privatization and outsourcing of government functions. The major trends have been "market reform," market-based governance, market-based administration, strategic and systemic privatization, and results-oriented reorganization. The buzz word has been "new" to describe New Governance, New Public Management, and all the rest. How new are these "new" ideas? Just like the "colonies" of bureaucracy and democracy, the "colony" of reconciling bureaucracy and democracy – or bureaucracy-democracy relationship – is also heavily populated with diverse inhabitants, from left to right and from all disciplines.

Proponents of these new market-based reforms claim bureaucracy as a threat to democracy (Mosher, 1968; Niskanen, 1971) and offer "reinventing government" through privatization and outsourcing of public sector functions (Osborne & Gaebler, 1992). Opponents defend bureaucracy as better and more efficient when taking social and opportunity costs into account in the calculus of efficiency (Farazmand, 2009b; Goodsell, 2004; Meier, 1993). They are critical of the corporate globalization of the world with loss of public accountability, abuse, and exploitation of human lives. They see the trend benefiting corporate globalizers and threatening "democracy" and democratic rights of citizens (Farazmand, 1999; Korten, 2001; Waldo, 1992; Woods, 2006).

To these critics, it is a "hypocrisy" to speak of democracy without a competent and yet accountable and truly representative bureaucracy, because the two are interdependent and one in need of the other. This was the view of Dwight Waldo, and this is the view of this author (Waldo, 1947, 1992; Farazmand, 2009a, 2010). In this line of interdependence, some authors have gone even further by calling bureaucracy as the "fourth branch" of government (Meier & Bohthe, 2007). History has shown that bureaucracy persists, and those who claimed to abolish it have actually enlarged and empowered it. To abolish it, one would have to abolish/dismantle the US Department of Defense and the Pentagon

which is the world's largest bureaucracy, and the same must be done in all other governments – and that is beyond comprehension. The political dilemma of democracy and bureaucracy has always confronted politicians and scholars with major choices to make – dismantling bureaucracy means chaos and disorder, and dismantling democracy means rule by bureaucratic officialdom. A balance must be maintained between the two, as there is no other alternative. As noted earlier, not all democracies are good or effective, especially in the age of corporate globalization in which corporate economic interests dominate democratic rights globally.

As I have argued elsewhere (see Farazmand, 2002), both the policy of sweeping privatization and blind application of the new public management (NPM) are strategic instruments used to achieve the twin goals of corporate globalization of the world. The first transfers public sector functions and resources to the corporate sector, driving more millions of average people in a race to the bottom, while the second (NPM) changes the "culture" and basic assumptions of public service and public interests served by sound public administration systems with strong bureaucracies. More privatization means more dismantlement of democracy and its institutional systems (Farazmand, 2002; Suleiman, 2003). Bureaucracy can also be democratized by increasing citizen participation, community-based administrative practices, and other mechanisms, such as "representative bureaucracy" (Farazmand, 2010; Krislov, 1974; Rosenbloom & Kennard, 1977).

Are democracy and bureaucracy reconcilable? Yes they are. Are there contradictions in the relationship between the two phenomena? Yes there are, but they can be either minimized or aggravated depending on the public policies pursued. Extreme choices will result in imbalances and imbalance means accentuating contradictions. The current global stress on the political role of bureaucracies – including the private mercenary and corporate bureaucracies – for establishing domination, control, and hegemony is at the expense of creating social and economic opportunities for the masses of people in search of employment, decent living standards, and future well-being quality of life. Such an imbalance is dangerous to democracy and human rights with serious consequences for sound governance, democracy, public administration, and human life and environment. The policy of excessive bureaucratization, militarization, and bureaucratic "domination" was detrimental to the ancient Persian and Roman Empires and contributed to their eventual downfall (Antonio, 1979; Cook, 1983; Eisenstadt, 1963, 1993); it is equally detrimental and dangerous to contemporary empires and political systems, whether democratic or authoritarian. Let us learn from history and its laws (Kennedy, 1989).

Cross-References

- Aristotle
- Citizen Participation
- Corruption
- Decision Making
- Democracy
- Development
- Equality
- Liberty
- Plato
- Quality of Life

References

Agnew, J. (2005). *Hegemony: The new shape of global power*. Philadelphia: Temple University Press.

Amsden, A. (2007). *Escape from empire*. Cambridge, MA: MIT Press.

Antonio, R. J. (1979). The contradiction of domination and production in bureaucracy: The contribution of organizational efficiency to the decline of the Roman empire. *American Sociological Review*, *44*, (December), 895–912.

Caplan, B. (2007). *The myth of the rational voter: Why democracies choose bad policies*. Princeton, NJ: Princeton University Press.

Cook, J. M. (1983). *The Persian empire*. New York: Schoken Books.

Downs, A. (1967). *Inside bureaucracy*. Boston: Little, Brown.

Eisenstadt, S. N. (1963, 1993). *The political systems of empires: A study of bureaucratic societies*. Glencoe: The Free Press.

Etzioni-Halevey, E. (1983). *Bureaucracy and democracy: A political dilemma*. London: Routledge and Kegan Paul.

Farazmand, A. (1989a). *The state, bureaucracy, and revolution*. New York: Praeger.
Farazmand, A. (1989b). Crisis in the U.S. Administrative state. *Administration and Society, 21*(2), 179–199.
Farazmand, A. (1999). Globalization and public administration. *Public Administration Review, 59*(6), 509–522.
Farazmand, A. (2001). *Privatization or reform: International case studies*. Westport, CT: Praeger.
Farazmand, A. (2002). Privatization and globalization: A critical analysis with implications for public management education and training. *International Review of Administrative Sciences*, *68*(3), 355–371.
Farazmand, A. (2004). *Sound governance: Policy and administrative innovations*. Wetport, CT: Praeger.
Farazmand, A. (2009a). Building administrative capacity for the age of rapid globalization: A modest prescription for survival in the 21st century. *Public Administration Review, 69*(6), 1007–1020.
Farazmand, A. (2009b). Bureaucracy, administration, and politics: An introduction. In A. Farazmand (Ed.), *Bureaucracy and administration* (pp. 1–18). Boca Raton, FL: Taylor and Francis.
Farazmand, A. (2009c). Bureaucracy and public administration of the World State Achaemenid Persian Empire. In A. Farazmand (Ed.), *Bureaucracy and administration*. Boca Raton, FL: Taylor and Francis.
Farazmand, A. (2010). Bureaucracy and democracy: A theoretical analysis. *Public Organization Review, 10*(3), 245–258.
Frye, R. (1975). *The golden age of Persia*. New York: Harper and Row.
Goodsell, C. (1985). *The case for bureaucracy*. Chatham, NJ: Chatham House.
Goodsell, C. T. (2004). *The case for bureaucracy* (4th ed.). Washington, DC: CQ Press.
Hummel, R. (1976). *The bureaucratic experience*. New York: St. Martin's Press.
Kelly, K. (2007). New views on north-south relations of imperialism. In A. Farazmand & J. Pinkowski (Eds.), *Handbook of globalization, governance, and public administration* (pp 759–797). Boca Raton, FL: Taylor & Francis.
Kennedy, P. (1989). *The rise and fall of the great powers*. New York: Vintage Books.
Kingsley, J. D. (1944). *Representative bureaucracy*. Yellow Spring, OH: Antioch Press.
Korten, D. (2001). *When corporations rule the world* (2nd ed.). Westport, CT: Kumarian P.
Krislov, S. (1974). *The representative bureaucracy*. Englewood Cliffs, NJ: Prentice-Hall.
Lenin, I. I. (1971). *State and revolution*. New York: International Publishers.
Marx, K. (1966). *The civil war in France*. Peking: Foreign Languages Press.
Marx, K. (1951, 1967). *Selected works*. Moscow: Progress Books.
Meier, K. (1993). Representative bureaucracy: A theoretical and empirical exposition. *Research in Public Administration, 2*, 1–35.
Meier, K., & Bohthe, J. (2007). *Politics and the bureaucracy: Policy making in the fourth branch of government* (5th ed.). Belmont, CA: Thompson/Wadsworth.
Merton, R. (1940, 1957). Bureaucratic structure and personality. In R. Merton (Ed.), *Social theory and social structure* (pp. 195–206). Glencoe, IL: Free Press.
Mills, C. W. (1956). *The power elite*. New York: Oxford University Press.
Mosca, G. (1939). *The ruling class*. New York: MacGraw-Hill.
Mosher, F. (1968). *Democracy and the public service*. New York: Oxford University Press.
Niskanen, W. (1971). *Bureaucracy and Representative Government*. Chicago: Adline & Atherton.
Olmstead, A. T. (1948). *History of the Persian empire: The achaemenid period*. Chicago: University of Chicago Press.
Osborne, D., & Gaebler, T. (1992). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. Reading, PA: Addison-Wesley.
Parenti, M. (1988, 2010). *Democracy for the Few*. New York: St. Martin's Press.
Parsons, T. (1951). *The social systems*. New York: Free Press.
Pharr, S., & Putnam, R. D. (2000). *Disaffected democracies: What's troubling the trilateral countries*? Princeton, NJ: Princeton University Press.
Peters, G. (2001). *The future of governing* (2nd ed.). Lawrence, KS: University of Kansas Press.
Riggs, F. (2009). Bureaucracy: A profound puzzle for presidentialism. In A. Farazmand (Ed.), *Bureaucracy and administration* (pp. 155–203). Boca Raton, FL: Taylor & and Francis.
Rosenbloom, D., & Kennard, D. (1977). Bureaucratic representation and bureaucratic behavior: An exploratory analysis. *Midwest Review of Public Administration, 11*, 3–42.
Schumpeter, J. (1950). *Capitalism, socialism, and democracy*. New York: Harper & Row.
Simon, H. (1979). Rational decision making in business organizations. *The American Economic Review, 69*(4), 493–513.
Suleiman, E. N. (2003). *Dismantling the democratic state*. Princeton, NJ: Princeton University Press.
Waldo, D. (1947). *The administrative state*. New York: Holmes and Meier.
Waldo, D. (1948). *The administrative state*. New York: Ronald.
Waldo, D. (1992). *The enterprise of public administration*. Novato: Chandler and Sharp.
Weber, M. (1947). *The theory of social and economic organizations*. (A. M. Parsons & T. Parsons, Trans.). New York: Free Press.
Weber, M. (1967, 1968). *Economy and society* (3 Volumes). New York: Bedminster Press.
Weber, M. (1984). Bureaucracy. In F. Fischer & C. Sirianni (Eds.), *Critical studies in organization and bureaucracy* (pp 24–39). Philadelphia: Temple University Press.

Wilson, J. Q. (1989). *Bureaucracy*. New York: Basic Books.
Wilson, W. (1887). The study of administration. *Political Science Quarterly, 2*(2), 197–220.
Woods, N. (2006). *The globalizers: The IMF, The World Bank, and Their Borrowers*. Ithaca, NY: Cornell University Press.

Democracy and Development in Mexico and Chile

Judith Teichman
Political Science, University of Toronto Munk School, Toronto, ON, Canada

Synonyms

Alternative development in Mexico and Chile; Civil society in Mexico and Chile; Equitable prosperity in Mexico and Chile; Neo-liberal development in Mexico and Chile; Rights-based development; Technocratic knowledge

Definition

Since the late 1980s, two competing visions of democracy have emerged in Mexico and Chile. One is concerned with political participation on the part of the poor and their advocates and has as its objective that of achieving improved social well-being. The other, which focuses on the formal processes of liberal democracy (such as elections), takes the position that elected leaders and their technocratic advisors are best able to formulate effective social policies. While the former perspective sees the local community and state as having an important development role (defined as improvement in the lives of the poor), the latter takes the position that the market must play the predominant role in development (defined as economic growth).

Description

Neoliberal policy prescriptions (trade liberalization, privatization, and deregulation), adopted through the 1980s and 1990s, produced neither equitable prosperity nor widespread poverty reduction in Latin America. The increased interest in the responsiveness of governments to citizens' demands (Diamond & Morlino, 2005: xi; Rueschemeyer, 2004: 76) has been paralleled by the vociferous opposition of civil society organizations to neoliberal policies because of their harmful impact on living standards (Avritzer, 2002; Stahler-Sholk, et al., 2007). Poverty and inequality, preoccupations for civil society groups for some time, are now among the major concerns of development experts and scholars alike. Conditional cash transfer programs, the allocation of small sums of money to the female heads of households in exchange for such conditions as keeping children in school and regular visits to health clinics, have become the most well-known antipoverty strategy in Latin America and in many other parts of the world.

In both Mexico and Chile, competing visions of democracy and development, which I refer to as the "neoliberal" and "community development" perspectives, emerged during the formulation and implementation of conditional cash transfer programs between 2000 and 2008. Top-level policymakers in both countries came to recognize that while the market, through economic growth, was still the best mechanism to reduce poverty, targeted programs, most notably conditional cash transfer programs, were necessary to secure the incorporation of the poorest citizens into the market. It is through this incorporation, according to this viewpoint, that poverty reduction would occur over the long term. These competing visions as ideal types are outlined below, that is, as "pure" types against which we can measure the competing perspectives found in Mexico and Chile.

The Neoliberal and Community Development Visions as Ideal Types

The neoliberal vision takes the position that the act of governing must be confined to elites, who, unlike the public, are not driven by irrational influences and have a clear sense of reality (Schumpeter 1950, 250, 261). According to this perspective, therefore, citizen participation occurs

largely at election time. Policy design and monitoring are the exclusive purview of elected political leaders and high-level government bureaucrats – the former, because they are accountable at election time, and the latter, because they have the training to develop policy properly although government may consult citizens it considers highly qualified. This type of democracy, so the argument goes, is conducive to stable economic growth, a feature necessary for the achievement of prosperity over the long term. Since the market is the most efficient allocator of resources, the policy process is obliged to exclude groups whose demands are likely to interfere with market mechanisms because they bring about an unnecessary expansion in state activities and state expenditure. In addition, a strong concern for macroeconomic stability drives the search for cost effective ways to address social problems. Technocratic (quantitative) knowledge predominates in the development and assessment of policies and in the ability of citizens to access social programs. Hence, the neoliberal viewpoint does not see state support of social programs as benefits bestowed as a right of citizenship. Furthermore, the state provides social support to individuals and to families, (not to communities) because of the neoliberal belief that a focus on individuals and families provides for the most efficient use of state resources.

The community development approach shares important similarities with a variety of critical development perspectives, including alternative development, rights-based development, and feminist critiques of mainstream development (Friedmann, 1992; Molyneux & Lazar, 2003; Pieterse, 2001). It defines democracy in terms of citizen participation and policy outcomes that improve people's social well-being. Hence, participation in policy design and monitoring must occur on the part of both organizations that work for the poor and the citizens of poor communities. The poor (not the market), therefore, are central agents in their own development, and the use of local knowledge (the knowledge of the people living in poor communities) is an essential component of development. Therefore, poverty is not a technical matter, measurable by income levels, but is multidimensional and shaped by local contexts. The state, according to this perspective, if truly participatory, is a key ingredient in improved social welfare. Finally, community welfare is especially important in the achievement of social improvements. The individual and the family are inseparable from the community; indeed, to be successful, social programs must take all of these factors into account.

Competing Visions of Democracy and Development in Chile

Chile has a history of sharp political polarization. Hence, the presence of opposing views on democracy and development in that country is not surprising. Following a period of military rule (1973–1989) that witnessed a precipitous drop in living standards and a rise in inequality, the civilian government that came to power in 1990 promised "growth with equity." However, the new civilian government was not open to citizen participation in the development of public policy and was particularly resistant to participation in areas such as health policy, where civil society groups were demanding an end to private health care and the strengthening of the state's commitment to equitable and accessible health care for all citizens. Officials of the Finance Ministry were the most resistant to civil society consultation. It was only in those policy areas that would have no appreciable impact on important aspects of the neoliberal model (such as changes in the country's divorce laws or legislation against family violence) where citizen input was possible. Poor and indigenous women, on the other hand, appear to have been particularly excluded from policy input (Paley, 2001; Richards, 2006). However, more openness to civil society participation in social policy appeared to be on the horizon with the election of Michelle Bachelet as president in 2006, but failed to materialize.

The Chilean government's opposition to civil society participation in policy stemmed from the fact that a high level of militant mobilization had precipitated the 1973 military coup and from the belief that popular mobilization had been instrumental in the generation of unsustainable pressures

on public expenditures, which, in turn, had led to the severe economic deterioration of the mid-1970s. Members of political leadership had a high level of technocratic training, with most having degrees and graduate degrees, often in economics, from US universities.

Initiated in 2002, the program *Chile Solidario* aimed to alleviate extreme poverty through providing small cash transfers to the country's poorest 225,000 families in exchange for a variety of commitments involving, among other things, school attendance and health checkups. Although poverty had declined in Chile from 38 % of the population in 1990 to 20 % by 2000, extreme poverty declined more slowly, settling at 5.6 % between 1996 and 2000 (ECLAC Economic Commission for Latin America & the Caribbean, 2006, 300). Technocrats in the Finance Ministry and the Social Planning Ministry were the driving forces behind the new program. They were concerned about the slow decline in extreme poverty as well as with the increasing level of government social expenditures and with the need to avoid welfare policies that would encourage welfare dependency. The highly technocratic nature of the program was reflected in the criteria used to select beneficiaries (income level as ascertained through a highly detailed survey) and the government's exclusive consultation of highly qualified individuals with professional expertise in poverty issues. There was an explicit rejection of the consultation of poverty organizations and of the poor in local communities where the new program was to be implemented. In fact, government officials strongly resisted World Bank pressure for civil society consultation on the new program.

The civil society organizations that advocated on behalf of the poor were all critical of the new program. The viewpoints expressed by their leaderships coincided closely with the community development perspective in all respects. In addition, all but one of the four organizations engaged in intense criticism of the country's neoliberal (free market) model. Of particular importance is the fact that Chilean civil society leaders believed that policymakers must allow the perceptions of poor citizens to shape program development because the citizens of poor communities were, in their view, in the best position to know who in the community was in greatest need of support. In the words of one poverty organization leader: "If you do not involve the local population and become aware of local conditions your program will fail."

Competing Visions of Democracy and Development in Mexico

Like Chile, Mexico saw the rise to power of a highly trained technocratic leadership in the late 1980s (Centeno, 1999, 141). However, that rise to power occurred within the context of an authoritarian regime where fraudulent elections and other methods of political control were prevalent. However, by the year 2000, Mexico had made the transition to electoral democracy with the election of Vicente Fox's "Alliance for Change." Fox was elected president of Mexico with strong support from a wide array of civil society organizations, a development that seemed to augur well for civil society involvement in the new democratically elected regime. Despite the appointment of a number of civil society leaders to important positions within the state, however, the opportunity for civil society organizations with social policy concerns to influence policy declined as the administration wore on.

Mexico faced more intractable challenges than did Chile in the area of poverty reduction: The proportion of the population living in poverty stood at 53 % in 1996, and although the figure declined thereafter, it was still high at 41 % in 2000 (ECLAC 2006, 300). As in the Chilean case, those organizations making demands that challenged the neoliberal predisposition to maintain a limited role for the state found the greatest difficulty in obtaining policy access and impact. Hence, calls for the establishment of universal programs in health and education and programs to provide more employment – all measures that entailed an increase in the role of the state and a lack of faith in the market to improve social well-being – were rejected by the new government. As in the Chilean case, the government became strongly resistant to the notion of civil society consultation, even rejecting agreements that it had reached with various civil society

organizations on such issues as human rights, gender rights, and labor rights. In the opinion of government officials, the leaders of most civil society organizations lacked the professional training and capabilities to participate in the formulation of government policies.

Mexico's conditional cash transfer program, known originally as *Progresa*, was introduced under authoritarian rule during the Institutional Revolutionary Party (PRI) presidency of Ernesto Zedillo in 1997. It was renamed *Oportunidades* by President Fox and expanded thereafter. Like the Chilean program, it arose out of concern for the fiscal difficulties faced by the state in Mexico, difficulties that were particularly pressing given the severe economic crisis that Mexico faced in 1995, and due to a sharp rise in poverty that had occurred with the economic crisis. The program was also initiated by technocratic policymakers who, like their Chilean counterparts, advocated the use of quantitative criteria in the selection of who, among the poor, should be entitled to the benefits of the program. Given the much higher incidence of poverty in Mexico, the use of such a highly targeted and technocratically driven program was subjected to widespread criticism. Critics maintained that large numbers of poor people were being excluded from benefits simply because their poverty was judged slightly less dire than those receiving support.

There was greater attitudinal variation among the Mexican civil society organizations' leaders advocating for the poor than in the Chilean case. There were also sharp political divisions involving support for left, center, and right parties. Nevertheless, the history of the Mexican organizations, which involved an ongoing struggle against the PRI's authoritarian hostility to civil society, created a certain similarity of viewpoint among civil society leaders which extended to their position on the efficacy of the country's conditional cash transfer program.

The attitudes expressed by the leaders of all poverty organizations reflected important aspects of the community development perspective. All, except one organization, favored citizen participation in the formulation and implementation of the policy. However, two of the four organizations, which identified strongly with the political left, saw civil society participation in the conditional cash transfer program and a just social outcome as inseparable goals. Leadership attitudes, however, diverged sharply on what societal groups were to be considered part of "civil society" with two of the four supporting, and two opposing, the idea of the business sector as being part of civil society. Overwhelmingly, the leaders of Mexico's poverty organizations demonstrated little faith in the ability of market to lift people out of poverty and called for an expanded role for the state, going well beyond the provisions provided in *Oportunidades*. All called for greater attention to community development, with the two organizations linked to the political left demanding support for cooperative economic activities. Three of the four were critical of the program's failure to incorporate the participation and knowledge of the poor and, as in Chile, demanded that the poor be involved in the selection of the program beneficiaries in their respective communities.

Meanwhile, Mexican government officials stood firm in their rejection of civil society involvement in the program. They rejected the idea that the use of local knowledge of poor communities could improve the outcomes of the program. Policymaking and implementation in their view had to be the exclusive purview of politicians and of highly trained bureaucrats because neither civil society leaders nor the poor "were capable of seeing the bigger picture." As in the case of Chile, the government rejected civil society participation in the program, even when outside financial support for such consultation (from the World Bank) was forthcoming.

Conclusions

Civil society organizations in Mexico and Chile have been strong advocates for the poor in their countries. They have identified what is probably the most daunting challenge to social well-being arising out of the market reforms of the late twentieth century in Latin America: that of ensuring equitable prosperity. Struggles over conditional cash transfer programs, between

their technocratic proponents and their civil society critics, have at their core distinct understandings of the meaning of democracy and the requirements for development. The struggle between these differing visions suggests the presence of deeply divided political cultures and confirms survey data that identifies a sharp split between those citizens who define democracy as "liberty" and others who define democracy as substantive policy outcomes in terms of social improvements (Klesner, 2001, 123). The civil society leaders discussed here are driven by a concern to improve the lives of the poor and do not believe that is possible without a different form of democracy – one that is more deeply participative than is currently the case – and a more activist state. This perspective clashes with the neoliberal technocratic viewpoint.

Cross-References

- ▶ Aristotle
- ▶ Chile, Quality of Life
- ▶ Community Development
- ▶ Democracy
- ▶ Inequality
- ▶ Mexico, Quality of Life
- ▶ Poverty
- ▶ Social Policy
- ▶ Social Well-Being

References

Avritzer, L. (2002). *Democracy and the public space in Latin America*. Princeton, NJ: Princeton University Press.

Centeno, M. A. (1999). *Democracy within reason. Technocratic revolution in Mexico* (2nd ed.). University Park: The Pennsylvania University Press.

Diamond, L., & Morlino, L. (2005). Introduction. In L. Diamond & L. Morlino (Eds.), *Assessing the quality of democracy* (pp. ix–iviii). Baltimore: The Johns Hopkins University Press.

ECLAC (Economic Commission for Latin America and the Caribbean). (2006). *Social panorama of Latin America*. New York: ECLAC.

Friedmann, J. (1992). *Empowerment: The politics of alternative development*. Cambridge/Oxford: Blackwell.

Klesner, J. L. (2001). Legacies of authoritarianism: Political attitudes in Chile and Mexico. In R. A. Camp (Ed.), *Citizen views of democracy in Latin America* (pp. 118–138). Pittsburgh, PA: University of Pittsburgh Press.

Molyneux, M., & Lazar, S. (2003). *Doing the right thing. Rights-based development in Latin American NGOs*. London: ITDG Publishers.

Paley, J. (2001). *Marketing democracy: Power and social movements in post-dictatorship Chile*. Berkeley: University of California Press.

Pieterse, J. N. (2001). *Development theory. Deconstructions/reconstructions*. London: Sage.

Richards, P. (2006). The politics of difference and Women's rights: Lessons from pobladoras and mapuche women in Chile. *Social Politics, International Studies in Gender, State and Society, 13*, 1–29.

Rueschemeyer, D. (2004). Addressing inequality. *Journal of Democracy, 15*(4), 76–90.

Schumpter, J. A. (1950). *Capitalism, socialism and development*. New York: Harper and Brothers.

Stahler-Sholk, R., Vanden, H. E., & Keuker, G. D. (2007). Introduction: Globalizing resistance, the politics of new social movements in Latin America. *Latin American Perspectives*, *34*(2), 15–16.

Democracy and Islam in the Middle East

Michael Kalin
Yale University, New Haven, CT, USA

Synonyms

Church and state; Democratization and Islam; Islamism and democracy; Political Islam; Religion and politics in the middle east; Religious fundamentalism

Definition

By most measures, countries with majority Muslim populations remain less democratic than countries in which Muslims are the minority. This observation has fueled a contentious debate on whether Islam is compatible with ▶ liberal democracy. Although the revolutionary protest movements known as the Arab Spring that began in 2010 have been seen by some to mark the beginning of

a fourth wave of democratization, prospects for long-term democratic consolidation in the region remain unclear. Evidence about the supposed irreconcilability of Islam with democratic aspirations is generally offered by reference to the autocratic practice of "Islamist" states, to the writings of Islamist political thinkers who openly reject democracy, and to arguments that Islamic culture lacks a tolerance of political pluralism that is an essential hallmark of Western liberalism. Opponents of this view argue against the premise that Islam contains a timeless set of uncontested principles that are incapable of change. Moreover, comparison with the historical evolution of Christian religious parties in electoral politics in Europe suggests that ideology, particularly in its theological dimension, is a poor predictor for political behavior. While electoral incentives are almost certain to exert a powerful effect on how Islamist parties evolve in the Middle East, it remains an open question how well the historical experience of Christian political parties in Europe will predict the future of political Islam and the viability of democracy in the region.

Description

Empirical measures of ▶ democracy, such as the Polity IV and Freedom House indices, suggest that countries in the Middle East have long had lower levels of political ▶ freedom compared with the rest of the world (Rowley & Smith, 2009). Historically, representative democracy emerged in the North Atlantic, Western Europe, and gradually over much of Latin America, Asia, and Africa over the last two centuries in three successive "waves" of democratization (Huntington, 1991; Przeworski, 1991). For much of this time, however, democratic government in the Arab countries of the Middle East, as well as Iran and to a lesser extent Turkey, has been absent. Instead, political power has been the preserve of a narrow elite, neither subject to external legal restraint such as a constitution nor to regularized mechanisms of popular control such as contested ▶ elections. Although the revolutionary protest movements known as the Arab Spring that began in 2010 have been considered by some observers to mark the advent of a fourth wave of democratization, whether recent experiments with electoral politics mark the advent of a genuine democratic political culture in the Middle East remains uncertain.

Accounting for the relative absence of democratic governance in the Middle East where Islam has been the dominant religion in recent history as well as the inverse correlation between Muslim demographics and democratic freedoms in broader empirical research has fueled polemics about the influence of Islam on politics. Does Islam hinder democracy and, if so, how?

Islam is the second largest religion in the world and has existed since Muhammad received the Qur'an fourteen centuries ago. In the received tradition, Muhammad unified his religious community, the *ummah*, into a single polity that stretched across Arabia (Eickelman & Piscatori, 1996). After his death in 632 CE, temporal political authority passed to his successors but the sayings (*hadith)* or acts (*sunnah)* ascribed to Muhammad were considered authoritative guides for religious matters. Along with the Qur'an, these sources formed the basis for deriving Islamic law *(shariah*). *Shariah* deals with personal matters, such as proper diet and hygiene, but also addresses topics such as crime, inheritance, and taxation that fall under the purview of secular law in most countries today.

Given the view that Muhammad was both a religious and political leader, the appropriate domains for political leaders who succeeded him as well as the appropriate domains to which religious law should apply have remained open to interpretation. Those who subscribe to the belief that Islam is "as much a political ▶ ideology as a religion" (Esposito, 1994) are called "Islamists" or proponents of political Islam and assert the obligation of Muslims to manage their political affairs according to some interpretation of Islamic law. However, while traditional Islamic thought has placed great emphasis on concepts like justice, leadership succession, the obligation of rulers to consult with their subjects, and the need to follow *shariah*, scholars point to a variety of positions towards politics that each developed

with scriptural grounding: a "quietist" tradition that advocates withdrawal under skepticism that mortals could establish an authentic Islamic government along the lines of that which Muhammad instituted among his followers, a "status quo" tradition that advocates cooperation with political rulers, and a third politically "activist" or revolutionary tradition challenging authority (Lewis, 1996). These differing interpretive readings have animated Islamic culture throughout its development, and diverse political movements have emerged at various times and places raising the banner of Islam to lend legitimacy to their causes.

Nevertheless, growing Western geopolitical dominance of the Middle East over the course of the nineteenth and twentieth century was perceived with alarm and shifted attention to the region's perceived inability to resist Western influence. These motivations spurred a variety of different thinkers such as Jamal ad-Din al-Afghani, Muhammad Abduh, and others who became associated with the current of modern Islamic thought identified with much contemporary political activism (Roy, 1994). Sayyid Qutb, for example, believed that the most harmful impact of Western imperialism was that it restricted the jurisdiction of Islam over worldly life by restricting ► religion merely to a spiritual domain (March, 2010). Indeed, for much of the twentieth century, Islamic thinkers were excluded from politics and the abolition of the Ottoman caliphate in 1924 seemed to many observers to mark the end of the Islamic state in history (Feldman, 2008). Although the Muslim Brotherhood movement was founded by Hassan al-Banna in Egypt in 1928 with the aim of establishing a new pan-Islamic political order across the Middle East, the successor states that emerged across the region were led by leaders who organized politics along secular nationalist lines and harshly repressed political Islamists.

Well into the 1970s, many observers believed that the connection between Islam and politics was weak and unlikely to be a major factor in the political life of the Middle East. This was not merely because Islamic thought contained several contending positions regarding political engagement and that active political Islamists were often brutally repressed. Social scientists influenced by Marx, Weber, and Durkheim considered Islam to be like religious traditions in general: premodern vestiges of tradition that people clung to out of ignorance. With the Middle East undergoing socioeconomic processes like industrialization, ► urbanization, and bureaucratic rationalization, many observers believed that religious attachments would simply fade away in favor of a more secular outlook. This did not happen. Instead, Islam has exerted an important influence on political life in the region, confounding expectations of a gradual secularization. In part, specific historical events delegitimized secular ideologies: defeat of the secular Arab nationalist states in the 1967 Six-Day War against Israel, the overthrow of the Pahlavi regime in Iran and its replacement with a revolutionary Islamic Republic in 1979, and the end of communism as a viable alternative ideology to capitalism. Each of these undermined the legitimacy of alternative political identities in the region and broadened the appeal of Islamist revival movements to those dissatisfied with the status quo. In turn, status quo regimes have responded by superficially appropriating Islamic symbols of authority while using the prospect of electoral victories by political Islamists as justification for further repression, often with the acquiescence of their Western allies.

State repression pushed some members of the Muslim Brotherhood, such as Ayman al-Zawahiri to become associated with violent forms of Islamic militancy, and paved the way for the emergence of groups like al-Qaida. Such organizations have sought to take advantage of ungoverned spaces in the Afghan-Pakistani border region, North Africa, Yemen, and elsewhere to launch insurgent military campaigns to overthrow ruling governments and impose their vision of a restored Islamic caliphate by force. But the political Islam that competes in electoral politics in Egypt and elsewhere in the Middle East had rejected this approach and tended to adopt a conciliatory attitude towards existing political regimes. Although they capitalized on the opportunities made possible by the 2010 Arab Spring movement, Islamist parties affiliated with the Muslim Brotherhood movement were not

responsible for instigating the protests. Still, they have shown an impressive ability to sustain popular mobilization once the street demonstrations have waned. It is commonly believed that if Muslim-majority countries were to hold free and fair elections, Islamist parties will routinely dominate such contests. Within the Middle East, notable victories have included the Islamic Salvation Front in Algeria (1991), the Justice and Development Party in Turkey (2002 and 2007), the Islamic Resistance Movement (Hamas) in the Palestinian territories (2006), the Justice and Development Party in Morocco (2011), the Renaissance Party in Tunisia (2011), and the Freedom and Justice Party in Egypt (2011–2012).

Islamic parties have been highly successful in contesting elections, but critics continue to question their commitment to democracy. Many fear that once political Islamists take power, they will seek to establish a religious dictatorship. Such arguments take various forms. Evidence about the incompatibility of Islam with democratic aspirations is sometimes offered by reference to the historical experience of consciously "Islamist" states, such as Iran. After the 1979 revolution, Khomeini brought into being an authoritarian theocracy that guarded power within the hands of a supreme leader and only permitted candidates committed to clerical government to run in elections (Momen, 1985). Evidence is also offered by reference to the words of many influential modern Islamist thinkers such as Qutb, who rejected democracy, or Yusuf al-Qaradawi, who has written that the value of democracy resides solely in enabling the conditions for *sharia* to be applied by religious authorities. Such arguments are sometimes taken to indicate that Islamic thought more generally is structurally inimical to compromise and lacks a commitment to the foundational planks of liberal democracy: a notion of popular sovereignty, the legitimacy of majority rule, a separation of religion from the public sphere that prevents the disenfranchisement of those outside the community of the faithful, and a commitment to political pluralism, win or lose. On the other hand, opponents note the premise that Islam is somehow static, monolithic, and incapable of change is flawed and point to other elements of the Islamic tradition that contains within it conceptual cognates to liberal democracy, such as *shura* (consultation), *ijtihad* (independent reasoning), and *ijma* (consensus), that can be used to justify democratic practices within the Islamic vernacular (Lewis, 1996). In short, contending religious concepts drawn from Islamic political thought can be read both as support for and against democratic politics.

An alternative view holds that the relationship between Islam and democracy in the Middle East cannot be answered with reference to intellectual history alone but through empirical comparison of how religious movements more generally engage with the electoral process and how their ideologies evolve according to the strategic incentives of capturing votes. Comparison with the historical evolution of Christian democratic parties in Europe over the course of the nineteenth century suggests that ▶ ideology, particularly in its theological dimension, can be a flawed predictor of political action (Kalyvas, 1996). Some scholars have suggested that instead of seeking to implement *sharia*, Islamist political parties competing in elections across the Middle East are increasingly focused on more ordinary and pragmatic goals. Balancing a set of often conflicting demands by constituents with the imperatives of forming a stable governing coalition suggests to some analysts that the political platforms of Islamist parties in Turkey, Egypt, and elsewhere are likely to evolve in such a way that integrates Islamic cultural values into a broader centrist platform that appeals to a broad cross section of voters (Nasr, 2005). While not without empirical support, such accounts ironically harken back to an earlier generation of social scientists who stressed that the power of religion is largely incidental and ultimately destined to be supplanted by rational calculations, in this case, those governing the rules of electoral competition. Future research is needed to tease out the viability of the comparison of political Islam to the political fortunes of Christian democratic parties, particularly given the ideological and institutional differences between the two (Bellin, 2008).

To sum up, the empirical correlation between Muslim populations and a lack of democratic

governance has caused a wide-ranging debate about Islam's compatibility with the principles and practices of liberal democracy. Currently, prospects for genuine democracy in the Middle East remain uncertain, and evidence about whether Islam is compatible with democratic aspirations is ambivalent and largely anecdotal. Those who believe Islam is not democratic provide evidence drawn from the autocratic practice of "Islamist" states, the words of Islamist political thinkers who reject democracy, and arguments that Islamic culture lacks the essential elements of Western liberalism. Opponents of this view note the flawed premise that Islam is timeless and immutable and have compared Islamic political parties with the historical evolution of other religious parties in electoral politics to suggest that ideology, particularly in its theological dimension, may be a flawed predictor of political action (Kalyvas, 1996). While electoral incentives are almost certain to exert a powerful effect on the evolution of mass Islamist political parties in the Middle East, it remains unclear how well the experience of Christian democratic parties in Europe predicts the future development of political Islam in the region.

Cross-References

- ▶ Aristotle
- ▶ Civil Society
- ▶ Collective Action
- ▶ Collective Identity
- ▶ Epicurus
- ▶ Measuring National Identity
- ▶ Plato
- ▶ Religiosity and Support for Democracy

References

Bellin, E. (2008). Faith in politics: New trends in the study of religion and politics. *World Politics, 60*, 315–47.
Eickelman, D. F., & Piscatori, J. (1996). *Muslim politics*. Princeton: Princeton University Press.
Esposito, J. L. (1994). Political islam: Beyond the green menace. *Current History, 93*, 19–24.
Feldman, N. (2008). *Fall and rise of the Islamic state*. Princeton: Princeton University Press.
Huntington, S. (1991). *The third wave: Democratization in the late twentieth century*. Norman: University of Oklahoma Press.
Kalyvas, S. N. (1996). *The rise of Christian democracy in Europe*. Ithaca/London: Cornell University Press.
Lewis, B. (1996). Islam and liberal democracy: A historical overview. *Journal of Democracy, 7*(2), 52–63.
March, A. (2010). Taking people as they are: Islam as a "realistic utopia" in the political theory of sayyid qutb. *American Political Science Review, 104*, 189–207.
Momen, M. (1985). *Introduction to Shi'i Islam*. New Haven: Yale University Press.
Nasr, V. (2005). The Rise of "Muslim Democracy.". *Journal of Democracy, 16*, 2.
Przeworski, A. (1991). *Democracy and the market: Political and economic reforms in eastern Europe and Latin America*. Cambridge: Cambridge University Press.
Rowley, C. K., & Smith, N. (2009). Islam's democracy paradox: Muslims claim to like democracy, so why do they have so little? *Public Choice, 139*(3–4), 273–299.
Roy, O. (1994). *The failure of political Islam*. Cambridge: Harvard University Press.

Democracy and Quality of Life

Nisha Mukherjee Bellinger[1] and Doh C. Shin[2]
[1]Department of Government, Stephen F. Austin State University, Nacogdoches, TX, USA
[2]Center for Democracy, University of California-Irvine, Irvine, CA, USA

Synonyms

Democracy, Quality of life

Definition

Democracy, at the most basic level, is characterized as a political regime that has free and fair elections, which provides an opportunity for the citizens to hold the elected representatives accountable for their actions.

Description

Democracy and Quality of Life

Does democracy enhance quality of life? This is an important question that academicians have been concerned with for a long time, and considerable research has been carried out on the subject. Quality of life has been conceptualized in both subjective and objective ways. The subjective approach is primarily concerned with indicators such as levels of happiness, life satisfaction, or achievement (Bjørnskov, Dreher, & Fischer, 2010; Dorn, Fischer, Kirchgassner, & Sousa-Poza, 2007; Frey & Stutzer, 2000a; Shin & Rutkowski, 2003) while the objective approach looks at indicators like infant mortality, life expectancy, or literacy levels (Moon & Dixon, 1985; Przeworski, Alvarez, Cheibub, & Limongi, 2000; Ross, 2006; Shin, 1989; Zweifel & Navia, 2000). However, scholars often use different terms instead of "quality of life" like well-being, human welfare, and human development, among others. This essay reviews and analyzes the literature on how democracy influences subjective and objective quality of life, identifies avenues of future research, and conducts preliminary analyses that examines differences in subjective and objective quality of life indicators among a variety of regime types.

The existing literature argues that democracies may enhance subjective quality of life for two primary reasons. First, democratic regimes, particularly those that practice direct democracy, produce outcomes that are closer to the preferences of its citizens (Frey & Stutzer, 2000a, 2000b). Since citizens can influence the political process by participation via institutions of direct democracy like referendums, the outcomes reflect their interests, and this enhances subjective well-being.

Second, democracies permit citizens to participate in the decision-making process, and this creates a "procedural utility," which enhances subjective well-being since citizens have the opportunity to be involved in the democratic political process (Frey & Stutzer, 2005). The emphasis here is on the utility derived from participation irrespective of the outcome produced. This process may include voting in elections or on referendums, competing in elections, among others, where citizens can play an influential role in determining political outcomes.

However, the hypothesized link between democracy and quality of life has been challenged by studies, where the relationship between the two is not robust in a cross section of countries (Inglehart & Klingemann, 2000) or in single-country analyses, which show that in spite of the prevalence of a democratic system, citizens express dissatisfaction and unhappiness with their quality of life (Park & Shin, 2005; Shin & Rutkowski, 2003; Sing, 2009). A plausible explanation for this may be that forces of democratization and globalization in fact urge people to compare themselves with those under different circumstances, thereby lowering their perception of well-being (Park & Shin, 2005).

These discrepancies in findings may be attributable to a number of factors. Theoretically, the hypothesized relationship between democracy and quality of life is more applicable to regimes with institutional elements of direct democracy. However, not all democracies possess these elements, and this could account for the lack of consensus in the literature. Empirically, the studies discussed above differ both, in sample size, and in the time frame used for conducting the analyses, which could also account for the divergent findings.

Alternatively, perhaps the relationship between the two is more complicated, such that an intervening factor mediates the relationship between democracy and quality of life. More recent studies, like Bjørnskov et al. (2010), Dorn et al. (2007), show that democracy enhances quality of life among a subsample of richer countries, implying that democracy improves subjective well-being once the basic necessities of life have been met.

The literature on democracy and objective quality of life also highlights alternative theoretical mechanisms through which democracy enhances objective well-being. One of the theories suggests that democracies spend more on public services and thereby enhances quality of life either because the electoral process makes

democracies more competitive and participatory in nature (Shin, 1989), or more accountable to the needs of citizens (Deacon, 2003), or that it constrains democratic leaders from extracting rents from society (Lake & Baum, 2001). Alternatively, Bueno de Mesquita, Smith, Siverson, and Morrow (2005) argue that democracies provide larger public goods instead of private goods because democratic regimes have a larger support base to appease as compared to non-democracies. Greater provision of public goods benefits the entire society and thereby enhances quality of life.

Yet another theoretical mechanism is proposed by Sen (1999), whose theory on democracy and famines can also be applied to ways in which democracies may enhance quality of life. Sen argues that democracies permit greater freedom of press as compared to non-democracies, which makes democratic leaders better informed about immediate problems that need to be addressed. Moreover, a free press also puts pressure on democratic governments to take any necessary action to prevent calamities that may adversely affect the well-being of its citizens.

Alternatively, the relationship between the two may be nonlinear as proposed by Emizet (2000), who argues that democracies may enhance quality of life initially, but any steps to consolidate a given democracy may lead to greater conflicting demands made by society, which could thereby result in a stalemate and hamper decision-making, and thus adversely affecting its quality of life.

Even though the bulk of the empirical evidence indicates that democracies enhance quality of life (Lake & Baum, 2001; Mesquita et al., 2005; Moon & Dixon, 1985; Przeworski et al., 2000; Shin, 1989; Zweifel & Navia, 2000), some studies fail to find a significant relationship between the two (Williamson, 1987; Weede, 1993). The most compelling critique of the relationship between democracy and well-being comes from Ross (2006) who questions this hypothesized link between the two on account of methodological shortcomings and selection bias of previous analyses. Once these drawbacks have been accounted for, his findings indicate that there are no significant differences between regime type and quality of life.

Thus, the literature indicates that there is little consensus about whether democracies enhance subjective or objective quality of life. Even though there are strong theoretical reasons to expect democratic regimes to enhance quality of life, the empirical evidence does not always find support for the beneficial impact of democracy. The lack of agreement among scholars is indicative of room for greater research on the subject. Many argue that democracies are not a homogeneous category because there are variations within democracies as well (Diamond, 2002; Merkel & Croissant, 2004; O'Donnell, 1994; Zakaria, 1997). An alternative way of proceeding with this line of research is to analyze if there are significant differences in quality of life among a variety of regime types.

This entry provides preliminary analyses that examine differences in subjective and objective quality of life indicators among different regime types of a sample of 143 countries for the year 2010. Subjective quality of life is measured by using survey data that assesses levels of life satisfaction among people. The measure ranges from 0 to 10, where higher values indicate higher levels of life satisfaction, and the data are drawn from the Happy Planet Index (New Economics Foundation, 2010). Life satisfaction is one of the components of the Happy Planet Index (HPI), and the HPI draws data on life satisfaction from the World Values Survey and the Gallop World Poll. The other components of the index are life expectancy and ecological footprint. Objective quality of life is measured by the human development index ([United Nations Development Programme] UNDP, 2010), which is a composite index consisting of life expectancy, educational attainment, and income. The index ranges from 0 to 1, where higher values indicate higher levels of human development.

Differences in regime type are measured by using data from the Economic Intelligence Unit ([Economic Intelligence Unit] EIU, 2010) that uses five categories (electoral process and

Democracy and Quality of Life, Table 1 Regime type and life satisfaction

Regime type	Life satisfaction
Full democracies	7.54
Flawed democracies	6.13
Hybrid regimes	5.22
Authoritarian regimes	5.18

http://www.happyplanetindex.org/data/

Democracy and Quality of Life, Table 2 Regime type and human development index

Regime type	Human development index
Full democracies	.86
Flawed democracies	.68
Hybrid regimes	.54
Authoritarian regimes	.52

http://hdr.undp.org/en/statistics/hdi/

pluralism, civil liberties, the functioning of government, political participation, and political culture) to form a democracy index. Based on the index, the countries are classified into four regime types: full democracies, flawed democracies, hybrid regimes, and authoritarian regimes, where full democracies are the most democratic in nature, followed by flawed democracies, hybrid regimes, and finally authoritarian regimes. Table 1 provides the average levels of life satisfaction among different regime types. The table shows that full democracies have the highest levels of life satisfaction, followed by flawed democracies, hybrid regimes, and lastly authoritarian regimes. Table 2 shows the average of UNDP's human development index scores for each of the four different regime types. This table also shows that democracies have the highest levels of human development, followed by flawed democracies, hybrid regimes, and finally authoritarian regimes.

Both Tables 1 and 2 indicate a clear pattern, showing that more democratic regime types have higher levels of subjective and objective quality of life. This provides some support for the theoretical explanations that emphasize the beneficial impact of democratic regimes on quality of life. However, as mentioned previously, these are preliminary analyses, and a more intensive and systematic study is required in future research. Not only will this enhance our understanding of the relationship between different regimes and well-being, but it will also provide greater insight into the ways one can enhance the quality of life people lead, which is an important end in itself (Sen, 1999).

Cross-References

- ▶ Democracy
- ▶ Happiness
- ▶ Human Development
- ▶ Life Expectancy
- ▶ Life Satisfaction
- ▶ Quality of Life

References

Bjørnskov, C., Dreher, A., & Fischer, J. A. V. (2010). Formal institutions and subjective well-being: Revisiting the cross-country evidence. *European Journal of Political Economy, 26*, 419–430.

Deacon, R. T. (2003). *Dictatorship, democracy, and the provision of public goods*. Data retrieved from: http://www.econ.ucsb.edu/papers/wp20-03.pdf.

Diamond, L. (2002). Thinking about hybrid regimes. *Journal of Democracy, 13*(2), 21–34.

Dorn, D., Fischer, J. A. V., Kirchgassner, G., & Sousa-Poza, A. (2007). Is it culture or democracy? The impact of democracy and culture on happiness. *Social Indicators Research, 82*, 505–526.

Economic Intelligence Unit. (2010). *Democracy index 2010: Democracy in retreat*. Data retrieved from http://www.eiu.com/.

Emizet, K. N. F. (2000). The relationship between the liberal ethos and quality of life: A comparative analysis of pooled time-series data from 1970 to 1994. *Comparative Political Studies, 33*(8), 1049–1078.

Frey, B. S., & Stutzer, A. (2000a). Happiness, economy, and institutions. *The Economic Journal, 110*(466), 918–938.

Frey, B. S., & Stutzer, A. (2000b). Happiness prospers in democracy. *Journal of Happiness Studies, 1*, 79–102.

Frey, B. S., & Stutzer, A. (2005). Beyond outcomes: Measuring procedural utility. *Oxford Economic Papers, 57*, 90–111.

Inglehart, R., & Klingemann, H.-D. (2000). Genes, culture, democracy, and happiness. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being*. Cambridge, MA/London: MIT Press.
Lake, D. A., & Baum, M. (2001). The invisible hand of democracies: Political control and the provision of public services. *Comparative Political Studies, 34*(6), 587–621.
Merkel, W., & Croissant, A. (2004). Conclusion: Good and defective democracies. *Democratization, 11*(5), 199–213.
Mesquita, B. D., Smith, B. A., Siverson, R. M., & Morrow, J. D. (2005). *The logic of political survival*. Cambridge, MA: MIT Press.
Moon, B. E., & Dixon, W. J. (1985). Politics, the state, and basic human needs: A cross-national study. *American Journal of Political Science, 29*(4), 661–694.
New Economics Foundation. (2010). The happy planet index 2.0: Why good lives don't have to cost the earth. Data retrieved from http://www.happyplanetindex.org/data/.
O'Donnell, G. (1994). Delegative democracy. *Journal of Democracy, 5*(1), 55–69.
Park, C.-M., & Shin, D. C. (2005). Perceptions of life quality among the Korean mass public: Unraveling their dynamics and standards. *Social Indicators Research, 70*(3), 257–286.
Przeworski, A., Alvarez, M. E., Cheibub, J. A., & Limongi, F. (2000). *Democracy and development: Political institutions and well-being in the world, 1950–1990*. New York: Cambridge University Press.
Ross, M. (2006). Is democracy good for the poor? *American Journal of Political Science, 50*(4), 860–874.
Sen, A. (1999). *Development as freedom*. New York: Alfred A.Knopf.
Shin, D. C. (1989). Political democracy and the quality of citizens' lives: A cross-national study. *Journal of Developing Societies, 5*(1), 30–41.
Shin, D. C., & Rutkowski, C. P. (2003). Subjective quality of Korean life in 1981 and 2001. *Social Indicators Research, 62*, 509–534.
Sing, M. (2009). The quality of life in Hong Kong. *Social Indicators Research, 92*, 295–335.
United Nations Development Programme. (2010). *Human development index 2010*. Data retrieved from http://hdr.undp.org/en/statistics/data/.
Weede, E. (1993). The impact of democracy or repressiveness on the quality of life, income distribution, and economic growth rates. *International Sociology, 8*, 177–195.
Williamson, J. B. (1987). Social security and physical quality of life in developing nations: A cross-national analysis. *Social Indicators Research, 19*, 205–227.
Zakaria, F. (1997). The rise of illiberal democracies. *Foreign Affairs, 76*(6), 22–43.
Zweifel, T. D., & Navia, P. (2000). Democracy, dictatorship and infant mortality. *Journal of Democracy, 11*(2), 99–114.

Democracy and Quality of Life in Asian Societies

Katsunori Seki[1] and Shinya Sasaoka[2]
[1]Department of Political Science, Texas A&M University, College Station, TX, USA
[2]Hiroshima Shudo University, Hiroshima, Japan

Synonyms

Regime types in Asia

Description

Political Regimes in Asia

Political regimes in post-World War II Asia are diverse and categorized into four groups: First, Japan and India have maintained democratic rule since the transitions to ▶ democracy. In contrast, China, Vietnam, Laos, Singapore, and Central Asian states have consistently been nondemocratic regimes. Third, so-called "third-wave" democracies (Huntington, 1991) such as South Korea, Taiwan, Indonesia, the Philippines, and Mongolia are the group of nations that experienced democratic transition after 1970s. Lastly, Thailand, Malaysia, Nepal, Bangladesh, and Myanmar follow a back-and-forth path between democracies and nondemocracies.

Note that, however, both democratic and nondemocratic regimes in Asia have pursued well-being of the people. On the one hand, leaders in nondemocratic regimes – Lee Kuan Yew (Singapore), Park Chung-hee (South Korea), and Suharto (Indonesia) – promised to improve macroeconomic conditions, develop the infrastructures, increase the household income, and enhance the individual livelihoods. On the other hand, democratic and industrialized countries have also provided their electorate with both basic human needs and material wealth. Which type of regime is then likely to achieve higher ▶ quality of life? Since the different types of political regime have attempted to improve

quality of life in Asia, Asia is an interesting region to investigate the relationship between regime types and quality of life.

Democracy and Quality of Life

The relationship between democracy and quality of life is one of the biggest issues in the studies of quality of life. The nature of the political regime might matter because it conditions political rights and civil liberties that citizens enjoy. Rights and liberties can affect one's prospects for life, ▶ life satisfaction, subjective ▶ happiness – thus quality of life – because citizens can be frustrated when they find themselves constrained with respect to their rights and liberties. Democratic political rights and civil liberties might also matter because they are necessary for access to the political sphere so that citizens can express their demands to reform policies and to enhance public welfare. Thus, regime types, particularly democracy, would be one of the most important factors that lead to the development of quality of life.

With respect to the relationship between democracy and quality of life, empirical evidence found in prior studies has been mixed. On the one hand, some studies suggest that democracies improve quality of life (Dorn, Fischer, Kirchgässner, & Sousa-Poza, 2007; Frey & Al-Roumi, 1999; London & Williams, 1990; Moon & Dixon, 1985; Owen, Videras, & Willemsen, 2008). On the other hand, the other studies contend that democracies have no effect on quality of life (Inglehart & Klingemann, 2000; Veenhoven, 2000). In sum, there have been little scholarly consensus about the relationship between democracy and quality of life. In cross-national settings, prior research has examined country-level association between democracy and quality of life. Explanatory variables are either democracy scores (i.e., Polity IV index and Freedom House score) or aggregated public opinion data about individual satisfaction with democracy, while explained variables are either objective measures of quality of life (i.e., Basic Human Needs index and ▶ Physical Quality of Life index) or aggregated public opinion data about individual happiness and life satisfaction. That is, few studies on this topic have attempted to see the relationship at the individual level while taking account of the country-level variation in regime types.

Democracy and Quality of Life in Asian Societies

Hypotheses

In Sasaoka and Seki (2011), we try to fill the gap in the literature by applying hierarchical models and examining impacts of the cross-national variation in political regime and the individual-level variation in assessment of political regime on individual-level perception of quality of life. The survey data used in this study are collected by the Asia Barometer project and include 39 surveys conducted in 20 Asian countries from 2003 to 2008. Building upon past studies, we hypothesize the relationship between democracy and quality of life as follows:

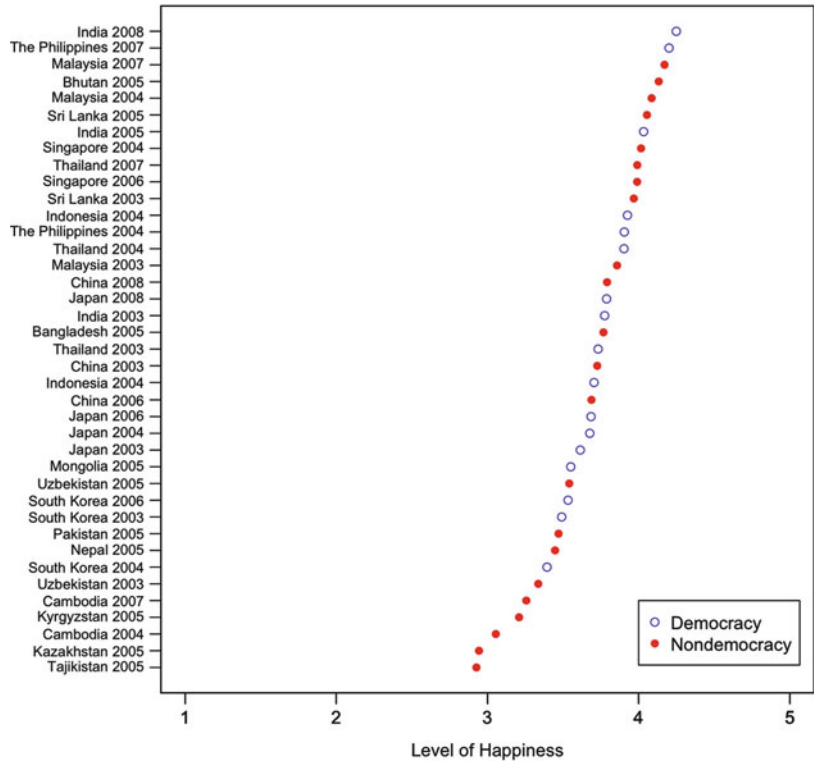
- *Hypothesis 1a*: The more satisfied the citizens are with the state of political rights they enjoy, the happier they are.
- *Hypothesis 1b*: The more satisfied the citizens are with the state of civil liberties they enjoy, the happier they are.
- *Hypothesis 2*: The citizens feel happier in democracy than nondemocracy.

Data and Measurement

Our dependent variable is general happiness. This is measured by a question item asking how happy a respondent feels. It is a five-point scale ordinal variable whose response categories range from 1 (very happy) to 5 (very unhappy).

Main independent variables include a dichotomous measure of regime type (i.e., democracies or nondemocracies), individual satisfaction with political rights, and satisfaction with civil liberty. The regime type variable is obtained by operationalizing the Polity IV score. Following the scholarly convention in political science (Epstein, Bates, Goldstone, Kristensen, & O'Halloran, 2006, p. 555), we treat a country as democratic if its Polity IV score is more than seven.

Perception of democracy is another key explanatory variable in our analysis. It is measured by satisfaction with political rights and satisfaction with civil liberties. Political rights



Democracy and Quality of Life in Asian Societies, Fig. 1 The mean level of happiness in Asian Societies

are one component of democracy. The extent to which the citizens are satisfied with the state of political rights they enjoy is measured through the following three questions: satisfaction with the right to vote, the right to participate in any kind of organization, and the right to gather and demonstrate. For each item, the response ranges from 1 (very satisfied) to 4 (very dissatisfied). Civil liberties are also considered another aspect of democracy. A citizen's satisfaction with the state of civil liberties in his/her country is grasped by three question items: satisfaction with the right to be informed about the government, freedom of speech, and the right to criticize the government. Response category is the same with those measuring satisfaction with political rights.

Satisfaction with political rights and satisfaction with civil liberties are supposedly similar concepts, but our confirmatory factor analyses show that the two-factor model is better fitted to the data than the one-factor model. Fit indices of the two-factor model are CFI = 0.969, TLI = 0.973, and RMSEA = 0.109. All factor loadings in this model are positive and statistically significant. Resulting two continuous ▶ latent variables exhibit high correlation (the correlation coefficient is 0.917); thus, our empirical model does not include both variables simultaneously because it would cause multicollinearity. In other words, we include either satisfaction with political rights or satisfaction with civil liberties in our analysis controlling for other factors which presumably affect quality of life.

Following past research, we introduce individual-level control variables such as satisfaction with government performance, assessment of standard of living, gender, age, education level, and religiosity (Fails and Pierce, 2010; Inglehart & Klingemann, 2000; Inoguchi, Mikami, & Fujii, 2007; Owen et al., 2008). Country-level controls are GDP per capita (natural log) and the level of urbanization. Figure 1 (Sasaoka and Seki 2011, p.349) shows the relationship between regime types and aggregated level of happiness in Asian societies.

Findings

We estimate the statistical association between democracy and quality of life by applying hierarchical ordinal logistic regression with random intercepts. We do not assume random slopes in our statistical model because we have no theoretical ground supposing that regime types condition the impacts of individual-level attributes on quality of life.

We find that the individual-level satisfaction with political rights and civil liberties improve perceived happiness. In contrast, we do not find causal effect of regime types on general happiness although the sign of the coefficient is positive (p- value is 0.302).

As for control variables, greater satisfaction with government performance and standard of living increase happiness. Men are generally less happy than women. Older people feel less happy than the younger. Higher education increases happiness. Catholic, Muslim, and Buddhist are happier than others although we are not able to discuss the substantive meaning of the impact of religious affiliation on happiness. The country-level economic development shows a positive sign, but it is not statistically significant at the conventional significance level (p-value is 0.170). Similarly, the coefficient of urbanization is negative and is not statistically significant (p-value is 0.371).

Since it is possible that the causal effect of regime types disappears once we take account of satisfaction with political rights and civil liberties, we estimate a model which excludes satisfaction with political rights. Even with this specification, we do not find any causal effect of regime types on the feeling of happiness although the p-value improves from 0.302 to 0.155. Also, in order to test if our findings are driven by using the dichotomous measure of regime type, we estimate a model which substitutes the Polity IV score for the dichotomous measure of regime type. The finding does not change, and the level of democracy does not explain the variation in happiness (p-value is 0.114 with a positive coefficient), at least among Asian countries.

Our study yields the following conclusions. First, as we expect, individual-level satisfaction with political rights and civil liberties is a strong explanatory factor of one's happiness. That is, not only socioeconomic status of an individual but also one's evaluation about politics plays an important role to increase one's happiness. Second, the country-level regime types do not show a statistically significant effect on the level of happiness at least in the context of Asian societies. This finding remains unaffected even when we exclude individual-level satisfaction with political rights and civil liberties. The evidence suggests that regime types play a minor role in increasing one's happiness. The more important factor, we find, is the extent to which they enjoy political rights and civil liberties in their countries.

Discussion

It would not be surprising to find that the causal effect of the level of perceived satisfaction with political regime on one's happiness is positive and statistically significant, while the effect of the regime type per se is not. The dichotomous measure of regime type – democracy and nondemocracy – might not capture the actual function of different regime types, especially the extent to which a regime is "democratic" among democracies and a regime is repressive among nondemocracies. Therefore, we can infer that citizens in Asian societies are more concerned about how their government functions rather than an important but a rough distinction between democracy and nondemocracy when expressing their feeling of happiness. Even if a political regime is classified as democratic, we have seen democracies in which, for example, electoral accountability does not function as expected and elections yield patronage politics and are often associated with corruption of elected officials. Those factors might affect the level of happiness among individuals. Hence, it would be reasonable to argue that citizens' happiness is a function of their evaluation of political regime including their satisfaction with political rights and civil liberties and that the regime type itself plays a marginal role.

Cross-References

- ▶ China, Quality of Life
- ▶ Communist Regimes, Quality of Life in
- ▶ Quality of Life Questionnaire
- ▶ Quality of Life Self-assessment
- ▶ Quality of Life, Conceptualization
- ▶ Survey Research

References

Dorn, D., Fischer, J. A. V., Kirchgässner, G., & Sousa-Poza, A. (2007). Is it culture or democracy? The impact of democracy and culture on happiness. *Social Indicators Research, 82*(3), 505–526.

Epstein, D. L., Bates, R., Goldstone, J., Kristensen, I., & O'Halloran, S. (2006). Democratic transitions. *American Journal of Political Science, 50*(3), 551–569.

Fails, M. D., & Pierce, H. N. (2010). Changing mass attitudes and democratic deepening. *Political Research Quarterly, 63*(1), 174–187.

Frey, R. S., & Al-Roumi, A. (1999). Political democracy and the physical quality of life: The cross-national evidence. *Social Indicators Research, 47*(1), 73–97.

Huntington, S. P. (1991). *The third wave: Democratization in the late twentieth century*. Norman: University of Oklahoma Press.

Inglehart, R., & Klingemann, H.-D. (2000). Genes, culture, democracy, and happiness. In E. Diener & E. Suh (Eds.), *Culture and subjective well-being* (pp. 165–183). Cambridge, MA: MIT Press.

Inoguchi, T., Mikami, S., & Fujii, S. (2007). Social capital in East Asia: Comparative political culture in confucian societies. *Japanese Journal of Political Science, 8*(3), 409–426.

London, B., & Williams, B. A. (1990). National politics, international dependency, and basic needs provision: A cross-national analysis. *Social Forces, 69*(2), 565–584.

Moon, B. E., & Dixon, W. J. (1985). Politics, the state, and basic human needs: A cross-national study. *American Journal of Political Science, 29*(4), 661–694.

Owen, A. L., Videras, J., & Willemsen, C. (2008). Democracy, participation, and life satisfaction. *Social Science Quarterly, 89*(4), 987–1005.

Sasaoka, S., & Seki, K. (2011). Democracy and quality of life in Asian societies. *Japanese Journal of Political Science, 12*(3), 343–357.

Veenhoven, R. (2000). Freedom and happiness. In E. Diener & E. Suh (Eds.), *Culture and subjective well-being* (pp. 257–288). Cambridge, MA: MIT Press.

Democracy, Faith in

Doh C. Shin[1] and Nicholas Spina[2]
[1]Center for Democracy, University of California-Irvine, Irvine, CA, USA
[2]Department of Politics and European Studies, American University in Bulgaria, Blagoevgrad, Bulgaria

Definition

Faith in ▶ democracy suggests a positive and accurate opinion of the democratic political system.

Description

Over the past three decades, democracy has made remarkable progress. The birth of over 90 new democracies throughout the globe has prompted public opinion research on democratization in a wide variety of cultures and contexts (Heath, Fisher, & Smith, 2005; Mattes, 2007; Norris, 2004). The Gallup International Voice of the People Project (2007), the Pew Global Attitudes Project (2003) ▶ Attitudes Project, UNDP on Democracy and Citizenship, the World Values Survey, and many other regional barometers and national surveys have monitored citizen orientations toward democracy. The results from all of these surveys show that democracy has achieved overwhelming mass approval throughout the world and has become virtually the only political model with global appeal (Inglehart, 2003; Shin, 2007).

The last two waves of the World Values Surveys, for example, find that a clear majority of the population in virtually every society endorses a democratic political system (Inglehart & Welzel, 2005). The 2005 Voice of the People Surveys, conducted in 65 countries by Gallup International between May and July 2005, also report that eight out of ten global citizens believe that in spite of its limitations, democracy is the best form of government, almost 10 % more than in 2004. According

to a 2010 survey by the Pew Research Center's Global Attitudes Project, more than 60 % of Egyptians, Jordanians, and Lebanese report democracy as preferable to other forms of government. Even in the Islamic Middle East, Confucian East Asia, and the former Soviet Union, surveys find large majorities favorably oriented to democracy (Chu, Diamond, Nathan, & Shin, 2008; Rose, Mishler & Haerpfer, 1998; Pew Research Center, 2003; Linz & Stepan, 1996; Tessler, 2002). Undoubtedly, democracy attracts an ever-increasing number of the world's citizens.

Despite this trend, questions remain as to how well these citizens understand democracy. Just because a survey respondent reports a favorable attitude toward democracy does not mean that the respondent understands or supports fundamental aspects of democracy. Previous research has failed to take this possible schism into account. Instead, most research on mass support for democracy has been concerned predominantly with measuring and comparing the shifting quantities of avowed public support for democracy across and within regions (Dalton, Shin, & Jou, 2007). As a result, very little is known about the quality and authenticity of democratic support. It is, therefore, premature to endorse the increasingly popular claim that democracy is becoming a universal value (Sen, 1999).

This essay identifies and compares the quality of popular support for democracy across various cultural regions to determine the extent to which democracy is truly understood and appreciated among global citizenries. How informed are contemporary publics about democracy? Do informed supporters of democracy constitute majorities in all regions of the world so that one can justifiably conclude democracy is a universal value? Or is democracy only a regional value? To address these questions, we analyze the latest, fifth wave of the World Values Survey (WVS), which were conducted in 56 countries during the 2005–2007 period. The analysis divides the world into seven cultural zones: Western countries with the oldest democracies (hereafter the long-democratic West), Western countries with former communist regimes (hereafter the once-communist West), South Asia, the Middle East, East Asia, Latin America, and Africa.

The WVS asked questions designed to estimate how well ordinary people understand democracy and the specifics of their understanding. We analyze three topics that tap fundamental characteristics of democracy (electoral representation, ▶ freedom, and ▶ equality) and two questions that tap characteristics of democratic alternatives (religious control and military intervention). We first identify the percentage of citizens who are unable to conceptualize electoral representation, protection of liberties, gender equality, the separation of church and state, or a civilian-controlled military as characteristics of democracy on the WVS survey. We label these respondents as *unsure* about democracy.

Next, we assess whether citizens hold democratic opinions about each topic by calculating the percentage who incorrectly identified popular elections, protection of liberty, or gender equality as an unessential property of democracy (scored below the midpoint of the ten-point scale, 5.5) and those who incorrectly identified the intervention of religious and military authorities as one of its essential properties (scored above the midpoint of the scale). We label these respondents as *misinformed* about democracy.

With these two measurements, *unsure* and *misinformed*, we ascertain distinct patterns of understanding about democracy among mass publics. We then conceptualize avowed democratic supporters as either poorly informed or well informed by considering the accuracy of their democratic opinions along each dimension.

Unsure About Democracy

How capable are citizens in identifying what is essential or unessential in a democracy, a system of government they are widely known to prefer to any of its alternatives? Table 1 reports the region percentages of those unable to identify each of the five democratic dimensions in our analysis. It also presents the region percentages of those unsure of *any* of the five dimensions.

Of the five dimensions reported in Table 1, the mass public is the least sure about the role of religious authorities and the military in the

Democracy, Faith in, Table 1 Percentages of respondents unable to answer each and all of the five dimensions

Cultural zones	Religious authorities	Popular elections	Military take-over	Protecting liberty	Gender equality	Unsure
(All zones)	9.1 %	4.3 %	8.6 %	6.9 %	3.6 %	14.4 %
Dem. West	4.6	2.4	4.6	3.9	1.8	8.4
Ex. Com. West	12.4	5.5	13.5	8.1	5.3	20.0
South Asia	5.1	2.1	4.6	2.4	1.4	8.0
Middle East	9.3	6.2	9.6	8.3	4.8	14.9
East Asia	22.4	9.9	18.4	14.9	6.9	28.5
Latin America	8.7	3.9	6.7	7.3	3.3	13.1
Africa	7.8	3.6	7.3	7.4	3.8	14.8

Source: 2005–2007 World Values Survey

political process. Nearly one in ten (9 %) people in all seven cultural zones did not know whether religious or military intervention is essential or unessential in a democracy. The lowest unsure responses occur with support for popular elections and gender equality. Only 1 out of 25 people (4 %) were unable to identify these two important dimensions of democracy. Surprisingly, nearly twice as many (7 %) could not determine whether protection of liberty is essential for democracy. When all five dimensions are considered together, nearly one out of three (32 %) people in the world today remain unsure about either one or more of the five dimensions in our analysis.

Another notable feature of Table 1 is the high level at which people in East Asia are unsure about democracy's properties compared to their peers in other regions. When presented with the choice to limit the role of religious interpretation of laws, more than one out of five (22 %) failed to consider it as part of a democracy. Nearly as many (19 %) failed to choose a civilian-controlled military as a democratic characteristic. More surprising is that as many as one out of seven (15 %) East Asians failed to consider the protection of liberty as essential to democracy. The results constitute evidence that East Asians are the least informed of respondents in the seven regions, with 29 % unsure of any of the dimensions of democracy. The other regions are only marginally better: Eastern Europe (20 %), the Middle East (15 %), sub-Saharan Africa (15 %), Latin America (13 %), the West (8 %), and South Asia (8 %). Why East Asia, well known for its rapid socioeconomic modernization during the past three decades, stands out from the rest of the world is a question that invites further research.

Misinformed About Democracy

How accurately is the public informed about democracy? Do they have a correct interpretation of what a democracy requires? To address this question, we calculate the percentages of those who incorrectly rated each dimension as essential or unessential to a democracy. Table 2 reports the percentage of the misinformed (i.e., those who incorrectly interpret the extent to which each democratic dimension is required). Of the five dimensions, the role of the military is the most misunderstood, with 33 % incorrectly believing a military take-over of government is conducive to democracy. It is followed by incorrect assumptions about the intervention of religious authorities (29 %), the protection of liberty (17 %), gender equality (11 %), and popular elections (11 %). When all five dimensions are considered together, a substantial majority (62 %) are misinformed about at least one of the five dimensions considered. In all, fewer than two out of five people in the world (36 %) hold an informed, democratic opinion of all five dimensions.

Our study shows that those who are the most misinformed about democracy are in South Asia, the Middle East, and Africa. As many as half the people in these Islamic-influenced regions failed to correctly identify the democratic principle of separating church and state and incorrectly

Democracy, Faith in, Table 2 Percentages of respondents unable to answer each and all of the dimensions accurately

Cultural zones	Religious authorities	Popular elections	Military take-over	Protecting liberty	Gender equality	All five questions
(All zones)	29.4 %	11.0 %	32.3 %	16.7 %	11.3 %	62.4 %
Dem. West	16.7	8.7	22.3	13.4	6.4	45.1
Ex. Com. West	23.6	8.6	30.8	11.3	8.0	55.1
South Asia	47.1	18.2	44.8	24.2	20.8	85.1
Middle East	54.1	13.5	45.6	17.3	23.9	83.3
East Asia	18.3	9.0	26.8	12.6	7.6	57.1
Latin America	27.4	12.2	33.4	20.3	10.1	66.8
Africa	44.0	13.3	41.2	23.9	15.4	78.8

Source: 2005–2007 World Values Survey

viewed religious authorities as key players in democratic politics. These three regions are also the most mistaken about the role of the military and gender equality. More than two out of five people in these three areas incorrectly identified military political intervention as essential to democracy. More than one out of seven respondents refused to endorse gender equality as an essential characteristic of democracy. In all, nearly four out of five or more people in South Asia, the Middle East, and Africa are misinformed about at least one of the five dimensions considered. These three regions are followed by Latin America (67 %), East Asia (57 %), Eastern Europe (55 %), and the West (45 %). The fully democratized West is the only cultural zone where less than a majority is misinformed about what constitutes democracy. In the other six regions, majorities remain misinformed.

In regard to popular elections, however, people in South Asia are the most misinformed. Eighteen percent of people in this region did not identify popular elections as an essential democratic dimension. And regarding the protection of liberty, people in South Asia (24 %) were the most misinformed, followed by Latin America (20 %), sub-Saharan Africa (24 %), and the Middle East (17 %). Equally notable is that as many as one in eight (13 %) people in the democratized West failed to recognize the protection of liberty as essential to democracy.

As these empirical results suggest, the problem of democratic misconceptions is ubiquitous. These findings have not been addressed in previous studies, which maintain that democracy has become the world's most preferred political system without considering whether citizens appreciate or understand its characteristics (Booth & Seligson, 2008; Bratton, Mattes, & Gyimah-Boadi, 2004; Chu et al., 2008; Rose, Mishler, & Haerpfer, 1998).

Patterns of Democratic Conceptions

All in all, how well do contemporary publics understand democracy as a system of government? To address this question, we construct four distinct patterns of understanding democracy. They are *the misinformed, the uninformed, the ignorant*, and *the well informed*. *The misinformed* are those who could identify all five dimensions but misunderstand at least one democratic dimension as unessential and/or essential. *The uninformed* are those who could not identify all five dimensions but do not have mistaken views of those they do identify. *The ignorant* are those who are both unsure and misinformed. The *well informed* are those who are neither unsure nor misinformed about democracy. For analytical simplicity, we also combine *the ignorant, the uninformed*, and *the misinformed* into a broader group labeled the *poorly informed*.

Table 3 reports how global citizenries are distributed across these four groups. Those in *the misinformed* group are the most numerous, with a majority of 51 %. They are followed by *the well informed* with 34 %, *the ignorant* with 11 %, and *the uninformed* with 3.5 %. When *the ignorant, the uninformed*, and *the misinformed* are grouped together as the *poorly informed*, they constitute

Democracy, Faith in, Table 3 Patterns of democratic conceptions

	Four patterns			
Cultural zones	Fully informed	Misinformed	Somewhat informed	Confused
(All zones)	34.1 %	51.4 %	3.5 %	11.0 %
Dem. West	52.8	38.8	2.1	6.4
Ex. Com. West	37.9	42.0	6.9	13.1
South Asia	12.6	79.4	2.3	5.7
Middle East	15.1	70.0	1.6	13.3
East Asia	35.8	35.7	7.0	21.5
Latin America	30.8	56.1	2.4	10.8
Africa	18.7	66.5	2.5	12.3

Source: 2005–2007 World Values Survey

Democracy, Faith in, Table 4 Percentages of the poorly and well informed among avowed democrats

Cultural zones	Poorly informed	Well informed
(All zones)	62.3 %	37.7 %
Dem. West	42.5	57.5
Ex. Com. West	55.7	44.3
South Asia	86.8	13.2
Middle East	83.8	16.2
East Asia	56.3	43.7
Latin America	65.9	34.1
Africa	79.8	20.2

Source: 2005–2007 World Values Survey

a two-thirds majority (66 %) of global citizenries. Within the world, those who are well informed about democracy, that is, fully capable of accurately understanding and identifying its essential and unessential properties, constitute a small minority. They are outnumbered by the poorly informed at a two to one margin.

Is the prevalence of poorly informed citizens a global phenomenon or is it confined to certain cultural zones? Table 3 separates the four patterns of understanding by the seven regions. Only in the democratized West are the well informed a majority and the poorly informed a minority. In all other regions, however, they constitute majorities ranging from less than two-thirds in Eastern Europe (62 %) and East Asia (64 %) to more than four-fifths in South Asia (87 %), the Middle East (85 %), and sub-Saharan Africa (81 %). In Latin America, the region with the second longest period of democratic political experience, more than two-thirds (69 %) of its citizens remain poorly informed about democracy.

In four regions – South Asia, the Middle East, Latin America, and sub-Saharan Africa – the *misinformed* constitute a majority of the population and an overwhelming majority of the *poorly informed* population. In the other three zones, they form minorities of about two-fifths or less. East Asia stands out from all other regions as the only one where more than one out of five (22 %) citizens is democratically ignorant. Yet this region is similar to all other regions, including the democratized West, in that the problem of being misinformed is far more prevalent than that of being either uninformed or ignorant.

The Authenticity of Avowed Support for Democracy

According to the survey-based studies cited earlier, democracy has become the most favored system of government by large majorities in all regions of the world. Indeed, our analysis of the latest wave of the WVS confirms these findings. When asked to rate democracy on a four-point scale ranging from "very good" to "very bad," more than nine out of ten (92 %) rated it favorably. Such high prodemocratic ratings exist in all regions, ranging from 86 % in Eastern Europe to 94 % in South Asia and the Middle East. Democracy has undoubtedly become the universally favored system of government throughout the entire globe.

In view of our analysis presented above, however, many of these avowed democrats cannot be branded as well-informed supporters of democracy. Table 4 shows the percentages of those who report to favor democracy that are poorly or well informed about democracy. Poorly informed

Democracy, Faith in, Table 5 A variety of democrats and nondemocrats

	Avowed democrats		
Cultural zones	Genuine democrats	Superficial democrats	Nondemocrats
(All zones)	34.5 %	57.1 %	8.5 %
Dem. West	53.5	39.5	7.0
Ex. Com. West	38.2	48.1	13.7
South Asia	12.4	81.7	5.9
Middle East	15.2	78.9	5.9
East Asia	38.7	49.9	11.4
Latin America	32.1	60.2	8.8
Africa	18.8	74.2	7.0

Source: 2005–2007 World Values Survey

avowed democrats constitute majorities in all regions except the democratized West. They are most numerous in South Asia (87 %), followed by the Middle East (84 %), Africa (80 %), Latin America (66 %), East Asia (56 %), and Eastern Europe (56 %). Only the democratized West has a majority of well-informed democratic supporters (58 %). When all seven zones are considered together, more than three out of five (62 %) avowed democrats are either unsure, misinformed, or both, about essential democratic characteristics. In other words, most people who say they support democracy do not accurately understand its meaning. Considering their limited substantive knowledge about democracy, poorly informed democratic supporters cannot be expected to properly exercise democracy in practice. It is therefore reasonable to conclude that, for the most of the world, democratic support in practice is highly superficial and fragile.

Based on this inference, we divide avowed democratic supporters into two categories: the genuine and the superficial. While the former are fully informed about the essence of democracy as a system of government, the latter are either misinformed and/or unsure about its essential characteristics.

For each of the seven regions, Table 5 reports the percentages of these two categories of democrats. In four of seven regions, superficial supporters constitute a substantial or large majority of their respective adult population. In South Asia, the Middle East, and sub-Saharan Africa, from three-quarters to over four-fifths of citizens are superficial supporters of democracy, that is, those who support democracy but do not fully understand its characteristics. In Latin America, this group constitutes 60 % of the population. Only in the West, Eastern Europe, and East Asia do superficial democratic supporters constitute minorities. In Eastern Europe and East Asia, however, these are extremely slim minorities. Even in the West, two out of five (40 %) people are superficial supporters. When all seven zones are considered together, genuine democrats constitute a minority of about one-third (35 %) of global citizenries, while superficial democrats constitute a majority of nearly three-fifths (57 %).

These data reveal a significant worldwide gap between citizens who view democracy favorably and those who substantively understand and support it. This gap can be considered an indicator of the further need for authentic understanding about democracy in the minds of mass citizenries. In terms of percentage points, a gap of 50 % or more exists in every cultural zone outside the democratized West. Even after more than three decades of extensive efforts to promote democracy throughout the developing world, only limited progress has been made in engendering truly democratic cultures.

Concluding Remarks

Previous studies make it clear that democracy is the system most favored by a large majority of people in every geographic and cultural region in the world. Undoubtedly, democracy

has become the *universally favored* system of government. Nevertheless, the essentials of a fully democratic system are not understood or endorsed by a majority of citizens. Only in the consolidated democracies of the West do majorities of citizens truly understand and appreciate democratic virtues. At present, although democracy is favored throughout the entire globe, an accurate understanding of its characteristics remains a regional phenomenon, not a universal phenomenon.

Accordingly, we argue that democracy as a system of government, in which the masses participate freely and equally in the political process, is far from emerging as a *universally valued* system, contrary to what Nobel Laureate Amartya Sen (1999) claims. Such universality requires a majority of the mass public to unconditionally endorse and comprehend the essential properties of democracy. In this regard, we caution against treating survey respondents who claim to support democracy as genuine democrats, as is often implied in democratization research.

For much of the world, democracy represents little more than an appealing political symbol that still retains authoritarian practices. Until a great many superficial democrats are transformed into genuine democrats, it is premature to endorse the increasingly popular claim that democracy is emerging as a universal value. Our analysis indicates the extent to which democracy has failed to take root in the minds of citizens and reveals that, even after decades of extensive efforts to promote the global expansion of democracy, progress has been very slow in developing authentic democratic political cultures outside Western nations (Blokker, 2009; Millet, Holmes, & Perez, 2008; Rose, 2009; Shin, 2007). Our contrarian perspective on mass political orientations suggests that democratization must be considered, at best, a work in progress.

Cross-References

► Public Opinion

References

Blokker, P. (2009). *Multiple democracies in Europe: Political culture in new member states*. London: Rouledge.

Booth, J., & Seligson, M. (2008). *The legitimacy puzzle in Latin America: Political support and democracy in eight Latin American countries*. New York: Cambridge University Press.

Bratton, M., Mattes, R., & Gyimah-Boadi, E. (2004). *Public opinion, democracy, and market reform in Africa*. Cambridge: Cambridge University Press.

Chu, Y.-h., Diamond, L., Nathan, A., & Shin, D. C. (Eds.). (2008). *How East Asians view democracy*. New York: Columbia University Press.

Dalton, R., Shin, D. C., & Jou, W. (2007). Understanding democracy: Data from unlikely places. *Journal of Democracy, 18*(4), 142–156.

Gallup-International. (2007). *Voice of the people 2007*. www.umich.icpsr.edu. Accessed 23 July 2010.

Heath, A., Fisher, S., & Smith, S. (2005). The globalization of public opinion research. *Annual Review of Political Science, 8*, 297–331.

Inglehart, R. (2003). How solid is mass support for democracy-and how can we measure it? *PS: Political Science & Politics, 36*(1), 51–57.

Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change and democracy*. New York: Cambridge University Press.

Linz, J., & Stepan, A. (1996). *Problems of democratic transition and consolidation*. Baltimore: Johns Hopkins University Press.

Mattes, R. (2007). *Public opinion research in emerging democracies: Are processes different?* Afrobarometer Working Paper No. 67.

Millet, R., Holmes, J., & Perez, O. (Eds.). (2008). *Latin American democracy*. London: Routledge.

Norris, P. (2004). *From the civic culture to the afrobarometer*. Paper presented at the annual meeting of the American Political Science Association, Chicago.

Pew Research Center. (2003). *Views of a changing world 2003*. Retrieved July 23, 2010, from http://people-press.org/reports/display.php3?ReportID=185

Rose, R. (2009). *Understanding post-communist transformation: A bottom approach*. London: Routledge.

Rose, R., Mishler, W., & Haerpfer, C. (1998). *Democracy and its alternatives*. Baltimore: Johns Hopkins University Press.

Sen, A. (1999). Democracy as a universal value. *Journal of Democracy, 10*(3), 3–17.

Shin, D. C. (2007). Democratization: Perspectives from global citizenry. In R. Dalton & H.-D. Klingemann (Eds.), *The Oxford handbook of political behavior*. New York: Oxford University Press.

Tessler, M. (2002). Islam and democracy in the Middle East. *Comparative Politics, 34*(3), 337–354.

Democracy, Satisfaction with

Graciela Tonon
Universidad Nacional de Lomas de Zamora, Camino de Cintura, Argentina
Universidad de Palermo, Argentina Universidad Nacional de La Matanza, San Justo, Argentina

Synonyms

Satisfaction with how democracy works

Definition

The term *satisfaction with democracy* (SWD) emerges in relation to the discrepancy between how democracy should work and the way it actually works (Wagner et al., 2006). It is a concept that although it has been widely used, it has always suffered, at the same time, from considerable criticism because the various ways in which it has been used make it difficult to identify relationships between theoretical constructs and to identify relationships among variables. Authors like Clarke, Dutt, and Kornberg (1993) said that the term can be used as a summary indicator.

Description

It appears as an item in the Euro barometer for the first time in 1976 as a four-point scale with the question: *are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the way democracy works in our country*?. The results obtained in relation to the percentage of respondents who reported that they were "very satisfied" or "fairly satisfied" with democracy in a country's election year allowed the construction of the indicator called "citizen satisfaction"(Ezrow & Georgios, 1976–2003).

Canache, Jeffery and Seligson (2001) distinguished among different views of SWD: as an indicator of support for incumbent authorities (Dalton, 1999; Merkl, 1988); as an *indicator* of a system support (Anderson & Guillory, 1997; Fuchs, 1993; Fuchs, Guidorossi, & Svensson, 1995; Klingemann, 1999; Weil, 1989); as a summary indicator (Clarke, Dutt, & Kornberg, 1993), or as an acceptable ambiguity (Kaase, 1988) and unacceptable ambiguity (Norris, 1999). This study by Canache et al., developed in 18 nations, intends to provide a straightforward assessment in SWD trying to define what the item measures. The conclusion was that SWD reveals a lack of agreement in what it measures because multiple interpretations are possible regarding individuals, time, or space. For example, as individual levels mean different things, it depends on the level of knowledge about politics people have.

In a research study developed in 1993, in which the unit of analysis was the individuals, Clarke, Dutt and Kornberg found that SWD is correlated with support for the political community, with the regime and incumbent authorities, and with the thought that "SWD provides a useful overall summary measure of satisfaction with the existing democratic political system" (Clarke, Dutt, & Kornberg, 1993, 1003).

Fuchs (1993, p. 242) conducted a research study on the validity of SWD and concluded that it "constitutes a successful validation of the indicator as a measuring instrument for a generalized attitude toward the political system on the legitimacy dimension." Linde and Ekman (2003, p. 401) claimed that "satisfaction with the way democracy works is not an indicator of system legitimacy per se; rather it is one indicator of support for the performance of a democratic regime."

Wagner et al. (2006, p. 8) used SWD to know how democracy actually works in practice, but they recognized that although it is problematic to assess the level of legitimacy of democracy using SWD, this indicator is used in the major cross-national public opinion surveys to generalize the support for the democratic system.

It is necessary to distinguish the concepts of *democratic legitimacy* that is defined as the support for the principles of democracy

(Wagner et al., 2006); *system support* that concerns attitudes regarding the particular variant of democracy that exists within one's country (Canache et al., 2001, p. 6); and *support for democracy* as a form of government that concerns democracy at an abstract level (Canache et al., 2001, p. 6).

SWD does not try to capture whether people support the principles of democracy but rather how they judge it to work in practice in their concrete experience (Wagner et al., 2006, p. 8). Anderson and Guillory (1997, p. 70) said that SWD does not refer to democracy as a set of norms, but it refers to the functioning of democracy.

Norris (1999) argued against SWD on two levels, saying that it may mean different things to different persons and that the item is intrinsically value laden. In his study about the support for democracy, he considered five elements: political community, support for democracy as a form of government, regime performance or satisfaction with the way democracy actually functions, regime institutions, and political actors. The variable regime performance or satisfaction with the way democracy actually functions addresses the issue of what citizens think about the way democracy works in practice. There can be important differences between support for democracy as a principle and a view of a real-existing democracy.

Considering the relation between SWD and happiness, one should notice the study of Graham and Pettinato, Stefano (2000) in which the authors explored the demographic determinants of ▶ happiness in 17 countries of Latin America as well as the effects of macroeconomic trends and attitudes about the market on happiness, finding that SWD was correlated with higher levels of happiness.

In 2006, Wagner et al. developed a research study in which one of the hypotheses was that more happiness is associated with higher levels of SWD. They began with the assumption that happiness is an important determinant of SWD. The preliminary analysis using VARs suggested that "while happiness has a positive influence on SWD, SWD has virtually no statistically significant influence on happiness" (Wagner et al., 2006, p. 22). This introduced the question about what is more important for regime support: SWD or happiness.

Finally, the research studies developed till now showed that different authors had different opinions about the theoretical implications and consistency of SWD as a significant measure of how satisfied people are with democracy in the country where they live.

Cross-References

- ▶ Community Indicators
- ▶ Confidence in Government
- ▶ Democracy
- ▶ Happiness
- ▶ Indicators, Quality of Life
- ▶ Life Satisfaction, Concept of

References

Anderson, C. J., & Guillory, C. A. (1997). Political institutions and satisfaction with democracy: A cross-national analysis of consensus and majoritarian systems. *American Political Science Review, 91*, 66–81.

Canache, D., Jeffery, M., & Seligson, M. (2001). Meaning and measurement in cross-national research on satisfaction with democracy. *Public Opinion Quarterly, 65*, 506–528.

Clarke, H. D., Dutt, N., & Kornberg, A. (1993). The political economy of attitudes toward polity and society in Western European democracies. *Journal of Politics, 55*, 998–1021.

Dalton, R. J. (1999). Political Support in advanced industrial democracies. In P. Norris (Ed.), *Critical citizens. Global support for democratic government* (pp. 57–77). Oxford, UK: Oxford University Press.

Ezrow, L., & Georgios, X. Citizen satisfaction with democracy and parties' policy offerings: A cross-national analysis of twelve European party systems, 1976–2003. Forthcoming, *Comparative Political Studies*. http://privatewww.essex.ac.uk/ezrow/publications/Ezrow_Xezonakis_Citizen%20Satisfaction%20with%20Democracy%20and%20Parties%27%20Policy%20Offerings.pdf.

Fuchs, D. (1993). Trends of political support. In D. Berg-Schlosser & R. Rytlewski (Eds.), *Political cultural in Germany*. New York: St. Martin's.

Fuchs, D., Guidorossi, G., & Svensson, P. (1995). Support for the democratic system. In H.-D. Klingemann & D. Fuchs (Eds.), *Citizens and the state* (pp. 323–353). Oxford, UK: Oxford University Press.

Graham, C., & Pettinato, S. (2000). *Happiness, markets, and democracy: Latin America in comparative perspective*. Center on Social and Economic Dynamics (Working Paper No. 13 August).
Kaase, M. (1988). Political alienation and protest. In M. Dogan (Ed.), *Comparing pluralist democracies: Strains in legitimacy*. Boulder, CO: Westview.
Klingemann, H.-D. (1999). Mapping political support in the 1990s: A global analysis. In P. Norris (Ed.), *Critical citizens. Global support for democratic government* (pp. 31–56). Oxford, UK: Oxford University Press.
Linde, J., & Ekman, J. (2003). Satisfaction with democracy: A note on a frequently used indicator in comparative politics. *European Journal of Political Research, 42*, 391–408.
Merkl, P. (1988). Comparing legitimacy and values among advanced democratic countries. In M. Dogan (Ed.), *Comparing pluralist democracies*. Westview: Boulder, CO.
Norris, P. (1999). Introduction: The growth of critical citizens? In P. Norris (Ed.), *Critical citizens. Global support for democratic government*. Oxford, UK: Oxford University Press.
Wagner, A., & Schneider, F. (2006). Satisfaction with democracy and the enviroment in Western Europe. A Panel Analysis. IZA DP N°1929.
Weil, F. (1989). The sources and structure of legitimation in Western democracies: A consolidated model tested with time-series data in six countries since World War II. *American Sociological Review, 54*, 682–706.

Democratic Attitudes Measures: Cross-National Equivalences

Gal Ariely[1] and Eldad Davidov[2]
[1]Ben-Gurion University of the Negev, Beer-Sheva, Israel
[2]Institute of Sociology, University of Zurich, Zurich, Switzerland

Definition

Cross-national measurement equivalence (invariance) implies that the observation and study of some phenomenon across various countries yields measures of the same attributes. Cross-national measurement equivalence is a necessary condition to allow meaningful comparison of measures across different contexts. In this case, we focus on measuring public attitudes toward democracy across countries. As democracy is considered to be an important factor in assuring people's quality of life, examining the validity of a cross-national comparison of attitudes toward democracy is important for more accurate assessment of people's perceptions of democracy from a comparative perspective.

Description

Scholars of democracy have long assumed that a democratic system's stability depends upon its legitimacy – and therefore also upon the extent to which the public subscribes to democratic attitudes. Consequently, a wide range of literature has been devoted to measuring mass public attitudes toward democracy in different countries. The proliferation of cross-national research surveys like the New Democracies Barometer, the LatinoBarometer, the AfroBarometer, and the World Values Survey has extended scholarly abilities to explore democratic attitudes (Heath, Fisher, & Smith, 2005; Shin, 2007), and several scales such as the "democracy as an ideal form of government" scale (Klingemann, 1999) or the "realistic measures of democracy" scale (Mishler & Rose, 2001) have been constructed. The importance of measuring attitudes toward democracy across countries has created extensive discussion in the literature concerning the measurement of such attitudes and their employment in various studies (e.g., Canache, Mondak, & Seligson, 2001; Linde & Ekman, 2003; Mishler & Rose, 2001; Schedler & Sarsfield, 2007). However, the ongoing discussion in the literature regarding the operationalization of attitudes toward democracy has not paid sufficient attention to the challenges of cross-country and cross-cultural comparisons.

The challenges in cross-country comparisons of measures that are based on people's responses in a survey stem from the fact that such responses are affected by the dissimilar cultural and political contexts that might lead to different understanding of the questions in the survey or

to different response patterns. The comparability of cross-national surveys is also challenged by various methodological problems like translation and differences in survey practice that affect sampling and coverage (Curtice, 2007). This challenge increases as one expands the number of countries that are included in the survey.

Ariely and Davidov (2011) offer an extensive examination of cross-national equivalences for two democratic attitude measures in 36 countries that were included in the World Value Survey 2000 (WVS) (http://www.worldvaluessurvey.org). To date, the WVS is the only academic (nearly) global public opinion survey that covers over 80 % of the world population (Norris, 2009). The WVS 2000 covered established democracies like the USA and Canada as well as new democracies in Eastern Europe, Africa, and Latin America. Two scales were examined by Ariely and Davidov (2011). The Democracy-Autocracy Preference (DAP) scale was based on the question "I am going to describe various types of political systems and ask what you think about each as a way of governing this country. For each, would you say it is a very good, fairly good, fairly bad, or a very bad way of governing this country?: (1) Having a strong leader who does not have to bother with parliament and elections; (2) Having experts, not governments, make decisions according to what they think is best for the country; (3) Having the army rule; (4) Having a democratic political system." The Democratic Performance Evaluation scale (DPE) was based on the question "I am going to read off some things that people sometimes say about a democratic political system. Could you please tell me if you agree strongly, agree, disagree, or disagree strongly, after I read each one of them?: (1) In democracy, the economic system runs badly; (2) Democracies are indecisive and have too much quibbling; (3) Democracies aren't good at maintaining order; (4) Democracy may have problems but it's better than any other form of government."

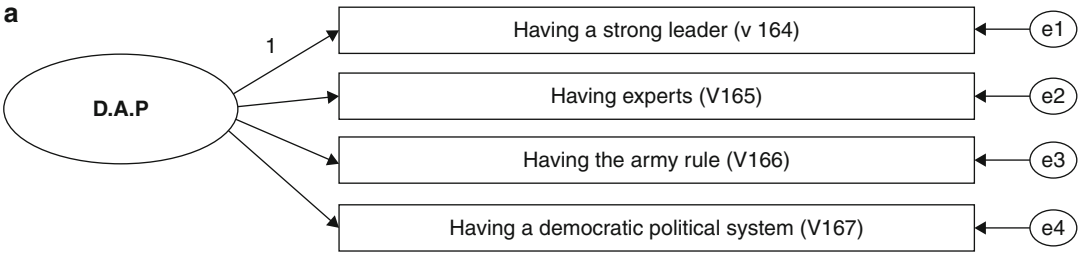
The scale comparability was examined by constructing a measurement model in each of the 36 countries in the sample, and the comparability of the scale across all countries was examined. Figure 1a and b illustrates the measurement models.

Confirmatory factor analysis (CFA) and multiple group CFAs were used to assess these measurement models (for an overview of several methods to conduct the test, see Davidov, Schmidt, & Billiet, 2011). CFA provides estimates of the relations between observed indicators and the hypothesized latent construct (factor) and provides fit indices that report whether the hypothesized structure of associations between a latent construct and its proposed indicators fits the data. Multiple group CFA provides information on whether parameters in the CFA are comparable across countries.

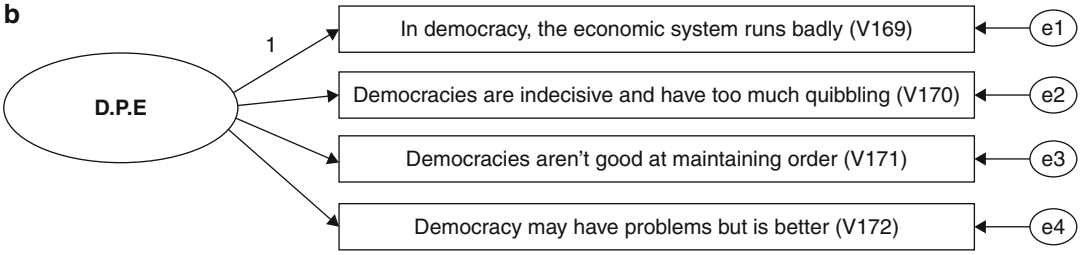
The test indicated that the four items in each scale did not measure the same construct across all countries. In other words, the four items underlying each scale did not display the same configuration of loadings in each country. Even after modification of the scales, Ariely and Davidov (2011) concluded that the scale comparability was rather limited. The DAP was valid across only 27 countries and the DPE scale across 35 countries. Furthermore, the level of comparability of the DAP scale did not allow comparison of the scale means across the 27 countries, and only the correlates (unstandardized regression coefficients, covariances) between this scale and other theoretical constructs of interest may be compared across countries. However, after dropping the question "Democracy is better than any other form of government," it was possible to compare the DPE scale means across 35 countries. Iran was the only country where also this scale did not work properly to measure attitudes toward democracy and compare them with other countries.

Discussion

Establishing measurement equivalence (invariance) is not a goal in itself. Nonetheless, without establishing equivalence, it is more difficult to conduct meaningful comparisons of attitudes toward



Note: V167 is a reversed indicator. V164 is a reference indicator. *Source:* Data are taken from the WVS 2000, *N*=51,067. Source: Ariely and Davidov (2011).



Note: V172 is a reversed indicator. V169 is a reference indicator. *Source:* Data are taken from the WVS 2000, *N*=51,067. Source: Ariely and Davidov (2011).

Democratic Attitudes Measures: Cross-National Equivalences, Fig. 1 (**a**) Confirmatory factor analysis model of Democracy-Autocracy Preference (DAP) scale. (**b**) The Democratic Performance Evaluation scale (Source: Ariely and Davidov (2011))

democracy based on accessible cross-national survey data. The results of Ariely and Davidov (2011) can be considered as a call for researchers to look more closely at the ways democratic attitudes are being measured and compared across different contexts. While cross-national survey projects like the WVS are an important source for analyzing mass attitudes toward democracy, overlooking the issue of measurement problems in general and measurement equivalence in particular might cast doubt on theoretical implications that are based on invalid measurement.

Cross-References

- ▶ Confirmatory Factor Analysis (CFA)
- ▶ Democracy
- ▶ Survey Research

References

Ariely, G., & Davidov, E. (2011). Can we rate public support for democracy in a comparable way? Cross-national equivalence of democratic attitudes in the World Value Survey. *Social Indicators Research, 104*(2), 271–286.

Canache, D., Mondak, J. J., & Seligson, M. A. (2001). Meaning and measurement in cross-national research on satisfaction with democracy. *Public Opinion Quarterly, 65*(4), 506–528.

Curtice, J. (2007). Comparative opinion surveys. In J. R. Dalton & H. Klingemann (Eds.), *Oxford handbook of political behavior* (pp. 898–909). Oxford: Oxford University Press.

Davidov, E., Schmidt, P., & Billiet, J. (Eds.). (2011). *Cross-cultural analysis: Methods and applications*. New York: Taylor and Francis.

Heath, A., Fisher, S., & Smith, S. (2005). The globalization of public opinion research. *Annual Review of Political Science, 8*, 297–333.

Klingemann, H. (1999). Mapping political support in the 1990s: A global analysis. In P. Norris (Ed.), *Critical citizens: Global support for democratic governance* (pp. 151–189). Oxford: Oxford University Press.

Linde, J., & Ekman, J. (2003). Satisfaction with democracy: A note on a frequently used indicator in comparative politics. *European Journal of Political Research, 42*(3), 391–408.
Mishler, W., & Rose, R. (2001). Political support for incomplete democracies: Realist vs. idealist theories and measures. *International Political Science Review, 22*(4), 303–320.
Norris, P. (2009). The globalization of comparative public opinion research. In N. Robinson & T. Landman (Eds.), *Handbook of comparative politics* (pp. 522–539). London: Sage.
Schedler, A., & Sarsfield, R. (2007). Democrats with adjectives: Linking direct and indirect measures of democratic support. *European Journal of Political Research, 46*(5), 637–659.
Shin, D. C. (2007). Democratization: Perspectives from global citizenries. In J. R. Dalton & H. Klingemann (Eds.), *The Oxford handbook of political behavior* (pp. 259–282). Oxford: Oxford University Press.

Democratic Politics

► Democracy and Bureaucracy

Democratic Quality of Government

► Good Governance and Happiness in Nations

Democratization and Islam

► Democracy and Islam in the Middle East

Democritus

Alex C. Michalos
University of Northern British Columbia, Prince George, BC, Canada
(residence) Brandon, MB, Canada

Birth, Education, Work History, and Main Contributions

According to Vlastos (1946, p.62), "Democritean ethics. . .[was]. . .the first rigorously naturalistic ethics in Greek thought." If a system of "naturalistic ethics" is understood as one in which all ethical terms or moral values are definable in nonethical terms or nonmoral values, it is unlikely that any fifth century BCE philosopher would have had the philosophic or scientific conceptual resources required to produce such a system. However, it is fair to say that if anyone could have produced such a system, Democritus of Abdera (c.460–c.370 BCE) would have done it and that the system he did produce was a brilliant attempt to provide a scientific foundation for claims about the best sort of life and the best sort of person.

The ultimate material building blocks of Democritus' universe were atoms, which were too small to be observed by human senses but were theoretically imagined to exist in an unlimited void; to be unlimited in number, shape, and size; and to be constantly in motion. The shapes were imagined to be rough or smooth, concave or convex, hooked, or otherwise irregularly constructed. As they moved, they would collide, and parts of some would fit nicely together with others, while still others simply became randomly and unstably entangled. Besides this random churning and clustering of the atoms, a primitive gravitational principle was supposed to operate such that atoms were attracted to others like themselves. The result of all this unobservable atomic activity in the limitless void was the formation of relatively well-formed, perceptible compounds, i.e., the world as observed by human senses, including all living things.

Human beings were thought to be unique clusters of compounds consisting of body and soul atoms which were equally material, although soul atoms were uniformly spherical like those constituting fire. The shape and smoothness of the atoms clustered together to form soul-compounds were supposed to account for the latter's capacity to initiate change and movement in itself and its body-compound. While the two compounds were supposed to be thoroughly integrated, the body was occasionally described as the "instrument" or "tent" of the soul, and the soul was clearly regarded as "the responsible agent." Since souls and bodies were essentially thoroughly integrated compounds, the death of a human being implied

the dispersion of the atoms constituting those compounds. Therefore, there were no immortal souls in Democritus' universe. There were, however, "daemons" (i.e., daimones), as indicated in the fragment "The soul is the dwelling-place of the daemon," which Vlastos (1945, p.582) interpreted as "in the soul you will find the only daemon there is to find." Since such beings were not supposed to be immortal, their existence could have been granted by an atomist, provided that the supremacy of natural laws and/or mechanisms were unchallenged.

Human sensation of all kinds was reduced to the sense of touch insofar as seeing, hearing, and so on were supposed to be the result of the atoms of observed objects impacting those of sensory organ-compounds, which in turn impacted the atoms of soul-compounds. Important as sense perception was to one's knowledge of the world, it was notoriously unreliable. A fragment attributed to Democritus by Sextus Empiricus asserted that "we in fact understand nothing exactly [or exact], but what changes according to the disposition both of the body and of the things that enter it and offer resistance to it" (McKirahan, 1994, p.334). Two fragments provided by McKirahan (1994, p.335) reveal that our hard-headed empiricist, materialist atomist had a significantly rationalist commitment to his theoretical speculations.

> "There are two kinds of judgment, one legitimate and the other bastard. All the following belong to the bastard: sight, hearing, smell, taste, touch. The other is legitimate and is separated from this. When the bastard one is unable to see or hear or smell or taste or grasp by touch any further in the direction of smallness, but < we need to go still further > toward what is fine, <then the legitimate one enables us to carry on > . . .By convention [or, custom], sweet; by convention, bitter; by convention, hot; by convention, cold; by convention, color; but in reality, atoms and void."

By implication and direct assertion, Democritus' metaphysics and epistemology provide a plausible foundation for his views of the ▶ good life and the best sort of person to be. It was generally assumed by the medical scientists of his time that mental functioning was partly a function of bodily functioning and that both were influenced by external physical and social conditions as well as by individuals' internal conditions. For example, it was believed that excessively hot and cold winds, or "violent organic motion is injurious to health in general and mental health in particular" (Vlastos, 1945, p.583). According to Democritus' theory, good health was a function of a kind of "dynamic equilibrium" or harmonious balance among the internal atoms of an individual and the external atoms of his or her environment. Excessively hot winds disorganized the routine movement of bodily atoms. Cooler winds and physical rest contributed to "a tight, stable condition of the bodily atoms," while excessively cold winds produced a kind of atomic paralysis. "A soul unbalanced by too much heat or too much cold would go out of its mind" (Vlastos, 1945, p.585). In short, all observable mental and physical disorders could be explained by unobservable disordered and discordant atomic activity, while observable human well-being could be explained by unobservable orderly and harmonious atomic activity. These views were consistent with the views of Anaxagoras of Clazomenae (c.500-428BCE) expressed in a fragment claiming that appearances provide a clue to the nature of reality and with the Pythagorian view of the importance of harmony.

Clearly, a good life implied by these principles would be a life free of excesses, guided by intelligent self-control, which were aspects of a good life later warmly endorsed by Socrates, ▶ Plato, ▶ Aristotle, and ▶ Epicurus. A fragment attributed to Democritus by Diogenes Laertius asserted that "the goal of life is cheerfulness, which is not the same as pleasure. . .but the state in which the soul continues calmly and stably, disturbed by no fear or superstition or any other emotion" (McKirahan, 1994, p.339). Another fragment asserted that

> cheerfulness arises in people through moderation of enjoyment and due proportion in life. Deficiencies and excesses tend to change suddenly and give rise to large movements in the soul. Souls which undergo motions involving large intervals are neither steady nor cheerful. (McKirahan, 1994, p.338)

Some commentators have interpreted Democritus' notion of "cheerfulness" as "tranquility,"

"unperturbedness," "calm," or "undismay," but Vlastos (1945, p.583) thought that the state of the soul intended to be captured by "cheerfulness" was not "a passive state but...a dynamic quality, able to withstand external shock without losing its inner balance." He also claimed that fifth century BCE writers commonly assumed that ▶ pleasure was necessary for a good life. More precisely, Democritus seems to have provided a relatively more rigorous scientific account of at least some of the common sense of his time. In Vlastos' words, the philosopher found

> . . .a hygienic view of pleasure ready to hand. He does not have to enunciate either the doctrine that pleasure is the normal concomitant of well-being and pain of the reverse; nor of the corollary that, therefore, the quest for pleasure should be assimilated to the discipline of the 'measure'. This latter was also implicit in the theory and practice of contemporary medicine. 'To live for pleasure' is the medical term for the haphazard, unregulated life, the negation of medical regimen. The doctor would have to advise – in the very words of Democritus. . .'accept no pleasure, unless it agrees with you'. The word. . .used here is the key concept of Hippocratean regimen: it denotes what is in harmony with nature and is thus essential in preserving and restoring health. It is interesting to see that. . .nearly all the normative terms of Democritean ethics. . .are also used by the medical writers to express the conduciveness of any process or act (whether of the body itself, or of its natural environment, or of the physician) to the state of health. (Vlastos, 1945, p.587)

As explained in Michalos (2004), there is significant and sometimes troublesome overlap in the World Health Organization's robust definition of health as "complete physical, mental and social well-being" and the idea of a good quality of life or a good life, all things considered. The confounded notion of ▶ health-related quality of life and the research tradition based on that notion suffer severely from the overlaps. It is at once extremely interesting and distressing to discover the age of this particular set of problems.

Democritus and his contemporaries had the necessary conceptual tools to distinguish real paradise from a ▶ fool's paradise. In the former, cheerfulness included pleasures, and these were the products of atomic activity that was sustainably harmonious, while in the latter, experienced pleasures fell short of cheerfulness and were the products of atomic activity that was not sustainably harmonious. The real paradise that one aimed for had equally important observable and unobservable aspects.

Democritus said that "teaching re-forms a man, and by re-forming, makes his nature," and Vlastos (1946, p.55) commented that "the concept of nature as itself the product of teaching and custom is not unique in Democritus. It is the common property of the age." This common notion implied that individuals were partly responsible for their own lives and that with proper training and individual initiative one could increase one's self-sufficiency and decrease one's vulnerability to chance mishaps. Democritus recommended "hard work" partly in the interests of obtaining these latter two goods, but also to obtain the pleasure of ▶ achievement. He was opposed to drunkenness, ▶ anger, and all kinds of self-indulgence. One of his fragments says that "one must not respect others any more than oneself, and not do evil if no one will know about it any more than if all men will. But respect yourself most of all, and let this be established as a law for your soul, so that you will do nothing unseemly" (Kahn, 1998, p.36). Dedicated scientist and philosopher that he was, he also valued wisdom of the most practical sort. "'Wisdom' is the understanding of what is possible within the limits of what is necessary. It is, therefore, in the first place a shrewd, sharp-eyed knowledge of affairs which can 'direct most things in life'" (Vlastos, 1946, p.61).

Finally, it must be recorded that Democritus was the first philosopher to recommend downward comparisons as part of a strategy for attaining happiness. In a fragment quoted by Kahn (1998, pp.34–35), he said,

> . . .one should keep one's mind on what is possible and be satisfied with what is present and available, taking little heed of people who are envied and admired and not fixing one's attention upon them, but observe the lives of those who suffer and notice what they endure, so that what you presently have will appear great and enviable and you will no longer suffer evil in your soul by desiring more than you have...[One should] compare one's life

> to those who are less fortunate and count oneself happy by considering what they suffer and how much better your own life is. If you hold fast to this frame of mind, you will live more cheerfully and drive not a few plagues from your life: envy and jealousy and ill-will.

Insofar as he believed that this strategy was based in some aspect of human nature, Democritus should also be regarded as the founder of downward comparison theory as elucidated, for example, in Wills (1981). Since this theory is a species of the more generic social comparison theory (Merton & Kitt, 1950), Democritus may be considered the founder of the latter as well.

Cross-References

- ▶ Hedonism
- ▶ Multiple Discrepancies Theory
- ▶ Quality of Life, Two-Variable Theory
- ▶ Social Indicators

References

Annas, J. (1993). *The morality of happiness*. Oxford: Oxford University Press.

Aristotle (1999). Nicomachean ethics. In T. Irwin (Ed. & Trans.), (2nd ed.,). Indianapolis: Hackett Pub. Co.

Dover, K. J. (1974). *Greek popular morality in the time of Plato and Aristotle*. Indianapolis, IN: Hackett Publishing.

Kahn, C. H. (1998). Pre-platonic ethics. In S. Everson (Ed.), *Companions to ancient thought: 4, Ethics*. Cambridge: Cambridge University Press.

McKirahan, R. D. (1994). *Philosophy before Socrates: An introduction with texts and commentary*. Indianapolis, IN: Hackett Publishing.

Merton, R. K., & Kitt, A. S. (1950). Contributions to the theory of reference group behavior. In R. K. Merton & P. F. Lazarsfeld (Eds.), *Continuities in social research* (pp. 40–105). New York: The Free Press.

Michalos, A. C. (2004). Social indicators research and health-related quality of life research. *Social Indicators Research, 65*(1), 27–72.

Vlastos, G. (1945). Ethics and physics in Democritus: Part one. *Philosophical Review, 54*, 578–592.

Vlastos, G. (1946). Ethics and physics in Democritus: Part two. *Philosophical Review, 55*, 53–64.

Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin, 90*, 245–271.

Demographics

Patricia Lucero
Study Group on Population and Territory, Department of Geography, The University of Mar del Plata, Mar del Plata, Argentina

Synonyms

Demography

Definition

The main object of demography according to Wrong (1971) is to determine the number and distribution of individuals in a given area, the study of changes of its volume and its distribution during a given period of time, and the main factors that cause such changes. In the following document, I briefly consider the convergence between demographic research and the degree in which we allocate the welfare state of the population, in the context of the individual and everyday framework of life, and in the respect for human rights.

Description

The human being is the indivisible element that is the essence of the demographic phenomena. When it is said that he is born, lives some time, in the course of which he reproduces, he develops, and finally he dies, the essence of the object of analysis of the demography has been defined.

This "demographic man" transforms his situation in short periods of time: adds 1 year on each anniversary, looks to acquire knowledge and sociability, changes his marital and civil status, brings up and transmits values and living conditions to their offspring, produces goods and services through social and domestic work, changes his place of residence, or moves in their everyday territory.

However, in the grouping of individuals who constitute a population with some social significance, that is to say, share a territory recognized by political, economic, urban or rural settlement forms, etc., and that are sufficiently large as a body for analysis, demographic changes are carried out in the medium and long-term, due to the inertia which characterizes the combination between the components of the structure (in particular sex and age) and the dynamic variables (particularly natality and mortality).

The world's population is estimated at 7 billion in 2011. The United Nations (2004) projects a growth in its moderate version that would take it to 9 billion people in 2050. On a similar average hypothesis, that amount would remain until 2300. Nevertheless, the ups and downs or the breakup of the general downward trend of fertility would have a maximum perspective of 36.4 billion earthlings in 2300.

On the problem of the population growth, one of its most recognizable forerunners, Malthus (1951), outlined as its main object to examine the effects of a great cause that has so far prevented the evolution of humanity into "happiness": the steady trend of life to increase, through breeding, beyond what survival resources allow.

On the other hand, the geographical distribution of the population will continue to strengthen present gaps today: every ten inhabitants of our global village, only one is found in the regions of greater relative development, while nine other citizens are living in countries where human needs augment. Moreover, within these two major sets of territories, social polarization is very intense. The thoughts of George (1969) warned about the most inevitable of the sources of inequality among men, which is the place of birth, being a country or a social class of membership.

Vallin (2002) proposes the creation of knowledge for these contemporary challenges: new theories to understand, explain, and predict the future; meet the economic, social, and political consequences of population growth among the poor social strata; clarify the underlying factors of population aging, its extension and impact on societies; consider the withdrawal of fertility, its relations with the changes in the family and the life cycle; pay attention to international migration, in the context of the countries where income grows and countries where misery grows; and inquire about the links between demography and human rights.

For Héran (2007) the demography opens its eyes and raises two major aspects to its research: macro-demography which works from above and from a distance and the micro-demography which asks people and restores the essence of their paths of life.

We need to think and plan a world for a few million more inhabitants. I wonder together with Lassonde (1997) what quality of life will there be then? These reflections seek to find the point of convergence between demographic research and well-being for all the inhabitants of planet Earth.

Cross-References

- Death Rate
- Density, Urban
- Distributive Justice
- Economic and Social Indicators
- Economic Well-Being
- Fertility Plans/Intentions
- Fertility Rate
- Migration, an Overview
- Mobility
- Mortality Rates
- Net Reproduction Rate

References

George, P. (1969). *Geografía Urbana*. Ariel Editorial. Barcelona, España.

Héran, F. (2007). El porvenir de la población mundial: perspectivas demográficas, perspectivas éticas. En: *Estudios Demográficos y Urbanos*. Vol. 21, Número 1(61), Págs.161–187.

Lassonde, L. (1997). *Los desafíos de la Demografía. ¿Qué calidad de vida habrá en el siglo XXI?* México: Universidad Nacional Autónoma de México – Fondo de Cultura Económica.

Malthus, T. (1951). *Ensayo sobre el principio de la población*. Fondo de Cultura Económica. Primera Edición en inglés, 1798. México: Primera Edición en español.

Naciones Unidas. (2004). *World population to 2300*. New York: Department of Economic and Social Affairs, Population Division. (On line: WorldPop2300final,pdf‘).
United Nations. (2004). www.un.org/esa/population/publications/.../WorldPop2300final.pdf
Vallin, J. (2002): Alocución en la sesión de clausura de la Conferencia General de Población de la UIECP. En: *Notas de Población* N°74. Chile: EPAL-CELADE. Págs.19–26.
Wrong, D. (1971). *La Población*. Buenos Aires: Editorial Paidós.

Demography

► Demographics

Denial

► Deprivation

Denmark, Quality of Life

Bent Greve
Department of Society and Globalisation, Roskilde University, Roskilde, Denmark

Definition

Denmark is a Nordic welfare state often characterized by a universal welfare state with a high level of equality, including gender equality, and a high level of taxation and public sector expenditure, full employment, and access to the labor market for most people. Denmark is also often portrayed as one of the happiest societies in the world.

Description

Introduction

The core issue to be discussed here is why it can be possible that Denmark with one of the most extensive welfare states in the world and also a relatively high level of taxes and duties at the same time can be among the countries that are often portrayed as the happiest nation in the world. This is relatively consistent across analysis using data from World Database on Happiness and European Social Survey, but also studies taking their departure in certain social indicators often depict Denmark in the top with regard to well-being and social cohesion. Denmark is at the same time one of the countries with the highest degree of equality and a low degree of wage differentiation (Scharpf, 2000). An obvious problem related to studies of happiness is how the causal relation is, for example, is it due to, marriage that we become happier or tend happier people to have a better chance to get a partner?

Happiness and well-being can have relative as well as absolute elements and are also influenced by the adaptation to the level of goods and services already received. Furthermore, there might be an impact derived from the fact that we have expectation of more also in the future. Despite these aspects which also have an impact on the citizens in Denmark, it seems that this has not been strong enough to have a negative impact on the level of happiness nor on Denmark's position as one of the happiest nations in the world. This do not have as implication that, for example, there is no pressure on the welfare state as the expectation seems to be that there is a continuous wish for more goods and services from the welfare state. Theoretical understanding of happiness will albeit not be the focus of this entry.

Some Empirical Elements for Denmark

In the following will be described happiness in Denmark based upon certain parameters, especially building upon data from the European Social Survey. Parameters chosen are those often used when trying to describe and analyze happiness in the literature. The presentation below is mainly based upon the analysis in Greve (2010b) and Greve (2010a).

The chosen parameters follow the often used parameters when wanting to describe and analyze

what factors might have an impact on happiness, cf. for an overview especially based upon the World Database on Happiness (Veenhoven, 2011). The presentation will further be related to the welfare state and the degree of equality as this also seems to have an impact. Data used for the analysis are mainly coming from the European Social Survey.

The relation between age and happiness is often described as a U-curve, for example, happy in the young years, less so in the middle, and again in the old age, which also reflect different ways of being able to interpret the actual and lived life. However, age does not seem to have a central role with regard to happiness in Denmark as it has in other countries, albeit a slight relation can be found. This slight relation follows the u-shaped pattern.

Religious affiliations also to a lesser degree than in other countries have an impact, for example, religious people in Denmark are no more happier than nonreligious persons. This can reflect that Denmark normally is not perceived as a very religious country and that religion plays a more limited role in everyday life in Denmark.

In another area where Denmark deviates is with regard to the case for being married/not married, although married people are happier. Family relations thus on the one hand do not seem to make any strong difference. However, a problem for the analysis being that many of those who are single is elderly women who still perceive that throughout their life they have had a good life despite having lost their relative. They are thus presumably more able than a young single person to consider the impact of their whole life situation and development.

In Denmark, as in many other countries, there is a relation between aspects such as perceived health, level of education, and having social contacts. These elements seem all to add to the degree of happiness. The same is the case for income, as also at least to a certain level is the case when comparing countries (Easterlin, 2001), cf. also the Easterlin paradox. So having a good health will improve the level of happiness and improve the situation for the family. Ways to increase a healthy life-style, including using nudging as understood by Thaler and Sunstein (2008), can thus have a double function. Better health can improve the quality of life and the average life expectancy and presumably also in the longer run reduces the pressure on welfare state spending in the area of health care.

Increase in the level of education will also improve the level of happiness; again, the specific causal relation is not clear. However, it seems reasonable that people with higher level of education often have a higher income, can participate in decision making in society, and are also less frequent unemployed. This especially due to that being unemployed can have a negative impact on the level of happiness, especially if the level of economic security is low. This can thus be one reason for that a relatively generous welfare state also helps in promoting people's happiness by that they are at least guaranteed some minimum decent type of life-style and standard.

The impact on happiness of security do not only relate to economic security but also security in the broader sense, such as the ability to walk outside one's home also in the evening and not being afraid. This shows a clear example of that, for example, more police on the street from a happiness viewpoint can be important, whereas this might not be the case from an economic perspective as more police on the street not necessarily reduces the crime rate.

Those not born in Denmark are less happy than those born in Denmark. This being an indication of that integration of migrants and presumably also descendants has not been successful, and this also emphasizes that social inclusion is an important aspect in relation to be happy. The impact of social inclusion, for example, being part of the wider society, is also underlined by that having social contacts increases the likelihood of being a happy person.

What Are the Drivers for Happiness?

Why is it so that a welfare state as Denmark is happier than other countries? One argument being that the welfare state with its emphasis on

social cohesion, options for social inclusion, and a high degree of equality makes more people happy than in other countries. Some, cf., for example, Veenhoven (2011), are arguing that this is not the case. However, based upon data, among other, from European Social Survey, it can be argued that the welfare state has a central role (Greve, 2010b). This can be due to that the welfare state in Denmark does ensure a decent life-style, and fewer than in other countries is living below the poverty line, and many of those below the EU line could in fact relatively easily be raised above as they are close to the line. For example, as slight increase in the support to old-age persons who have an income below the line could for a small amount be raised above the line.

The Danish welfare state has further have had an ambition of a high degree of equality not only in relation to be on the labor market but also with regard to that both men and women should be equal, including in their access to the labor market and be able to combine work and family life. The Nordic welfare states, including the Danish, have also had a clear focus on policies to reduce the level of unemployment, and there is in general, with variations over the years, a low level of unemployment in Denmark compared to other countries. Given that being unemployed have a negative impact on the degree of happiness, this also helps in explaining why Denmark is a happy nation.

Furthermore, it also has an impact that Denmark is one of the richest countries in the world given that a higher income is related to a higher level of happiness, albeit when first having reached a high level of income will only more limited have an impact. The implication being that having a high level of income also has an impact on Danes being a happy nation.

Danes do also have a high level of trust to each other and also trust in the political administrative system. For example, there is no fear of that some might be treated better than others, but that the administration and political decision making is fair and equitable, this naturally without all being in agreement of the policies and practices in the Danish welfare state. Denmark is further a country with a long tradition for finding solutions and consensus not only on the labor market but also in the wider society. The implication is that most people find that decisions taken are based upon and taken care of not only the majority but also the minority.

It might thus further also have an impact that Denmark is a relatively coherent society often depicted by foreigners for its coziness (hygge) as central for Danes life-style. The combination of a cohesive society where only few people say that they are often feeling being alone or without any friends or relatives to talk with has a positive impact on the level of happiness. In recent years, discussion related to the position of immigrants in Denmark might have a negative impact, cf. also as shown above that migrants are less happy than ethnic Danes.

Still, it is often discussed whether the state in itself can make decisions with an impact on the level of happiness. The answer seems to be that this is possible, although the cause and effect will not always be clear. A society, at least in Europe, might be ensuring an equal, stable democracy with a high level of employment, and security could have a positive impact on the level of happiness. This can also, as argued above, be the case if the society by individual paternalism nudges people to a healthier life-style. This can be done, for example, by making access to healthy diets more easy and by making an active life-style easier.

Policies that ensure stability and high degree of both economic and personal security and further support and increase the likelihood of a cohesive society will thus increase the possibility that Denmark will continue to be one of the happiest societies in the world. The Danish welfare state seems thus continuously be the story of the bumblebee that can fly.

Cross-References

- ▶ Easterlin Paradox
- ▶ Happiness
- ▶ Utility

References

Easterlin, R. A. (2001). Income and happiness. Towards a unified theory. *Economic Journal, 111*, 465–484.
Greve, B. (Ed.). (2010a). *Happiness and social policy in Europe*. Cheltenham: Edward Elgar.
Greve, B. (2010b). *Et lykkeligt land? – Hvad skal der til og kan velfærdssamfundet bidrage?* København: Nyt fra Samfundsvidenskaberne.
Scharpf, F. W. (2000). The viability of advance welfare states in the international economy: Vulnerabilities and options. *Journal of European Public Policy, 7*(3), 346–368.
Thaler, R. H., & Sunstein, C. R. (2008). *Nudge. Improving decisions about health, wealth and happiness*. New Haven/London: Yale University Press.
Veenhoven, R. (2011). *World database on happiness. Example of a focused 'Findings Archive'*. RatSWD, Working Paper no. 169.

Density, Urban

Paul Hess
Department of Geography and Planning, University of Toronto, Toronto, ON, Canada

Synonyms

Population intensity; Urban compactness; Urban concentration

Definition

Urban density is a concept used in ▶ city planning, urban studies, and related fields to describe the intensity of people, jobs, housing units, total floor area of buildings, or some other measure of human occupation, activity, and development across a defined unit of area. In general terms, urban density describes the degree of concentration or compactness of people or development in a city.

Description

The density of cities is relevant to a broad range of issues related to the quality of urban life including "environmental quality, transportation systems, physical infrastructure and urban form, social factors, and economic factors" (Churchman, 1999, p. 398). As such, urban density is a major preoccupation of urban planning. Modern ▶ zoning systems developed in the early twentieth century were partly intended to limit congestion, the shadowing of streets, and other adverse effects of very dense buildings and to promote lower-density, healthier residential environments that provided light and air in new suburban areas (Fischler, 1998). More recently, zoning has been critiqued for promoting "suburban sprawl" (Levine, 2006), a low-density style of urban growth that is expensive to service with roads and other urban infrastructure and does not support transit use (Ewing, 2008). Therefore, many urban regions have developed ▶ Smart Growth policies that have increasing densities as a central goal in order to reduce land consumption and improve urban ▶ sustainability (Ingram, Carbonnel, Hong, & Flint, 2009).

Measurement Issues

Urban density is calculated as a measure of population or urban development divided by a measure of land area. Population per square kilometer, dwelling units per hectare, and the total floor space contained in a building divided by the area of the building parcel (known as a floor area ratio or floor space index) are common measures of density, although many others are also in use. Area calculations may include all land, giving a measure of gross density, or some categories of land such as undeveloped land may be excluded, giving a net measure. The combination of what is measured and the scale of the area across which measurement takes place depends on policy or research goals.

The density of cities varies tremendously, both within their territories and in comparison to each other. For example, using rough figures for the gross population density for built-up areas, Mumbai has a density of almost 40,000 people per square kilometer, while Atlanta has only 600 (Bertaud & Richardson, 2004). Such comparisons are difficult to make and interpret, however, as there are many complications to measuring density.

One issue is that a static measure is used to capture a dynamic phenomenon. Population density, for example, is typically measured at people's place of residence, even though people are mobile and population densities vary throughout a city over time as people move around for work or for other purposes. Likewise, relationships between different density measures are not stable, making conversions difficult. A measure of dwelling units per acre, for example, cannot be translated into a population density without also knowing household size, but these relationships change from place to place and over time.

A second set of issues has to do with how area boundaries are defined for calculating densities. If boundaries are changed, moving a patch of high-density development from one zone to another, the measured density of each will change, even though the underlying data is the same (Openshaw & Taylor, 1981). At the metropolitan scale, edge effects come in to play because different boundary definitions capture different amounts of undeveloped land, thereby affecting measured densities.

Similarly, because density measures are an average, they obscure important internal variation. For example, some urban regions may have very dense centers, with densities dropping rapidly toward the periphery of the area (known as a steep density gradient), while others have a more even distribution. These differences are important to how cities function and how people experience urban environments. Using the US census data, for example, the Los Angeles urbanized area has a higher population density than does the New York urbanized area, even though centralized New York is usually thought of as very dense compared to decentralized Los Angeles.

Finally, there is little consistency in what categories of use are included or excluded in net measures of density. Forsyth (2003), for example, identifies at least six ways of defining net residential density. Some net measures only include land in residential use, others include local park and school sites, and some add the area of local streets. Generally, the more land that is netted out, the higher the resulting density measurement will be. Even definitions of what constitutes gross density vary from place to place.

Research, Policy, and Quality of Life

Despite these complexities, urban density is widely seen as an important measure of the structure and character of cities. Modern models of urban density were developed in the 1960s describing the rate at which population densities decline from a city center as a measure of a city's internal structure and suburbanization (Smith, 1997). Originally based on gravity functions, these models have been complicated over time to describe non-monotonic density gradients (Hess, Sorensen, & Parizeau, 2007). Such research on density gradients is not typically oriented toward policy development (McDonald, 1989).

In contrast, much research on urban density is closely linked to questions of policy and concerns over living conditions. Early twentieth-century reformers worried that crowding and the lack of privacy associated with high-density development negatively affected moral development and family life (Dennis, 1994). These concerns continued into the 1960s and 1970s when researchers examined the social and psychological impacts of density including perceptions of crowding (Fischer, Baldassare, & Ofshe, 1975). In the 1980s and 1990s, researchers turned to ecological issues, with rising concerns over the impacts of low-density development (Churchman, 1999).

In the 1990s, for example, urban planners sought to understand whether urban form could be used to reduce automobile use, fuel consumption, and air pollution. Density was a key variable in these studies, most of which showed modest declines in automobile use with increases in density (Badoe & Miller, 2000). This work has continued in the 2000s with a ▶ public health focus. In English-speaking countries particularly, low levels of ▶ physical activity and rapidly rising rates of obesity have led to renewed efforts to understand relationships between the form of cities and behavior. One focus of this work is to encourage "active travel," particularly walking, to build more physical activity in to people's daily travel routines. Density, along with network connectivity and mixed land use, is seen as a key to

bringing activities closer together, reducing travel distances, and encouraging walking (Handy, Boarnet, Ewing, & Killingsworth, 2002).

These efforts to understand the behavioral impacts of urban density are complicated by many methodological issues. It is difficult, for example, to separate the direct effects of density from other characteristics of urban environments that are important to behavioral choices. Very high-density places, for example, also tend to have good sidewalk systems, high levels of transit service, limited parking, and challenging conditions for driving. Without the right synthesis of multiple factors, behavioral change is unlikely. Studies have also identified "self-selection," as a significant issue, whereby some people seek to live in neighborhoods that support their preexisting preferences for walking, using transit, or driving (Schwanen & Mokhtarian, 2005). Such complexities of real urban places are difficult to statistically disentangle, and research efforts are not conclusive.

Still, many current policy initiatives assume that increasing urban densities will help achieve multiple planning goals including reducing energy consumption by reducing auto use and through the use of compact, efficient building types; preserving agricultural land, open space, and ecologically important areas; and increasing the liveability of cities by creating walkable, vibrant communities (Churchman, 1999). Urban growth boundaries, urban greenbelts, density and infill targets, and transit investment to stimulate concentrated development are all examples of policy tools intended to increase urban densities. The effectiveness of these efforts is mixed (Anthony, 2004; Ingram et al., 2009). Some jurisdictions such as Portland, Oregon, and Vancouver, British Columbia, are well known for their ▶ Smart Growth regimes, but the density of most urban regions in North America and Western Europe has been stable or declining over time (Sokoo, 2007; Schneider & Woodcock, 2008).

Smart Growth goals can also be contentious (Bourne, 1996; Gordon & Richardson, 1997; Neuman, 2005). Low-density, auto-based suburban and exurban residential environments with ample open spaces are considered desirable and are sought out by many people (Davis, Nelson, & Dueker, 1994), and development associated with increasing density is often associated with local traffic congestion and can threaten or directly destroy the character of existing places. It is, therefore, often opposed by existing residents. Likewise, for those that prefer suburban and rural settings, dense urban environments are often associated with crowding, ▶ noise, dirt, pollution, ▶ crime, and other types of social insecurity (Robin et al., 2007).

For other demographic groups, however, urban neighborhoods with densities that support a variety of services, stores, and an active street life are considered desirable, and some cities in North America and Europe are experiencing moderate increases in their central city populations (Haase et al., 2010). Such reurbanization is also connected to inner-city ▶ gentrification, with the displacement of lower income populations, often by new professionals seeking out and upgrading older residential areas (Slater, Curran, & Lees, 2004). These changes are linked to structural economic reorganization and demographic change such as declining birthrates and smaller households. Changing urban density and its relationship to quality of life is, therefore, closely connected to fundamental social and economic change.

References

Anthony, J. (2004). Do state growth management regulations reduce sprawl? *Urban Affairs Review, 39*(3), 376–397.

Badoe, D. A., & Miller, E. J. (2000). Transportation-land-use interaction: empirical findings in North America, and their implications for modeling. *Transportation Research Part D: Transport and Environment, 5*(4), 235–263.

Bertaud, A., & Richardson, H. W. (2004). Transit and density: Atlanta, the United States and Western Europe. In H. W. Richardson & C. Bae (Eds.), *Urban sprawl in Western Europe and the United States*. Aldershot/Hants/Burlington, VT: Ashgate.

Bourne, L. (1996). Reurbanization, uneven urban development, and the debate on new urban forms. *Urban Geography, 17*(8), 690–713.

Churchman, A. (1999). Disentangling the concept of density. *Journal of Planning Literature, 13*(4), 389–411.

Davis, J. S., Nelson A. C., & Dueker, K. J. (1994). The new burbs: The exurbs and their implications for planning policy. *Journal of the American Planning Association, 60*(1), 45–59.
Dennis, R. (1994). Interpreting the apartment house: Modernity and metropolitanism in Toronto, 1900–1930. *Journal of Historical Geography, 20*(3).
Ewing, R. (2008). Characteristics, causes, and effects of sprawl: A literature review. In J. M. Marzluff (Ed.), *Urban ecology: An international perspective on the interaction between humans and nature*. New York: Springer.
Fischer, C. S., Baldassare, M., & Ofshe, R. J. (1975). Crowding studies and urban life: A critical review. *Journal of the American Planning Association, 41*(6), 406–418.
Fischler, R. (1998). The metropolitan dimension of early zoning: Revisiting the 1916 New York City ordinance. *Journal of the American Planning Association, 64*(2), 170–188.
Forsyth, A. (2003). *Measuring density: Working definitions for residential density and building intensity*. Minneapolis, MN: Design Center for American Urban Landscape.
Gordon, P., & Richardson, H. (1997). Are compact cities a desirable planning goal. *Journal of the American Planning Association, 63*(1), 95–106.
Haase, A., Kabisch, S., Steinfuhrer, A., Bouzarovski, S., Hall, R., & Ogden, P. (2010). Emergent spaces of reurbanisation: Exploring the demographic dimension of inner-city residential change in a European setting. *Population, Space and Place, 16*, 443–463.
Handy, S. L., Boarnet, M. G., Ewing, R., & Killingsworth, R. E. (2002). How the built environment affects physical activity: Views from urban planning. *American Journal of Preventive Medicine, 23*(2), 64–73.
Hess, P., Sorensen, A., & Parizeau, K. (2007). *Urban density in the greater golden horseshoe*. Toronto: Cities Centre, University of Toronto, Research Paper. http://www.citiescentre.utoronto.ca/publications/Research_Papers.htm. Accessed June 2011.
Ingram, G. K., Carbonnel, A., Hong, Y., & Flint, A. (2009). *Smart growth policies: An evaluation of programs and outcomes*. Cambridge, MA: Lincoln Institute of Land Policy.
Levine, J. (2006). *Zoned out: Regulation, markets, and choices in transportation and metropolitan land-use*. Washington, DC: Resources for the Future.
McDonald, J. (1989). Econometric studies of urban population density: A survey. *Journal of Urban Economics, 26*, 361–385.
Neuman, M. (2005). The compact city fallacy. *Journal of Planning Education and Research*, *25*(1), 11–26.
Openshaw, S., & Taylor, P. (1981). The modifiable areal unit problem. In N. Wrigley & R. Bennett (Eds.), *Quantitative geography: A British view* (pp. 60–69). London: Routledge and Kegan Paul.
Robin, M., Matheau-Police, A., & Couty, C. (2007). Development of a scale of perceived environmental annoyances in urban settings. *Journal of Environmental Psychology*, *27*(1), 55–68.
Schneider, A., & Woodcock, C. E. (2008). Compact, dispersed, fragmented, extensive? A comparison of urban growth in twenty-five global cities using remotely sensed data, pattern metrics and census information. *Urban Studies, 45*(3), 659–692.
Schwanen, T., & Mokhtarian, P. L. (2005). What affects commute mode choice: Neighborhood physical structure or preferences toward neighborhoods? *Journal of Transport Geography, 13*, 83–99.
Slater, T., Curran, W., & Lees, L. (2004). Gentrification research: New directions and critical scholarship. *Environment and Planning A, 36*, 1141–1150.
Smith, B. E. (1997). A review of monocentric urban density analysis. *Journal of Planning Literature*, *12*(2), 115–135.
Sukkoo, K. (2007). Changes in the nature of urban spatial structure in the United States, 1890–2000. *Journal of Regional Science*, *47*(2), 273–287.

Dental Indicators, Health and Food Diversity in Spain

Belen Lopez[1], Eva Garcia-Vazquez[2] and Eduardo Dopico[3]
[1]Department of Biology of Organisms and Systems, University of Oviedo, Oviedo, Spain
[2]Department of Functional Biology, University of Oviedo, Oviedo, Spain
[3]Department of Education Sciences, University of Oviedo, Oviedo, Asturias, Spain

Definition

The type and frequency of pathological conditions of teeth were compared between the Medieval Age (eleventh to fifteenth centuries) and the Modern era (sixteenth to eighteenth centuries), analyzing skeletal remains from ancient cemeteries of north Iberia (Spain). The aim of the investigation was to assess the health impact of the introduction of new food resources into the Spanish diet in the early Modern Age. The results suggest a positive influence of increased diversity of nutritional resources, mainly due to intercontinental (America-Europe) trade.

Description

Introduction

Dental remains are a valuable source of information about ▶ health and nutritional status of ancient populations (Armelagos, Van Gerven, Martin, & Huss-Ashmore, 1984; Larsen et al., 2002). They are also useful to evaluate how changes in life conditions in prehistoric and historical transitions have affected the inhabitants of a particular territory.

The transition from Middle (Medieval) to Modern Age was an important key point for human populations, especially in countries as Spain which suffered important sociopolitical and economical changes between these two periods. The Modern Age started in Spain with the Catholic Monarchs (late fifteenth and early sixteenth centuries) following two crucial events: the reunification of the Spanish territory under one single crown with the conquest of South Iberian Emirate of Granada in 1492 and the travels of Columbus to America (the first was also in 1492). From the point of view of nutrition, the transition from the Medieval to the Modern Age was accentuated in the Iberian Peninsula due to the introduction of new food resources, like potatoes, maize, tomatoes, peppers, and different varieties of beans, tea, cocoa, coffee, and other plants from the American continent. Introductions began in the sixteenth century (e.g., potatoes arrived to Spain to 1550) and became increasingly popular. In fact, American legumes, potatoes, and corn have been recognized as the main food resources that enabled European demographic expansion in the seventeenth century.

There is not much published information about the health of rural communities, the vast majority of the Spanish population at that time, but it can be supposed that increased diet diversity was associated with significant changes in nutritional status at population level in Iberia after the sixteenth century. Here we employ dental indicators for assessing the effects of the diet changes occurred in Iberia after the transition from the Middle to the Modern Age on nutritional and dental health. Some are indicators of nutritional status, and others are a consequence of habits.

Our hypothesis was that in the Iberian Peninsula, where diet changes were strongly influenced by intercontinental trade with America, the nutritional status would have been improved according to higher diversity of food resources. We expected a decreased prevalence of enamel hypoplasia, a marker of population nutrition status. We have also recorded other pathologies to illustrate possible changes associated with habits and hygiene in seven necropoles between the eleventh and the eighteenth centuries.

More details of this study can be found in López, García-Vázquez, and Dopico (2011).

Necropoles

The dental material analyzed in this study was obtained from four Middle Age (eleventh to early fifteenth) and three Modern Age late (fifteenth to eighteenth) centuries ancient cemeteries, located in the north of the Iberian Peninsula (Fig. 1, Table 1), a region characterized by a continental temperate climate. They were rural cemeteries of small dispersed settlements or small villages (Table 1).

Human Samples

We have focused our study in individuals of at least 20 years of age at death because their sex determination is very reliable. Skeletal remains of individuals under 20 years, of problematic sex assignment (Cardoso & Saunders, 2008), were not considered for this study. The individuals considered were classified as "adults" (under 40 years) or "mature" (40 years and older).

The biological sex determination for all individuals aged over 20 years was based on morphological features of the pelvis and skull (Buikstra & Ubelaker, 1994). Age at death was determined based on the main macroscopic changes of the pelvis.

Results

Dental Wear

Dental wear is the gradual and regular loss of tooth substance as a result of natural mastication presence of hard aliments in the diet, chemical abrasion, and others (Pindborg, 1970). The methodology most widely employed for measuring

Dental Indicators, Health and Food Diversity in Spain, Fig. 1 Location of the antique cemeteries analyzed in the Iberian Peninsula

Dental Indicators, Health and Food Diversity in Spain, Table 1 Archaeological site (Spanish province) of the human remains analyzed. Century/age of the remains. Economic predominant activity of the population. Type of rural settlement as dispersed (dispersed housing) or village (small village)

Site (Province)	Century	Economy	Settlement
La Morterona, Saldaña (Palencia)	XI	Agriculture	Dispersed
San Benito "el Real" (Valladolid)	XIV–XV	Agriculture	Village
Muriel de Zapardiel (Valladolid)	XII–XIII	Agriculture	Dispersed
Santo Tomé (Zamora)	XII–XV	Agriculture and commerce	Village
Guardo (Palencia)	XVI–XVIII	Agriculture and commerce	Dispersed
San Miguel de Escalada (León)	XIV–XVI	Agriculture	Dispersed
Monasterio de Prado (Valladolid)	XII–XVIII	Agriculture and commerce	Village

Dental Indicators, Health and Food Diversity in Spain, Table 2 Percentage, number, and dental diseases in the studied samples

Dental wear	Medieval		Modern	
Light	33 (38.0 %)		69 (47 %)	
Moderate	38 (43.6 %)		51 (35 %)	
Intense	16 (18.4 %)		26 (18 %)	
Dental calculus	Medieval		Modern	
0	25 (23.4 %)		163 (49.4 %)	
1	50 (46.7 %)		95 (28.8 %)	
2	16 (14.9 %)		37 (11.2 %)	
3–4	16 (14.9 %)		35 (10.6 %)	
Periodontitis	Medieval		Modern	
	Males	Females	Males	Females
Present	13 (30.2 %)	7 (21.2 %)	45 (34.9 %)	30 (21.9 %)
Absent	30 (69.8 %)	26 (78.8 %)	84 (65.1 %)	107 (78.1 %)
Periapical abscesses	Medieval		Modern	
	Males	Females	Males	Females
Maxillar	2/239 (0.8 %)	2/110 (1.8 %)	10/128 (7.8 %)	5/248 (2.03 %)
Mandible		3/91 (3.3 %)	2/246 (0.8 %)	9/310 (2.9 %)
Enamel hypoplasia	Medieval		Modern	
	Males	Females	Males	Females
Present	17 (44.7 %)	10 (30.3 %)	20 (27.8 %)	9 (16.1 %)
Absent	21 (55.3 %)	23 (69.7 %)	52 (72.2 %)	47 (83.9 %)

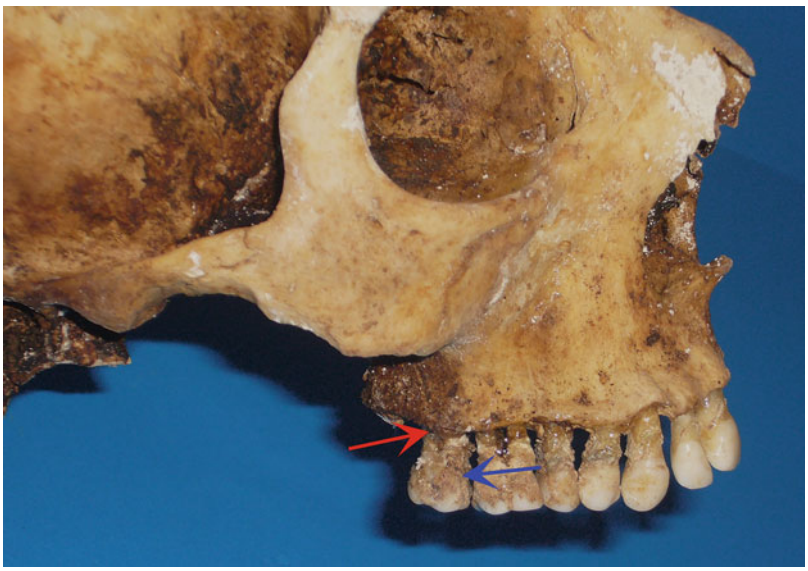
it in northwest European sites follows Brothwell (1963). The degree of dental wear is classed into 12 categories; for simplification, in this study these categories have been reduced to three: *light* (1, 2, 2+, 3 and 3+), *moderate* (4 and 4+), and *severe* (5, 5+, 5++, 6 and 7). The study was focused on the first molar in each bone (maxilla and mandible).

A selective pattern of dental wear by location (maxilla or mandible) or sex was not revealed in this study. The proportion of unaffected teeth or lightly affected by attrition was 38 % and 47 % for Medieval and Modern Age individuals, respectively (Table 2). Around 44 % and 35 % pieces were moderately affected in the Medieval and Modern Age samples, respectively, and the rest (18 % in both historic periods) exhibited severe degree of dental wear. The difference between the two historic periods was not statistically significant (Chi-square of 1.759; 2 d.f.; *p*-value, 0.415 N.S.) (Table 3).

Dental Indicators, Health and Food Diversity in Spain, Table 3 Chi-square (with Yates correction) and *p*-value for comparisons between samples

Dental diseases		Chi-square (with Yates correction)	*p*-value
Dental wear medieval vs. modern		1.759	0.415 NS
Dental calculus medieval vs. modern		21.046	0.000103***
Periodontitis	Medieval males vs. medieval females	0.387	0.534 NS
	Modern males vs. modern females	4.911	0.027*
	Medieval males vs. modern males	0.139	0.709 NS
	Medieval females vs. modern females	0.007	0.9317 NS
Periapical abscesses	Medieval males vs. medieval females	0.948	0.330 NS
	Modern males vs. modern females	0.172	0.678 NS
	Medieval females vs. modern females	0.001	0.987 NS
	Medieval males vs. modern males	2.563	0.1094 NS
Enamel hypoplasia	Medieval males vs. medieval females	1.009	0.315 NS
	Modern males vs. modern females	1.841	0.175 NS
	Medieval vs. modern	4.603	0.0318*

Significance: *NS* not significant
*$p < 0.05$; ***$p < 0.001$

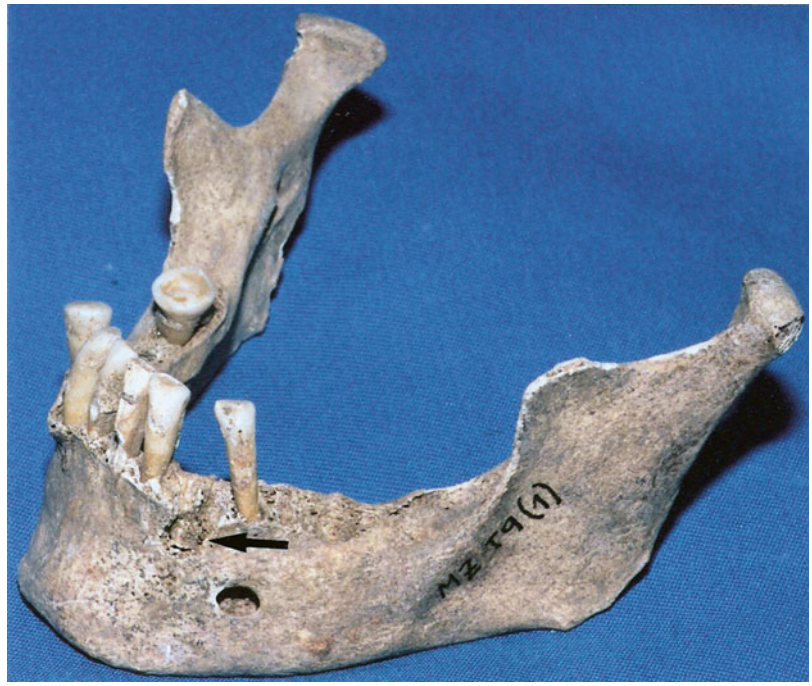


Dental Indicators, Health and Food Diversity in Spain, Fig. 2 Photograph: mandible with periodontitis (*arrow up* marks the alveolar bone erosion) and dental calculus (*down arrow*)

Dental Calculus

Dental calculus is calcareous salt deposited on the teeth surface (Fig. 2), generally in the margin of the gingiva, produced by continuous presence of dental plaque and poor oral hygiene (Hillson, 1996). This has been directly observed under white light and quantitatively classed in four degrees, from 0 (calculus absent) to four (abnormally abundant calcareous deposits), following Brothwell (1987).

Differences in calculus did not exist between teeth located in maxillae and those located in mandibles; thus, they were gathered together per individual. Differences between sexes were not observed. A significant change was detected between Medieval and Modern Age incidence of calculus (Table 2), being higher in the Medieval Age (23.4 % calculus-free teeth versus 49.4 % in the Modern Age; the Chi-square test comparing the distribution of calculus between

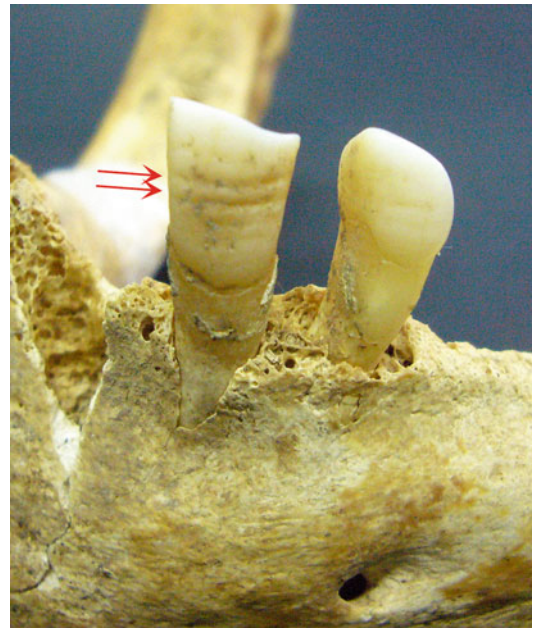


Dental Indicators, Health and Food Diversity in Spain, Fig. 3 Periapical abscess in a female mandible from Muriel de Zapardiel (Valladolid, Spain)

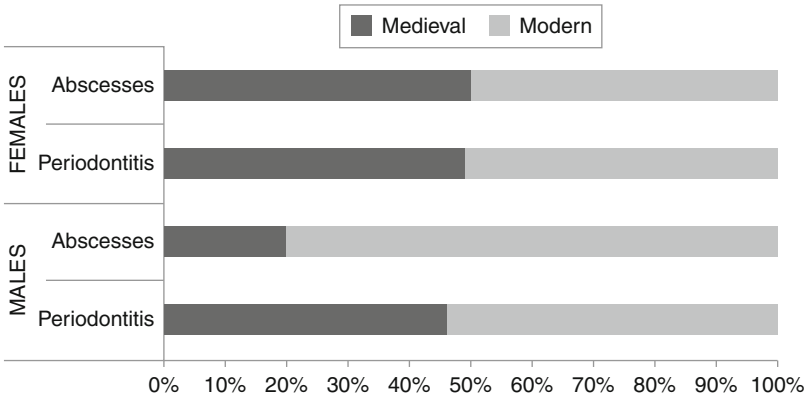
the two historic periods (Table 3) gives a value of 21.05 with 3 degrees of freedom, p-value < 0.0001).

Periodontitis and Periapical abscesses

The periodontitis, a major cause of teeth loss, is an advanced lesion due to an infectious disease associated to the accumulation of plaque with germs under the gingiva (Hillson, 2005). In the skeletal remains, periodontitis it is characterized by horizontal reduction of the alveolar bone (bone loss $\geq$3 mm, Figs. 2, 3, 4). Statistical differences for these dental diseases were not found between maxilla and mandibles within individual, neither between adult and mature individuals within sex; thus, the results were pooled together for these groups. Periodontitis affected 20–35 % individuals per sample group (Table 2, Fig. 5) and did not increase significantly for males or females from the Medieval to the Modern Age (Table 3). In the Modern Age, females exhibited lower incidence of this disease



Dental Indicators, Health and Food Diversity in Spain, Fig. 4 Photograph: tooth with enamel hypoplasia



Dental Indicators, Health and Food Diversity in Spain, Fig. 5 Prevalence of periodontitis and abscesses in the antique populations analyzed, per sex and historic period

than males (35 % vs. 22 %, respectively, Chi-square 4.911 with p-value = 0.0267).

Periapical abscesses also result from infection and further necrosis of the pulp, generally developed from periapical granuloma by accumulation of pus which later drains through a channel known as fistula. The fistula breaks the bone (maxilla or mandible) and can be recognized in the skeletons by a clear mark (Fig. 3). Poor hygiene is generally the main cause of initial infections.

They were less frequent (0.8–7.8 % for medieval and modern males respectively), and their low frequency remained relatively constant across sexes and historic periods, not exhibiting significant differences between sample groups in any case (Table 3).

Linear Enamel Hypoplasia (LEH)

In contrast, enamel hypoplasia is a defect of enamel development originated by illnesses or severe malnutrition during the infancy and early childhood (Goodman & Rose, 1991; King, Humphrey, & Hillson, 2005). Temporary disruption of the growth of the ameloblasts, the cells that form enamel, leads to decreased secretion of enamel matrix in localized sections of the tooth surface. As a result, less enamel matrix is available for mineralization at those sites once the secretory phase is completed, resulting in a marked decrease in enamel thickness (Aufderheide, Rodriguez-Martin, & Langsjoen, 1998).

This lesion is considered a signal of nutritional stress during the teeth formation (King et al., 2005) and is described as horizontal rows of pits or grooves that occur on tooth surfaces (Goodman & Rose, 1991). We have quantified LEH as ▶ prevalence of the lesion (Fig. 4).

Statistical differences were not found between adult and mature individuals within sex; thus, the results were pooled together for age groups. Significant differences between sexes did not occur for LEH in the Medieval or in the Modern Age (Chi-square 1.009 with p-value = 0.315 and 1.841 with p-value = 0.1749, respectively, not significant) (Table 3). Similarly, significant differences for occurrence of LEH between maxillae and mandibles within historical period and sex were not found ($p > 0.05$ in all cases). The prevalence of this signal of nutritional stress (Table 3) decreased significantly in the Modern Age (22.6 % in average) with respect to the Medieval period (mean 38 %; Chi-square of 4.603 with 1 d.f., p-value = 0.0319).

Discussion

In this entry we have revealed a significant decrease of a signal of nutritional stress, the linear enamel hypoplasia, in north Iberian rural communities after the fifteenth century. This likely reflects an improvement of nutritional health in north Iberia after the transition Medieval to Modern Age, which could be attributed to an increased diversity in food resources by intense intercontinental trade that started in the sixteenth century. Among the varied resources imported to

the Iberian Peninsula from America, beans provided high-quality proteins, maize and potatoes high caloric supply, and tomatoes and peppers enriched vitamin intake. They surely increased Iberian diet diversity at a population level because they were progressively introduced in agriculture without substituting local native resources. The results support our initial hypothesis and indirectly confirm, at a population level, the importance of diet diversity on nutrition.

The dental problem that increased significantly in our Modern Age sample was the prevalence of calculus, an indicator of poor oral hygiene. Increased prevalence of dental problems after the transition from the Middle to the Modern Age has been generally explained by an increase of cariogenic carbohydrates. The cariogenic consequences of a diet rich in carbohydrates and soft food would be compensated by hygiene (dental cleaning), but those habits were not usual in the Modern Age, when dental care was limited to herbal remedies, bloodletting, and teeth extraction and preventive care was not considered (Del Valle & Romero, 2006; Hobkirk, 2005).

The results obtained for periodontitis seem to be sex-biased, males exhibiting higher incidence than females. This has been also reported for other European regions, generally explained by sex-biased access to nutritional resources. Diets rich in carbohydrates were generally a privilege of young men, while women suffered higher levels of nutritional and other stress (King et al., 2005). As the indicator of nutritional stress LEH did not reveal sex-biased differences, an alternative explanation for differences in periodontitis could be a more careful hygiene in women than in men: white teeth were generally appreciated as a sign of feminine beauty at the epoch, as widely reported in classic literature of all countries.

Socioeconomic and cultural transformations are not always translated into true discontinuity of populations from the point of view of alimentation and health status (Belcastro, Rastelli, Mariotti, Consiglio, Facchini, & Bonfiglioli, 2007). However, in the present case the rural populations here studied seemed to benefit from them, as introduction of new food resources in a territory was associated with a corresponding improvement in nutritional health. These results also emphasize the importance of cultural and social interchanges between geographical regions.

This study, as many others, has been carried out on adults (King, et al., 2005; Lukacs & Largaespada, 2006); however, the exclusion of subadults may bias the interpretation of data. Therefore, the results for enamel hypoplasia should be interpreted carefully.

References

Armelagos, G. J., Van Gerven, D. P., Martin, D. L., & Huss-Ashmore, R. (1984). Effects of nutritional change on the skeletal biology of northeast African (Sudanese Nubian) populations. In J. D. Clark & S. A. Brandt (Eds.), *From hunters to farmers: The causes and consequences of food production in Africa* (pp. 132–146). Los Angeles: University of California Press.

Aufderheide, A. C., Rodriguez-Martin, C., & Langsjoen, O. (1998). *The Cambridge encyclopedia of human paleopathology*. Cambridge, UK/New York: Cambridge University Press.

Belcastro, G., Rastelli, E., Mariotti, V., Consiglio, C., Facchini, F., & Bonfiglioli, B. (2007). Continuity or discontinuity of the life-style in central Italy during the Roman imperial age-early Middle Ages transition: Diet, health, and behavior. *American Journal of Physical Anthropology, 132*(3), 381–394. doi: 10.1002/ajpa.20530.

Brothwell, D. R. (1963). *Digging up bones; the excavation, treatment and study of human skeletal remains*. London: British Museum (Natural History).

Brothwell, D. R. (1987). *Desenterrando huesos. La excavación, tratamiento y estudio de restos del esqueleto humano*. México City, Mexico: Fondo de Cultura Económica.

Buikstra, J. E., & Ubelaker, D. H. (1994). *Standards for data collection from human skeletal remains: Proceedings of a seminar at the field museum of natural history*. Fayetteville, AR: Arkansas Archeological Survey.

Cardoso, H. F. V., & Saunders, S. R. (2008). Two arch criteria of the ilium for sex determination of immature skeletal remains: A test of their accuracy and an assessment of intra- and inter-observer error. *Forensic Science International, 178*(1), 24–29. doi: 10.1016/j.forsciint.2008.01.012.

Del Valle, A., & Romero, M. (2006). Cervantes: Father of Don Quixote and son of a dentist. *Journal of Dental Research, 85*(8), 701–704.

Goodman, A. H., & Rose, J. C. (1991). Dental enamel hypoplasias as indicators of nutritional status. In M. A. Kelley & C. S. Larsen (Eds.), *Advances in dental anthropology*. New York: Wiley-Liss.

Hillson, S. (1996). *Dental anthropology*. Cambridge, UK/New York: Cambridge University Press.

Hillson, S. (2005). *Teeth* (2nd ed.). New York: Cambridge University Press.
Hobkirk, J. A. (2005). Prosthodontics: A past with a future? *Journal of the Canadian Dental Association, 71*(5), 326.
King, T., Humphrey, L. T., & Hillson, S. (2005). Linear enamel hypoplasias as indicators of systemic physiological stress: Evidence from two known age-at-death and sex populations from postmedieval London. *American Journal of Physical Anthropology, 128*(3), 547–559.
Larsen, C. S., Crosby, A. W., Griffin, M. C., Hutchinson, D. L., Ruff, C. B., Russell, K. F., et al. (2002). A biohistory of health and behavior in the Georgia bight. 1. The agricultural transition and the impact of europeancontact. In J. C. Rose & R. H. Steckel (Eds.), *The backbone of history: Health and nutrition in the western hemisphere* (pp. 406–439). Cambridge, UK: Cambridge University Press.
López, B., García-Vázquez, E., & Dopico, E. (2011). Dental indicators suggest health improvement associated with increased food diversity in modern age Spain. *Human Ecology, 39*, 527–534. doi:10.1007/s10745-011-9406-y.
Lukacs, J. R., & Largaespada, L. L. (2006). Explaining sex differences in dental caries prevalence: Saliva, hormones, and "life-history" etiologies. *American Journal of Human Biology, 18*(4), 540–555. doi:10.1002/ajhb.20530.
Pindborg, J. J. (1970). *Pathology of the dental hard tissues*. Copenhagen, Denmark: Munksgaard.

Deontology

Jussi Suikkanen
Philosophy Department, University of Birmingham, Birmingham, UK

Synonyms

Duty-based ethics; Non-consequentialism

Definition

The notion of deontology in its widest sense refers to a whole family of deontological ethical theories which are mainly united by their rejection of consequentialism (see Alexander & Moore, 2007; Darwall, 2003; Davis, 1991; McNaughton & Rawling, 2006). Consequentialist ethical theories have two main features. They hold (1) that the options an agent has in any given situation can be ranked in terms of how good their consequences are overall and (2) what the agent ought to do is always a function of how her options are ordered in the evaluative rankings. The simplest forms of consequentialism hold that, in every situation, one ought to bring about as much of general well-being to the world as possible. Philosophers who regard their views as deontological deny that (1) and (2) are always the case. However, what this denial actually consists of is less clear, and therefore, it is more controversial what accepting a deontological view consists of.

Description

Perhaps the most traditional understanding of deontology is that according to deontological views there are some act types such as rape, murder, and theft that are always wrong (Bennett, 2010, p. 33). Such views clearly deny (1) and (2) in the previous definition because some instances of the previous act types can have the best consequences in certain rare circumstances. Therefore, according to consequentialists, one ought to act in these ways at least in some cases. In contrast, according to the traditional deontological views, these types of act are not made wrong by their consequences but rather by their intrinsic nature. These acts, whenever they are done, are wrong in themselves.

The problem with this understanding of deontology is that it rules out certain interesting contemporary non-consequentialist views as deontological theories. The so-called particularists believe that there are no act types that are intrinsically wrong (Dancy, 2004). According to them, whatever act type we take, some acts of that type are right and others are wrong depending on the circumstances. Yet, these ethicists too deny that one ought to always do what has the best consequences, so in this sense many particularists too hold a deontological view.

We must then reject the traditional understanding of deontology. More recently, philosophers have attempted to explain the distinction between consequentialist and deontological theories in

two ways. The first, more theoretical way of drawing the distinction was famously introduced by John Rawls (Rawls, 1971, pp. 22–33). According to Rawls, the distinction is based on a difference in the structure of the theories and more specifically on the different order in which the central terms of these views are explained. Consequentialist views begin by constructing an independent notion of the good and then specify which acts are right in terms of that notion. In contrast, according to Rawls, deontological views hold that the rightness of acts is independent of what is good. These views hold that either there is no connection between goodness and rightness or they attempt to define goodness in terms of rightness.

This way of drawing the distinction is appealing, but some worries remain about whether Rawls' account draws the distinction at the right place. For example, some clearly consequentialist views first claim that the best state of affairs is such that an impartial spectator ought to prefer it (Portmore, 2011). They then claim that we, the ordinary situated moral agents, ought to always do whatever brings about the best state affairs. On Rawls' view, such views really ought to be classified as deontological views because here the deontological notion of ought is prior to goodness in the order of explanation. However, the defenders of such views see themselves more as consequentialists than as deontologists.

The second, more recent way of drawing the distinction is a more practical one. It begins from agent-neutral versions of consequentialism. These theories rank every agent's options in terms of how good their consequences are from some impartial perspective that does not make a reference to the agent whose options are being evaluated. Views that rank agents' options in terms of the amount of general well-being, for example, are like this. Furthermore, these consequentialist views then determine what an agent ought to do in terms of the impartial ranking of her alternatives. In this way, these agent-neutral forms of consequentialism create the same moral demands for everyone.

According to the second contemporary understanding of deontology, a view is then deontological if and only if it disagrees in some concrete cases with the agent-neutral forms of consequentialism about what agents ought to do (Darwall, 2003, pp. 1–2; McNaughton & Rawling, 2006, p. 424). More simply put, if one thinks that one ought not to always bring about the best consequences, impartially evaluated, then one accepts a deontological ethical view.

In this framework, three kinds of exceptions to agent-neutral consequentialism have been discussed most thoroughly. Firstly, many deontologists have defended what are called moral constraints or restrictions (Nozick, 1974, pp. 28–30). This is to say that, at least on some occasions, we should not harm, kill innocents, or lie even if doing so would have the best impartial consequences. That is, for example, we are not allowed to kill an innocent person to prevent someone else from killing two other innocents.

Agent-centered defenses of deontological constraints attempt to justify them by emphasizing how we are responsible as individuals only for our own agency. We are only required to see to it that we do not kill even if this allows others to kill (Nagel, 1986, ch. 9). In contrast, patient-centered defenses of the constraints attempt to argue that it is something about the dignity of the innocent persons who could potentially become victims that makes it forbidden for us to kill them even in the cases in which other lives could be saved by doing so (Brook, 1991).

Other types of deontological exceptions to the requirements of the agent-neutral forms of consequentialism include agent-centered prerogatives or options as they are called (Scheffler, 1982, ch. 2) and duties grounded on special relationships (Brink, 2001; Hurka, 1997). The critics of agent-neutral consequentialism often point out that such forms of consequentialism are objectionably demanding. These views demand that, in every case, we bring about as much good to the world as possible. In most cases, we can do so by helping the most suffering people of the world instead of pursuing our own projects. Some deontologists believe that, even if it is right to help the most suffering, it should also be permissible for us to pursue our own projects. In this way, they believe that, in order to protect our personal integrity, morality must leave us more freedom to choose

from a larger set of options which will not always have the best consequences.

In a similar vein, some deontologists want to argue that not only are we allowed to pursue our personal projects but also, on some occasions, we are required to do so. These philosophers believe that our special commitments to our loved ones, friends, and family ground obligations to sometimes do acts that will not have the best impartial consequences. For example, as a parent, one has an obligation to help one's own child with homework even if the neighbor's child might benefit more from one's guidance.

The resulting view then is that if one is committed to constraints, options, or duties of special relationships, then one accepts a deontological theory. The problem with this way of drawing the distinction is that it places some consequentialist views in the category of deontological views. Some consequentialists believe that states of affairs can be evaluated also in terms of how good they are relative to a given agent (Dreier, 1993). They then hold that agent ought to do, for example, what brings about the best state of affairs relative to her. Theories of this type will generate constraints, options, and duties based on special relationships, and thus, they are in a direct conflict with the agent-neutral consequentialist views. So, if the distinction between consequentialist and deontological views is drawn in this way, it will not be a mutually exclusive classification.

It is also worthwhile to mention that this way of drawing the distinction between the consequentialist and the deontological ethical theories leads to an interesting discussion about whether rule-consequentialism should be understood as a consequentialist theory (Hooker, 2000, sec. 4.6). Rule-consequentialism is the view that an act is wrong if and only if it is forbidden by the principles whose general internalization would have the best consequences. On the one hand, this view forbids agents in some situations to act in ways that would maximize value. On the other hand, the rules that determine the moral status of individual acts are evaluated by the value of their consequences. So, there is a sense in which this view is not a consequentialist theory and another sense in which it clearly is.

There are at least three other important and active debates about deontology worth bringing up. Firstly, there has been much debate about how the exceptions to consequentialist views could be justified on the basis of alternative ethical theories. This has led to the development of sophisticated contemporary versions of virtue ethics, Kantian ethics, contractualism, particularism, and so on (see Dancy, 2004; Hursthouse, 1999; Korsgaard, 1986; Scanlon, 1998). The defenders of these views have tried to use the resources of these views to justify, for example, constraints and options.

Secondly, there has been a lot of work done recently on "middle-level" non-consequentialist ethical principles. Such principles have included the doctrine of double effect and the doctrine of doing and allowing (see Foot, 1967; Kamm, 1992; Quinn, 1993; Thomson, 1986). Roughly, the former principle claims that it is permissible to sometimes cause some harm as a merely foreseen side effect even if it would not have been permissible to bring about that harm intentionally as a means to some good outcome. The latter principle, in contrast, holds that harming people is worse – more impermissible – than merely allowing the same harm to happen to people. If merely the consequences of one's actions and inactions mattered, such ethical distinctions could not be drawn. Much of the literature has been focusing on how such principles can deal with many tricky thought experiments and how they should be developed further as a result of these cases.

Finally, there has been a lot of interesting work done on the paradoxical nature of the deontological constraints (Scheffler, 1982, ch. 4). Such constraints forbid to kill an innocent person even when by doing so one could prevent other innocent persons being killed in the very same way. How could such a constraint be justified given that we would gain more of whatever is important about not killing the one person by saving the other innocent persons from being killed? The last word about how this question should be answered has definitely not been said yet (for interesting early attempts, see Darwall, 1986; Kamm, 1992; McNaughton & Rawling, 1998).

Cross-References

- ▶ Consequentialism
- ▶ Ethics
- ▶ Family Quality of Life
- ▶ Friendship and Happiness
- ▶ Parent-Child Relationship(s)
- ▶ Virtue Ethics
- ▶ Well-being, Philosophical Theories of

References

Alexander, L. & Moore, M. (2007). Deontological ethics. *The Stanford encyclopedia of philosophy*, (Fall 2008 Edition), Edward N. Zalta (ed.), URL = http://plato.stanford.edu/archives/fall2008/entries/ethics-deontological/.

Bennett, C. (2010). *What Is This Thing Called Ethics?* London: Routledge.

Brink, D. (2001). Impartiality and Associative Duties. *Utilitas, 13*, 152–172.

Brook, R. (1991). Agency and Morality. *Journal of Philosophy, 88*, 190–212.

Dancy, J. (2004). *Ethics without Principles*. Oxford: Oxford University Press.

Darwall, S. (1986). Agent-Centered Restrictions From the Inside Out. *Philosophical Studies, 50*, 291–319.

Darwall, S. (2003). Introduction. In S. Darwall (Ed.), *Deontology* (pp. 1–8). Oxford: Blackwell.

Davis, N. (1991). Contemporary Deontology. In P. Singer (Ed.), *A Companion to Ethics* (pp. 205–218). Oxford: Blackwell.

Dreier, J. (1993). The Structure of Normative Theories. *The Monist, 76*, 22–40.

Foot, P. (1967). Abortion and the Doctrine of Double Effect. *Oxford Review, 5*, 5–15.

Hooker, B. (2000). *Ideal Code, Real World*. Oxford: Oxford University Press.

Hurka, T. (1997). The Justification of National Partiality. In R. McKim & J. McMahan (Eds.). *The Morality of Nationalism* (pp. 139–157). New York: Oxford University Press.

Hursthouse, R. (1999). *On Virtue Ethics*. Oxford: Oxford University Press.

Kamm, F. (1992). Non-Consequentialism, the Person as an End-in-Itself, and the Significance of Status. *Philosophy and Public Affairs, 21*, 381–389.

Korsgaard, C. (1986). The Right to Lie: Kant on Dealing with Evil. *Philosophy and Public Affairs, 15*, 325–349.

McNaughton, D., & Rawling, P. (1998). On Defending Deontology. *Ratio, 11*, 37–54.

McNaughton, D., & Rawling, P. (2006). Deontology. In D. Copp (Ed.), *The Oxford Handbook of Ethical Theory* (pp. 424–458). Oxford: Oxford University Press.

Nagel, T. (1986). *The View from Nowhere*. Oxford: Oxford University Press.

Nozick, R. (1974). *Anarchy, State, and Utopia*. Oxford: Blackwell.

Portmore, D. (2011). *Commonsense Consequentialism*. Oxford: Oxford University Press.

Quinn, W. (1993). *Morality and Action*. Cambridge, MA: Cambridge University Press.

Rawls, J. (1971). *A Theory of Justice*. Cambridge, MA: Harvard University Press.

Scanlon, T. M. (1998). *What We Owe to Each Other*. Cambridge, MA: Harvard University Press.

Scheffler, S. (1982). *The Rejection of Consequentialism*. Oxford: Oxford University Press.

Thomson, J. J. (1986). *Rights, Restitution, and Risk*. Cambridge, MA: Harvard University Press.

Dependence, Sexual

- ▶ Compulsive Sexual Behavior Inventory

Depression and Pregnancy

Angela Bowen
College of Nursing, University of Saskatchewan, Saskatoon, SK, Canada

Synonyms

Antenatal depression; Antepartum depression; Melancholia in pregnancy; Perinatal depression; Pregnancy blues; Prenatal depression

Definition

Depression during pregnancy is the presence of a major depressive disorder (MDD) that occurs during pregnancy.

Description

While often missed, depression or melancholia was identified as a problem for pregnant women

in the 1800s (Brockington, 1996). It affects one in five pregnancies; however, the prevalence is greater in high-risk populations (Bowen & Muhajarine, 2006). Up to 50 % of women can experience some depression symptoms but not necessarily meet the criteria for major depressive disorder (MDD; Bennett, Einarson, Taddio, Koren, & Einarson, 2004).

The symptoms used to diagnose antenatal depression are those used to diagnose MDD at anytime in a person's life (American Psychiatric Association, 2000). The DSM-IV specifies that at least five of the following symptoms must be present for a period of at least 2 weeks: depressed mood, anhedonia (lack of pleasure or interest), sleep disturbances, either insomnia or hypersomnia, psychomotor agitation, lack of energy, feelings of guilt or a lack of self-worth, difficulty concentrating, and lastly suicidal ideation (American Psychiatric Association). In addition, at least one of those must be from the first two symptoms, i.e., either depressed mood or anhedonia. Depression is a complex state, and women are likely to also experience ▶ anxiety symptoms (Bowen, Bowen, Maslany, & Muhajarine, 2008). Risk factors for antenatal depression include a history of depression (whether during another pregnancy or not), anxiety, lack of social support, ▶ stress, low income and education, and belonging to an ethnic minority (Lancaster et al., 2010); however, all women are vulnerable to depression in pregnancy.

Depression lessens the ▶ quality of life compared to someone without depressive symptoms (American Psychiatric Association, 2000). As well as affecting the quality of life of the woman, antenatal depression can also influence the pregnancy, the fetus, growing child, and family. Antenatal depression is associated with higher levels of cortisol levels for the mother and fetus and a number of pregnancy and obstetrical complications. For instance, women are more likely to have gestational hypertension, gestational diabetes, take more sick days from work, more visits to their physician, greater psychosomatic complaints, more nausea and vomiting, operative deliveries (e.g., cesarean and forceps birth) and anesthesia, preterm birth, and spontaneous abortion. Infants experience lower Apgar scores, shorter gestation, smaller head circumference, and increased admission to the neonatal intensive care units.

Antenatal depression can affect the ▶ attachment between a mother and the fetus (Misri & Kendrick, 2008). It has also been hypothesized that the attachment to the fetus can impact the way the woman takes care of herself during pregnancy (Misri & Kendrick). Women who are depressed or anxious may be less apt to take care of themselves and may engage in activities that are considered risky during pregnancy, such as alcohol, tobacco, and drug use (Webb, Culhane, Mathew, Bloch, & Goldenberg, 2011). Attachment problems can continue after the baby is born; women with depression are more likely to have an avoidant attachment to her newborn baby or more likely to be anxiously attached to her child (Bifulco et al., 2004).

There are lifetime effects to the quality of life of the entire family. Children are at increased risk of developmental, cognitive, and motor delays and social and mental health problems such as ▶ anxiety, depression, and schizophrenia (Brand & Brennan, 2009). In the first postpartum year, paternal depression occurs in between 1.2 % and 25.5 %. However, if the partner is depressed or severely depressed, paternal depression can occur up to 50 % of the time in the postpartum. Siblings are also affected; the mother may be less attentive to the needs of the other children if she is depressed (Zuckerman, Amaro, Bauchner, & Cabral, 1989).

Screening for depression during pregnancy is easy. For example, the Edinburgh Postnatal Depression Scale (EPDS) is a simple, free, self-report tool. The EPDS has been validated in different populations and translated into many languages, with 87 % sensitivity and 78 % specificity (Cox, Holden, & Sagovsky, 1987).

Due to the stigma that persists about mental illness and the commonly held belief that pregnancy is a blissful and happy time, women may not seek treatment (Nonacs & Cohen, 2002). Medication treatment is controversial. Some studies report that antidepressants have a negative impact on the fetus (Tuccori et al., 2009),

while others indicate that the risks for congenital defects are the same as within the population (Einarson, Choi, Einarson, & Koren, 2009). Other treatment includes psychotherapy (Grote et al., 2009), bright light therapy (Oren et al., 2002), ▶ mindfulness, and other methods of relaxation (Vieten & Astin, 2008). A woman needs to discuss the risks and the benefits of the different treatment options with her physician, keeping in mind that untreated depression also has potential harmful effects on her baby and her family (Yonkers et al., 2009).

Discussion

Depression in pregnancy is a common and serious ▶ public health problem with far-reaching effects to the quality of life of the woman, developing child, and her family. Public health policy needs to ensure that there is widespread education about the symptoms, implementation of universal screening, and increased access to treatment to promote the quality of life for women and their families. More qualitative and quantitative research is needed to understand the best supports for women who are depressed in pregnancy.

Cross-References

- ▶ Parental Depression and Child Well-Being
- ▶ Social Support and Depression Among Adolescent Mothers

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders, fourth edition, text revision*. Washington, DC: Author.

Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004). Prevalence of depression during pregnancy: Systematic review. *Obstetrics and Gynecology, 103*, 698–703.

Bifulco, A., Figueiredo, B., Guedeney, N., Gorman, L. L., Hayes, S., Muzik, M., et al. (2004). Maternal attachment style and depression associated with childbirth: Preliminary results from a European US cross-cultural study. *The British Journal of Psychiatry, 184*, s31–s37.

Bowen, A., & Muhajarine, N. (2006). Prevalence of depressive symptoms in an antenatal outreach program in Canada. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 35*(4), 492–498.

Bowen, A., Bowen, R. C., Maslany, G., & Muhajarine, N. (2008). Anxiety in a socially high-risk sample of pregnant women in Canada. *Canadian Journal of Psychiatry, 53*(7), 435–440.

Brand, S. R., & Brennan, P. A. (2009). Impact of antenatal and postpartum maternal mental illness: How are the children? *Clinical Obstetrics and Gynecology, 52*(3), 441–455.

Brockington, I. (1996). *Motherhood and mental health*. Oxford: Oxford University Press.

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh postnatal depression scale. *The British Journal of Psychiatry, 150*, 782–786.

Einarson, A., Choi, J., Einarson, T. R., & Koren, G. (2009). Incidence of major malformations in infants following antidepressant exposure in pregnancy. *Canadian Journal of Psychiatry, 54*, 242–246.

Grote, N. K., Swartz, H. A., Geibel, S. L., Zuckoff, A., Houck, P. R., & Frank, E. (2009). A randomized controlled trial of culturally relevant, brief interpersonal psychotherapy for perinatal depression. *Psychiatric Services, 60*(3), 313–321.

Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors depressive symptoms during pregnancy: A systematic review. *American Journal of Obstetrics and Gynecology, 202*(1), 5–14.

Misri, S., & Kendrick, K. (2008). Perinatal depression, fetal bonding, and mother-child attachment: A review of the literature. *Current Pediatric Reviews, 4*(2), 66–70.

Nonacs, R., & Cohen, L. S. (2002). Depression during pregnancy: Diagnosis and treatment options. *The Journal of Clinical Psychiatry, 63*, 24–30.

Oren, D. A., Wisner, K. L., Spinelli, M., Epperson, C., Peindl, K., Terman, J. S., et al. (2002). An open trial of morning light therapy for treatment of antepartum depression. *The American Journal of Psychiatry, 159*, 666–669.

Tuccori, M., Testi, A., Antonioli, L., Fornai, M., Montagnani, S., Ghisu, N., et al. (2009). Safety concerns associated with the use of serotonin reuptake inhibitors and serotonergic/noradrenergic antidepressants during pregnancy: A review. *Clinical Therapeutics, 31*, 1426–1453.

Vieten, C., & Astin, J. (2008). Effects of a mindfulness-based intervention during pregnancy on prenatal stress and mood: Results of a pilot study. *Archives of Women's Mental Health, 11*(1), 67–74.

Webb, D. A., Culhane, J. F., Mathew, L., Bloch, J. R., & Goldenberg, R. L. (2011). Incident smoking during pregnancy and the postpartum period in a low-income urban population. *Public Health Reports, 126*, 50–59.

Yonkers, K. A., Wisner, K. L., Stewart, D. E., Oberlander, T. F., Dell, D. L., Stotland, N., et al. (2009). The management of depression during pregnancy: A report from the American psychiatric association and the American college of obstetricians and gynecologists. *General Hospital Psychiatry, 31*(5), 403–413.

Zuckerman, B. S., Amaro, H., Bauchner, H., & Cabral, H. (1989). Depression symptoms during pregnancy: Relationship to poor health behaviors. *American Journal of Obstetrics and Gynecology, 160*(5), 1107–1111.

Depression Distortion Hypothesis (DDH)

▶ Mothers' Reports of Child Outcomes in Those with New-Onset Epilepsy

Depression in Middle Age

Hilke Brockmann
School of Humanities and Social Sciences, Jacobs University, Bremen, Germany

Definition

Depression and Happiness in Middle Age: Related Topics, Separate Literatures

Research on depression and ▶ happiness is booming. The topics are obviously related, but the literatures develop in virtual isolation. Depression is the focus of psychiatrists, clinical psychologists, and public health researchers. Happiness (or ▶ subjective well-being), by contrast, is a subject of social and behavioral scientists. The mid-age is conspicuously absent in both research streams. Depression researchers focus mainly on incidence rates at young and old age. Happiness researchers assume that the well-being of people in their 30s to 50s is unrelated to age and depends mainly on personal, social, and economic categories, not on age. In this entry, I summarize the major findings of both literatures and try to demonstrate how these different insights could contribute to a better understanding of the ▶ quality of life particularly during midlife.

Classifications and Definitions

Depression: A Clinical Category

Research on depression relies on either the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) or the World Health Organization's International Classification of Diseases (ICD-10). Despite slight differences in terminology, both categorical systems agree on the same core symptoms to identify depressive disorders or episodes: a depressed ▶ mood, anhedonia (diminished interest in ▶ pleasure), feelings of worthlessness or inappropriate guilt, and recurrent thoughts of death, in combination with weight loss, disturbed sleep, psychomotor agitation or retardation, ▶ fatigue or loss of energy, reduced libido, a diminished ability to think or concentrate, and indecisiveness (Semple & Smyth, 2009, p. 228). People exhibiting four to five of these symptoms for more than 2 weeks are considered depressive. Their social, occupational, and general performance is impaired, but no medical disorders, bereavement, or drug and medication misuse should be involved.

Happiness: A Social Science Concept

Definitions of happiness lack the binding character, precision, and specificity of a clinical category, simply because there is no institutionalized interest of professional associations or political organizations in an obligatory definition. Nevertheless, there is broad consensus among happiness researchers on core characteristics of happiness, which, basically, are just the inverse of depressive symptoms. Psychologists define happiness as a positive mood and emotion, "which together are labelled affect" and "represent people's on-line evaluations of the events that occur in their lives" (Diener, Suh, Lucas, & Smith, 1999, p. 277). The temporality of happiness is crucial like in the depression literature. Most happiness researchers focus on long-term mood rather than momentary emotions and are particularly interested in cognitive evaluation of people's ▶ life satisfaction. Therefore, happiness is often equated with subjective well-being (SWB), i.e., "a person's cognitive and affective evaluations of his or her life as a whole.

These evaluations include emotional reactions to events as well as cognitive judgements of satisfaction and fulfillment. (. . .) experiencing high levels of pleasant emotions and moods, low levels of negative emotions and moods, and high life satisfaction" (Diener, Oishi, & Lucas, 2009). Economists (Frey & Stutzer, 2002) and sociologists (Veenhoven, 2008) tend to use happiness and SWB interchangeably.

Description

Depression and Happiness over the Life Course

Depression and happiness are measured with different scales. In the epidemiological literature, prevalence rates of depression demonstrate first of all a rise in absolute numbers over cohort and period time but no linear increase with age. Happiness trajectories show significant gains and losses across the life course resulting from social and economic events. The likelihood of these events varies with age. Middle-aged people are particularly affected.

Prevalence of Depression

According to the World Health Organization (WHO), 151.2 million people (2.3 % of the world population) suffered from unipolar depressive disorders in 2004 (WHO, 2008). Depression is the fourth most important cause of ▶ disability (Murray & Lopez, 1996) and the most common mental disease worldwide. Despite incomplete prevalence data for many countries, cross-national comparisons suggest that depression is a global phenomenon. But incidence varies greatly across countries, between gender, and over the life course. The WHO World Mental Health Survey displays an average lifetime prevalence of a major depressive episode (comparable to unipolar depressive disorder) of 28.1 % in high-income countries and 19.8 % in low- to middle-income countries. Variance within country groups is high. For instance, lifetime prevalence of depression is lower in Japan (22.2 %) and Germany (23 %) than in the USA (30.9 %) or the Netherlands (33.6 %) (Bromet et al., 2011). Generally, however, women are more susceptible to depression than men.

Some experts suspect that the conventional focus on mortality rates in epidemiology understates the real costs of depression. While accounting for only 1 % of all deaths, the overall burden of unipolar depressive disorders, measured by disability adjusted life years lost (DALY), is responsible for 65.5 million DALYs (4.3 % of total DALYs). In Europe, depression is already the single most costly disease (Wittchen et al., 2011).

A main driver of the depression-related costs is the early onset and an often chronic course of the disease. According to World Mental Health surveys, the average age of onset is 25.7 years in high-income countries and 24 years in low- to middle-income countries (Bromet et al., 2011). For the USA, data from the replicated National Comorbidity Survey (NCS-R) in 2001 show that 50 % of all cases occur before the age of 30 (Kessler et al., 2005).

Remission and recovery, relapse, and recurrence rates vary across studies. Data from a general US population survey show that about 50 % of first episode participants get better, while 35 % experience a recurrent episode and 15 % of cases with major depressive disorder do not recover at all (Eaton et al., 2008). Hence, an early onset is associated with more lifetime depressive episodes, more psychiatric comorbidity, suicide attempts, and suicidal ideation. The earlier people suffer from depression, the more likely they will never marry, will have an impaired social and occupational performance, a more negative view of life, and overall a poorer quality of life than those who experience a first depressive episode after the age of 45 (Zisook et al., 2007). Consequently, the costs of depression accumulate with age. Respondents with major depression episodes earned on average a third less than median earnings, with no significant country differences (Levinson et al., 2010).

Relative Happiness Across the Life Course

Happiness research focuses on averages and correlations. The nonresponse rate for happiness questions is remarkable low. Happiness seems to be a universal phenomenon across the globe, across social groups, and across the life course.

Findings on happiness and age are mixed. Early studies claim a decrease with age. Follow-on analyses, by contrast, suggest stability or even an increase of happiness with age. Easterlin (2006) purports to find a weak curvilinear relationship between age and happiness with a peak at the age of 51. However, most recent longitudinal, cross-country research show a u-shaped or cubic relationship with lowest levels in midlife and very old age (85 years and older) (Blanchflower & Oswald, 2008; Brockmann, 2010). These inconsistencies probably result from confounding age, period, and cohort effects and further uncontrolled influences. Yet, a focus on the persistent evaluation of one's life satisfaction analyzed with longitudinal individual level data support broadly the hypothesis that middle-aged people experience lower subjective well-being than younger and or older groups.

Next to this age effect, cohort and period influences shape life cycle happiness. Both time variables rarely follow a linear process. Evidence suggests that the size of a cohort has a significant impact. Also, period effects may reflect external shocks like a recession. Finally, these timing variables interact with gender. Younger women appear often happier than younger men, while at older ages men report a higher SWB. Across calendar time, we do not see a linear increase in happiness.

Determinants of Depression and Happiness, Particularly During Midlife

Middle age is rarely conceptualized as a developmental stage. People between 30 and 60 are conceived as having reached a mature and stable personality with aligned realistic aspirations, significantly lower suicide rates and depression incidences. Also, the middle-aged set the benchmark for the analysis of social status and productivity. Consequently, their well-being seems to depend on personal, social, and economic categories, not on age.

Determinants of Depression

While multiple biological, individual, and social risk factors have been identified as causes of depression, an integrated model is still missing. Some authors focus on genetic influences as depression often runs in families and is associated with a neurotic personality. Heritability estimates range from 40 % to 70 % (Semple & Smyth, 2009). Recent studies investigate the impact of single genes like the serotonin promoter 5-HTT gene (Caspi et al., 2003). In this perspective, stressful events appear as environmental triggers for a detrimental gene expression. However, the molecular mechanisms behind gene-environment interactions leading to depression remain unclear. Nongenetic research broadly confirms that stressful events like the loss of a relative or unemployment are significantly associated with depression. The impact of these events varies between an early and a late onset of the disease (Korten, Comijs, Lamers, & Penninx, 2012). By contrast, stable environments, a confiding marriage, caring parents, being less confined by gender roles, and a middle-class background without economic worries lower the risk of depression. Finally, depressive episodes are often associated with other chronic, painful, and severe illnesses like myocardial infarction, Parkinson's, stroke, cancer, or further psychiatric diseases particularly at younger and middle ages (Kessler et al., 2010).

Determinants of (Un-)Happiness

Based on longitudinal and twin studies, psychologists have promoted a genetically derived ▶ set-point theory for more than 30 years. According to this theory, an adult or middle-aged set point in happiness is inherited as a personality trait or a fixed adaptation capacity.

Only major life events may momentarily destabilize this individual equilibrium.

Recent genetic and social findings undermine the static model (Headey, 2010). Epigenetic mechanisms and reprogramming prove the importance of environmental influences on gene expression and may be relevant for example to explain why certain personality factors increase in age. Also, social events like unemployment or marriage breakups impair people's happiness during midlife. Most research on happiness focuses on these and other socioeconomic determinants and events like income, social, or marital status which are more important during midlife than during earlier or later phases of life.

Age-related explanations for the decline in happiness among people in their 30s to their 50s are rare. From a social investment perspective, one may claim that life investments in careers or families may turn out to be suboptimal during that phase of life. First, in our age-stratified societies most investment decisions are usually made early in life and are thus particularly prone to forecasting errors. On the other hand, life expectancy is long, expectations are high, and changes are possible. This dilemma may turn many middle-aged people into "frustrated achievers" (Brockmann, 2010).

Connecting the Dots

The depression and happiness literatures share the object of research and many explanations. The subjective mental functioning of people seems determined by genetic traits, by health events, and particularly during middle ages by socioeconomic, marital, and other exogenous stressors. But the different focus on outliers in the depression literature and on averages in happiness research hampered the exchange of results.

An integration of both research foci and methodologies could help to better understand why people in their middle ages are less happy but not more depressed. It could shed light on when unhappiness becomes pathological and what conditions make people more resilient and resistant against a depressive relapse. Refined designs which combine longitudinal population and patient data will be needed to disentangle the different layers and temporal influences on depression and happiness in order to precisely estimate the future burden of depression and ill-being. Given the projected costs, it is a worthwhile endeavor. Particularly, to spotlight depression of people in their middle ages will comprehend the mental load of those who pay the (health-care) bills in modern welfare states. And it will provide a more accurate advice for public policy intervention to the betterment of future societies.

Cross-References

► Unemployment

References

Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social Science & Medicine, 66*(8), 1733–1749.

Brockmann, H. (2010). Why are middle-aged people so depressed? *Social Indicators Research, 97*(1), 23–42.

Bromet, E., Andrade, L., Hwang, I., Sampson, N., Alonso, J., de Girolamo, G., et al. (2011). Cross-national epidemiology of DSM-IV major depressive episode. *BMC Medicine, 9*(90), 1–16.

Caspi, A., Sugden, K., Moffitt, T. E., Taylor, A., Craig, I. W., Harrington, H., et al. (2003). Influence of life stress on depression: Moderation by a polymorphism in the 5-HTT gene. *Science, 301*(5631), 386–389.

Diener, E., Oishi, S., & Lucas, R. E. (2009). Subjective well-being: The science of happiness and life satisfaction. In C. R. Snyder & S. J. Lopez (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 187–194). Oxford, UK: Oxford University Press.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*(2), 276–302.

Easterlin, R. A. (2006). Life cycle happiness and its sources: Intersections of psychology, economics, and demography. *Journal of Economic Psychology, 27*(4), 463–482.

Eaton, W. W., Shao, H., Nestadt, G., Lee, B. H., Bienvenu, O. J., & Zandi, P. (2008). Population-based study of first onset and chronicity in major depressive disorder. *Archives of General Psychiatry, 65*(5), 513–520.

Frey, B. S., & Stutzer, A. (2002). *Happiness and economics: How the economy and institutions affect human well-being*. Princeton, NJ: Princeton University Press.

Headey, B. (2010). The set-point theory of well-being has serious flaws: On the eve of a scientific revolution? *Social Indicators Research, 97*(1), 7–21.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime

prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*, 593–602.
Kessler, R. C., Birnbaum, H. G., Shahly, V., Bromet, E., Hwang, I., McLaughlin, K. A., et al. (2010). Age differences in the prevalence and co-morbidity of DSM-IV major depressive episodes: Results from the WHO World Mental Health survey initiative. *Depression and Anxiety, 27*(4), 351–364.
Korten, N. C. M., Comijs, H. C., Lamers, F., & Penninx, B. W. J. H. (2012). Early and late onset depression in young and middle aged adults: Differential symptomatology, characteristics and risk factors? *Journal of Affective Disorders, 138*(3), 259–267.
Levinson, D., Lakoma, M., Petukhova, M., Schoenbaum, M., Zaslavsky, A., Angermeyer, M., et al. (2010). Associations of serious mental illness with earnings: Results from the WHO World Mental Health surveys. *The British Journal of Psychiatry, 197*(2), 114–121.
Murray, C. J., & Lopez, A. D. (1996). Evidence-based health policy – Lessons from the Global Burden of Disease Study. *Science, 274*(5288), 740–743.
Semple, D., & Smyth, R. (2009). *Oxford handbook of psychiatry*. Oxford: Oxford University Press.
Veenhoven, R. (2008). Sociological theories of subjective well-being. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 44–61). New York: The Guilford Press.
WHO. (2008). *The global burden of disease*. 2004 update. Geneve: WHO.
Wittchen, H. U., Jacobi, F., Rehm, J., Gustavsson, A., Svensson, M., Jönsson, B., et al. (2011). The size and burden of mental disorders and other disorders of the brain in Europe 2010. *European Neuropsychopharmacology, 21*, 655–679.
Zisook, S., Lesser, I., Stewart, J. W., Wisniewski, S. R., Balasubramani, G. K., Fava, M., et al. (2007). Effect of age at onset on the course of major depressive disorders. *The American Journal of Psychiatry, 164*(10), 1539–1546.

Depressive Symptoms and Chronic Obstructive Pulmonary Disease (COPD)

► Psychological Distress and Chronic Obstructive Pulmonary Disease (COPD)

Depressive/Anxiety Disorder Measurement

► Kessler Psychological Distress Scale

Deprivation

Christopher T. Whelan[1] and Brian Nolan[2]
[1]School of Social Policy, Queen's University of Belfast, Belfast, UK
[2]UCD School of Applied Social Science, University College Dublin, Dublin, Ireland

Synonyms

Denial; Poverty; Privation; Want

Definition

Prevented from possessing or enjoying the necessities of life leading to a damaging lack of basic material and cultural benefits

Description

Deprivation has always been central to the conceptualization of *poverty* and *living standards* in developing countries, with direct measures of failure to meet *basic needs* complementing income-based measures based on thresholds such as the *World Bank's "dollar a day" standard*. In developed countries direct measures of deprivation are also increasingly being used to capture living standards, poverty, and *social exclusion*. Research on poverty in rich countries still relies primarily on *household income*, and this is also true of official poverty measurement and monitoring for policy-making purposes, but awareness has been increasing of the limitations of income and the role which nonmonetary measures of deprivation can play.

Most research on poverty takes as a point of departure the definition that people are in poverty when "their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities" (Townsend, 1979). This is echoed in the definition put forward by an influential expert

panel in the USA as insufficient *resources* for basic living needs, defined appropriately for the United States today (Citro & Michael, 1995). Poverty from this starting point has two core elements: it is about inability to participate, and this inability to participate is attributable to inadequate resources. While most quantitative research then employs income to distinguish the poor, with a great deal of research and debate on how best to establish an income cutoff (OECD, 2008), nonmonetary indicators of deprivation have come to be widely seen as a useful complement. This was initially from the perspective that low income could be used to identify the poor, but did not tell us all we needed to know about what it was like to be poor. Townsend's pioneering research used *nonmonetary indicators* of deprivation both to derive and validate an *income poverty threshold* and to bring out graphically what it meant to be poor in Britain at the time in terms of deprivation of everyday items and activities widely regarded as essential (Townsend, 1979).

Identifying the Poor

As these deprivation indicators have become more widely available, they have underpinned a more radical critique that reliance on income actually fails to identify those who are unable to participate in their societies due to lack of resources. This argument was put forward most emphatically by Ringen who asserted that income was both an indirect and unreliable measure of the underlying concept of poverty (Ringen, 1988). In a similar vein, Mack and Lansley (1985) used deprivation indicators directly to identify those experiencing exclusion in Britain, and subsequent British "poverty and social exclusion" studies (Gordon et al., 2000) have employed a more extensive sets of indicators. Studies for Ireland (Nolan & Whelan, 1996) identified the *consistently poor* – those both on low income and reporting deprivation in terms of specific "basic" items – as meeting both elements of the underlying concept, inability to participate, and inadequate financial resources. A similar approach has been applied in some other countries (Förster, 2005), and the UK is also using a combination of low income and material deprivation to monitor progress in relation to *child poverty*.

Multidimensionality

Rather than (or as well as) the more accurate identification of the poor, a further argument for the use of nonmonetary indicators is that they can help to capture the *multidimensionality* of poverty and social exclusion. It has long been said that poverty is "not just about money," and the widespread adoption of the terminology of social exclusion/inclusion in Europe reflected, inter alia, the concern that focusing simply on income misses an important part of the picture. Social exclusion may involve not only poverty as low income/low financial resources but also *educational disadvantage*, poor *health* and access to *health services*, inadequate *housing*, and *exclusion from the labor market*. This can reflect the view that conceptually social exclusion is distinct from and broader than poverty or that the underlying notion of poverty that evokes social concern is itself intrinsically multidimensional (Burchardt, Le Grand, & Piachaud, 2002; Nolan & Whelan, 2011). While a wide range of approaches has been employed empirically, there has been increasing recognition of the desirability of directly measuring and monitoring key dimensions of *well-being* and *disadvantage* (Boarini & Mira d'Ercole, 2006; Bradshaw & Finch, 2003).

The definition of poverty formulated by Townsend has also been adopted by politicians and policy-makers in a European Union context. It underpins the EU's Social Inclusion process which since 2000 has at its core a set of indicators designed to monitor progress and support mutual learning that is explicitly and designedly multidimensional (Atkinson, Cantillon, Marlier, & Nolan, 2002). The need for such an approach has become even more salient with the enlargement of the EU to cover countries with much lower average living standards, sharpening the challenge of adequately capturing and characterizing exclusion across the Union (Alber, Fahey, & Saraceno, 2007). The difference from richest to poorest

member states in terms of average income per head is now very much wider than before. Widely used income poverty thresholds in the more affluent member states are higher than the average income in the poorest member states. The strikingly different picture produced by these "at risk of poverty" indicators compared with average Gross domestic product (GDP) per head, and unease with the EU tendency to keep distinct concerns about the divergence in living standards across versus within countries, helps to motivate interest in moving beyond reliance on *relative income* in identifying those at risk of poverty and exclusion.

Despite widespread interest in a multidimensional perspective, only limited progress has been made in teasing out how best to apply it in practice. This state of affairs reflects limitations in the information available but also in the conceptual and empirical underpinnings provided by existing research. Despite this, when the EU took the very important step of including a *poverty reduction target* among the five headline targets it set for 2020 in the high-level strategy adopted in 2010, it framed the target population in terms not only of low income but also two other indicators, of material deprivation and *household joblessness*. So a multidimensional perspective and the role therein of direct measures of material deprivation have come center stage in the EU's efforts to tackle poverty and exclusion.

Outlook

While multidimensional approaches can be rooted in influential concepts such as *capabilities* or *economic and social rights*, the linkage from concept through to application has often been weak and implementation rather ad hoc. There is a pressing need to develop a methodological platform for analyzing the shape and form of multidimensional deprivation (Grusky & Weeden, 2007).

Cross-References

- ▶ Basic Needs
- ▶ Capability Deprivation in the USA
- ▶ Child Poverty
- ▶ Household Income and Wealth
- ▶ Poverty
- ▶ Social Exclusion
- ▶ Unemployment
- ▶ Worries (Global Measure)

References

Alber, J., Fahey, T., & Saraceno, C. (2007). Introduction: EU enlargement and quality of life: The context and purpose of the book. In J. Alber, T. Fahey, & C. Saraceno (Eds.), *Handbook of quality of life in the enlarged European Union*. London: Routledge.

Atkinson, A. B., Cantillon, B., Marlier, E., & Nolan, B. (2002). *Social indicators: The EU and social inclusion*. Oxford: Oxford University Press.

Boarini, R., & Mira d'Ercole, M. (2006). *Measures of material deprivation in OECD countries. OECD social employment and migration* (Working Papers No. 37), Paris: OECD.

Bradshaw, J., & Finch, N. (2003). Overlaps in dimensions of poverty. *Journal of Social Policy, 32*, 513–525.

Burchardt, T., Le Grand, J., & And Piachaud, D. (2002). Degrees of exclusion: Developing a dynamic, multidimensional measure. In J. Hills, J. Le Grand, & D. Piachaud (Eds.), *Understanding social exclusion*. Oxford: Oxford University Press.

Citro, C. F., & And Michael, R. (1995). *Measuring poverty: A new approach*. Washington, DC: National Academy Press.

Förster, M. F. (2005). The European social space revisited: Comparing poverty in the enlarged European union. *Journal of Comparative Policy Analysis, 7*, 29–48.

Gordon, D., Adelman, L., Ashworth, K., Bradshaw, J., Levitas, R., Middleton, S., Pantazis, C., Patsios, D., Payne, S., Townsend, P., & Williams, J. (2000). *Poverty and social exclusion in Britain*. York, UK: Joseph Rowntree Foundation.

Grusky, D. B., & Weeden, K. A. (2007). Measuring poverty: The case for a sociological approach. In N. Kakawani & J. Silber (Eds.), *The many dimensions of poverty*. Basingstoke: Palgrave Macmillan.

Mack, J., & Lansley, S. (1985). *Poor Britain*. London: Allen and Unwin.

Nolan, B., & Whelan, C. T. (1996). *Resources, deprivation and poverty*. Oxford: Clarendon Press.

Nolan, B., & Whelan, C. T. (2011). *Poverty and deprivation in Europe*. Oxford: Oxford University Press.

OECD. (2008). *Growing unequal? Income distribution and poverty in OECD countries*. Paris: OECD.

Ringen, S. (1988). Direct and indirect measures of poverty. *Journal of Social Policy, 17*, 351–366.

Townsend, P. (1979). *Poverty in the United Kingdom*. Harmondsworth: Penguin.

Deprivation and Social Exclusion in Europe

Luna Bellani[1] and Conchita D'Ambrosio[2]
[1]Population and Employment, CEPS/INSTEAD, Esch-sur-Alzette, Luxembourg
[2]Universita' di Milano-Bicocca, Milan, Italy

Synonyms

Absolute individual deprivation in Europe; Relative individual deprivation

Definition

► Deprivation is the sentiment felt by someone when comparing his or her situation to that of other individuals who are better-off. Material deprivation describes the situation of an individual who cannot reach a minimum standard of material well-being. ► Social exclusion can be broadly interpreted as the inability of an individual to participate in the basic political, economic, and social activities of the society in which he or she lives due to persistence in the state of material deprivation.

Description

Deprivation is the sentiment felt by someone when comparing his or her situation to that of other individuals, a reference group, who are better-off. When considering income as the object of deprivation, absolute individual deprivation is simply the sum of the gaps between an individual's income and the incomes of individuals who are richer, while in the relative case, the income gaps are normalized by mean income. When the comparison is conducted with respect to poorer individuals, we obtain the relative satisfaction of the person under analysis. A similar reasoning can be conducted in a multidimensional framework.

The seminal papers in the income distribution literature for measuring income deprivation are Yitzhaki (1979) and Hey and Lambert (1980) for the absolute case and Chakravarty (1997) for its relative counterpart. For deprivation in a multidimensional framework, we refer to Bossert, D'Ambrosio, and Peragine (2007).

According to European Union guidelines, material deprivation refers to a lack of access to material economic resources and focuses on a subset of the dimensions that may be relevant for ► poverty measurement, excluding non-tangible dimensions such as ► health status or employment level. As opposed to deprivation, material deprivation is not based on comparisons with respect to individuals who are better-off. Material deprivation is a special case of multidimensional poverty: a multidimensional poverty measure takes into consideration all dimensions of well-being that may be of relevance (including nonmaterial attributes such as health status and political participation), whereas material deprivation restricts attention to functioning failures regarding material economic resources (see, among others, Guio, 2005). According to EU policy, indices of material deprivation are to be combined with income-based poverty measures and indicators of low employment.

Material deprivation and social exclusion are key concepts in the European Union. A first explicit reference to social exclusion was made by the European Commission toward the end of the second European Poverty program in 1988. A year later, the Council of the European Communities adopted a resolution on combating social exclusion. This concept has then gained a primary role in official documents and in the political debate in Europe since the Treaty of Amsterdam, signed in 1997, in which the European Union included the reduction of social exclusion among its objectives. The design of policies aimed at combating social exclusion is at the heart of the "Lisbon strategy" agreed upon during the European Council in March 2000. The European Commission has more recently reaffirmed the importance of collective responsibility in combating exclusion by designating 2010 as the European Year for Combating Poverty and Social Exclusion. Moreover, during the European Council of that year, the EU launched

its agenda, "Europe 2020," which confirms the promotion of social inclusion as one of the five key areas of intervention. The five objectives to be reached by 2020 are on employment, innovation, ▶ education, ▶ social inclusion, and climate/energy.

The term social exclusion has its origins in Lenoir (1974), then Secrétaire d'Etat à l'Action Sociale in the Chirac government, who referred to the excluded as consisting not only of the poor but of a wide variety of people, namely, the social misfits. The meaning of the term evolved and expanded in the following years to include all individuals and groups that are wholly or partly prevented from participating in their society and in various aspects of cultural and community life. The definition of social exclusion has been very much debated among social scientists soon after its introduction by policy makers. The debate revolved around the discussion of the attributes, differences, and novelties of it with respect to more traditional concepts such as income poverty, multidimensional poverty, and inequality (see, e.g., Atkinson, 1998; Atkinson et al., 2002; Duffy, 1995; Klasen, 2002; Mejer, 2000; Room, 1995; Rowntree Foundation, 1998; Sen, 1998). Social exclusion is linked to both poverty and ▶ inequality, but it is not the same as either. It is a *relative* concept in the sense that an individual can be socially excluded only in comparison with a particular social group at a given place and time. It is a *multidimensional* concept that includes economic, social, and political aspects of life. It is also a *dynamic* concept as an individual can become socially excluded if his or her socioeconomic condition worsens over time. An agreement has been reached on seeing social exclusion as persistent material deprivation.

Different measures of material deprivation and social exclusion have been proposed in the literature. These measures have also been applied to monitor the situation of many countries, especially the EU member states. Among these are the early approaches proposed by Layte, Maître, Nolan, and Whelan in different years (see, among others, Layte, Nolan, Whelan, & Maître, 2001; Whelan, Layte, & Maitre, 2002), and the contributions of Tsakloglou and Papadopoulos (2002). Chakravarty and D'Ambrosio (2006) and Bossert, D'Ambrosio, and Peragine (2007) differ from the previous studies for the use of an axiomatic approach to the measurement of the phenomena. Contributions focusing exclusively on material deprivation are, among others, Guio (2005); Guio, Fusco, and Marlier (2009); and Bossert, Chakravarty, and D'Ambrosio (2013).

Early comparative studies use a set of nonmonetary indicators from the European Community Household Panel (ECHP).

Examples of the indicators considered in these studies are the following: possession of car or van, color TV, VCR, microwave oven, dishwasher, telephone; keeping the home adequately warm; paying for a week's holiday away from home; replacing any worn-out furniture; buying new rather than second-hand clothes; eating meat, chicken, or fish every second day, if desired; having friends or family for a drink or meal at least once a month; having a bath or shower in the house, an indoor flushing toilet, and hot running water; items concerned with the accommodation and environment (shortage of space, noise from neighbors or outside, too dark/not enough light, leaky roof, damp walls, floors, foundations); and inability to pay scheduled mortgage payments, utility bills, or hire purchase installments during the past 12 months.

These indicators were recommended by Eurostat (2000) as the best candidates to meet the requirements of (1) reflecting a negative aspect of a life pattern common to a majority of the population in the EU, (2) allowing international and intertemporal comparisons, and (3) expressing a link with income poverty.

Later studies are based on EU Statistics on Income and Living Conditions (EU-SILC), which is employed by European Union member states and the Commission to monitor national and EU progress toward key objectives for the social inclusion process and Europe 2020 growth strategy.

The indices of material deprivation are based on what Atkinson (2003) refers to as the counting approach. The counting measure for an individual consists of the number of dimensions in which a person is deprived, that is, the number of the

individual functioning failures. But this measure treats all dimensions symmetrically in the sense that in the aggregation of an individual's functioning failures, the same weight is assigned to each dimension. Since some of the dimensions may be more important than others, alternative counting measures can be obtained by assigning different weights to different dimensions and then adding these weights for the dimensions in which functioning failure is observed. These weights may be assumed to reflect the importance a policy maker attaches to alternative dimensions or the weights may reflect views of the society under analysis. The weights may also be equal to the proportion of the population which is not deprived. (For a discussion of weighting schemes in EU indicators, see Guio, Fusco, & Marlier, 2009; Bellani, 2012).

Social exclusion is then seen as persistence in the state of material deprivation. The number of years in deprivation considered to be socially excluded varies depending on the contribution.

The studies based on ECHP on average agree on ranking Greece, Portugal, Spain, and Italy as the most materially deprived and socially excluding countries, while Denmark, Belgium, Luxembourg, and the Netherlands are at the opposite position. When the sample of countries is enlarged to include also new member states, as in EU-SILC, then the most materially deprived and excluding countries are Romania, Bulgaria, Hungary, Latvia, and Poland.

The last decade has also witnessed an increasing availability of ▶ subjective indicators of standard of livings, as ▶ happiness and ▶ satisfaction with life. As a result, a related body of literature has emerged in which the relationship between an individual's well-being and satisfaction with own life has been analyzed. Many interesting insights about self-reported satisfaction with life and its determinants have been discussed by the ▶ subjective well-being studies.

For income deprivation, D'Ambrosio and Frick (2007) explored the relationship between self-reported satisfaction with income and relative deprivation as measured by the sum of the gaps between the individual's income and the incomes of all the richer individuals. Analyzing data for West and East Germany from 1990 to 2003, they found that level and changes in subjective well-being are driven more by the relative satisfaction an individual derives from his or her position in a society than by income level itself. Addressing the multidimensionality aspect of material deprivation and social exclusion, Bellani and D'Ambrosio (2011) provide empirical evidence of the link between these concepts and subjective well-being. Results on EU countries over the period 1994–2001 show that life satisfaction decreases with an increase in deprivation and social exclusion after controlling for individual's income, relative income, and other influential factors like marital status, age, and employment.

References

Atkinson, A. B. (1998). Social exclusion, poverty and unemployment. In A. B. Atkinson & J. Hills (Eds.), *Exclusion, employment and opportunity* (pp. 1–20). London: Centre for Analysis of Social Exclusion.

Atkinson, A. B. (2003). Multidimensional deprivation: Contrasting social welfare and counting approaches. *Journal of Economic Inequality, 1*, 51–65.

Atkinson, A. B., Cantillon, B., Marlier, E., & Nolan, B. (2002). *Social indicators: The EU and social inclusion*. Oxford: Oxford University Press.

Bellani, L. (2012). Multidimensional indices of deprivation: the introduction of reference groups weights. *Journal of Economic Inequality*. doi:10.1007/s10888-012-9231-6.

Bellani, L., & D'Ambrosio, C. (2011). Deprivation, social exclusion and subjective well-being. *Social Indicators Research, 104*, 67–86.

Bossert, W., Chakravarty, S. R., & D'Ambrosio, C. (2013). *Multidimensional poverty and material deprivation with discrete data*, Review of Income and Wealth, forthcoming.

Bossert, W., D'Ambrosio, C., & Peragine, V. (2007). Deprivation and social exclusion. *Economica, 74*, 777–803.

Chakravarty, S. R. (1997). Relative deprivation and satisfaction orderings. *Keio Economic Studies, 34*, 17–31.

Chakravarty, S. R., & D'Ambrosio, C. (2006). The measurement of social exclusion. *Review of Income and Wealth, 52*, 377–398.

D'Ambrosio, C., & Frick, J. R. (2007). Income satisfaction and relative deprivation: An empirical link. *Social Indicators Research, 81*, 497–519.

Duffy, K. (1995). *Social exclusion and human dignity in Europe*. Strasbourg: Council of Europe.

European Council (2000). *Presidency conclusions*. Lisbon European Council of 23 and 24 March 2000.

Eurostat. (2000). *European social statistics: Income, poverty and social exclusion*. Luxembourg: THEME 3, Population and Social Conditions.
Guio, A.-C. (2005). Material deprivation in the EU. In *Statistics in focus, population and social conditions, living conditions and welfare*, 21/2005. Luxembourg: Eurostat.
Guio, A.-C., Fusco A., & Marlier E. (2009). An EU approach to material deprivation using EU-SILC and eurobarometer data, IRISS (Working Paper 2009–19).
Hey, J. D., & Lambert, P. (1980). Relative deprivation and the gini coefficient: Comment. *Quarterly Journal of Economics, 95*, 567–573.
Klasen, S. (2002). Social exclusion and children in OECD countries: Some conceptual issues. *The School Field, 13*, 9–25.
Layte, R., Nolan, B., Whelan, C. T., & Maître, B. (2001). Persistent and consistent poverty in the 1994 and 1995 waves of the European Community household panel. *Review of Income and Wealth, 17*, 427–450.
Lenoir, R. (1974). *Les exclus: Un français sur dix* (2nd ed.). Paris: Editions du Seuil,1989.
Mejer, L. (2000). *Statistics on social exclusion: The EU methodological approach*. Brussels: Eurostat, Unit E2 Living Conditions.
Room, G. (1995). *Beyond the threshold: The measurement and analysis of social exclusion*. Bristol: Policy Press.
Rowntree Foundation. (1998). *The report of key indicators of poverty and social exclusion*. Available at www.parliament.the-stationery-office.co.uk.
Sen, A. K. (1998). *Social exclusion and economic measurement*. Paper presented at the 25th General Conference of the International Association for Research in Income and Wealth, Cambridge, UK.
Tsakloglou, P., & Papadopoulos, F. (2002). Identifying population groups at high risk of social exclusion: Evidence from the ECHP. In R. J. A. Muffels, P. Tsakloglou, & D. G. Mayes (Eds.), *Social exclusion in European welfare states*. Cheltenham: Edward Elgar, chapter 6.
Whelan, C. T., Layte, R., & Maitre, B. (2002). Persistent deprivation in the European Union. *Journal of Applied Social Science Studies, 122*, 31–54.
Yitzhaki, S. (1979). Relative deprivation and the gini coefficient. *Quarterly Journal of Economics, 93*, 321–324.

Deprivation from Happiness and Deprivation from Wealth

► Objective and Subjective Poverty

Deprivation Poverty

► Objective and Subjective Deprivation

Deriving Self-Worth from Romantic Relationships

► Relationship Contingency and Sexual Satisfaction

Derogatis Psychiatric Rating Scale (DPRS)

Ralph L. Piedmont
Pastoral Counseling Department, Loyola University Maryland, Columbia, MD, USA

Synonyms

Brief derogatis psychiatric rating scale (BDPRS); DPRS; Hopkins psychiatric rating scale

Definition

Known formerly as the Hopkins Psychiatric Rating Scale (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), the Derogatis Psychiatric Rating Scale (DPRS) is a multi-construct psychiatric rating scale that is designed to be used by clinicians who are well trained in psychopathology.

Description

The Derogatis Psychiatric Rating Scale is designed to be used in conjunction with the SCL-R-90 and the Brief Symptom Inventory, which are both client self-report scales. All these instruments capture the same nine symptom categories (somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, ► anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) (Derogatis & Savitz, 1999). Clinicians can also rate patients on eight additional dimensions that are important to accurate clinical

assessment but that are not amenable to patient self-report (sleep disturbance, psychomotor retardation, hysterical behavior, abjection-disinterest, conceptual dysfunction, disorientation, excitement, and euphoria). There is also a Global Pathology Index. The scale has been used in numerous clinical studies, and one of its values is that it provides a context for obtaining clinician ratings of clinically salient constructs. This information can be useful in examining the validity of self-report scores on these dimensions as well as serving as a source of valuable information in its own right. There is also a brief form of this instrument, which allows clinicians to provide an overall evaluation of the client on each of the nine primary clinical dimensions.

Cross-References

- ▶ Psychiatric Disorders
- ▶ Subjective Well-Being, Psychopathology, and Physical Health in Adolescents

References

Derogatis, L. R., & Savitz, K. L. (1999). The SCL-90-R, brief symptom inventory, and matching clinical rating scales. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment* (2nd ed., pp. 679–724). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Derogatis, L. R., Lipman, R. S., Rickels, K., Uhlenhuth, E. H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. *Behavioral Science, 19*(1), 1–15.

Desensitization

- ▶ Human Adaptation

Deservingness Principle

- ▶ Coping with an Unjust World

Design of Specific Project to Implement

- ▶ Program Planning

Design of Urban Form

- ▶ Urban Design

Design, an Overview

Luigi Bistagnino and Pier Paolo Peruccio
Department of Architecture and Design, Politecnico di Torino, Turin, Italy

Synonyms

Culture; Environmental design; Growth; Interdisciplinarity; Limit; Planned development; Process; Product design; Project design

Definition

In the English language the noun design means "project"; it comes from the Latin pro-iacere *(to throw something forward) and implies an activity that embodies the concept of moving forward, of the future. Instead the etymology of the term design (from the Latin designare, a derivation of signum "sign") refers to the concept of "meaning": using a sign to distinguish between things, in other words to give things meaning. Design means a project for the future but also an activity that gives things meaning. Design has two souls: on the one hand the technical and functional elements that make design activities coherent and, on the other, symbolic and linguistic elements.*

Over the years the word design has taken on many meanings: today it no longer refers only to a product or a communication but also to

services, *strategies*, *and systems in which environmental sustainability is becoming increasingly important*. *It is close to the design definition provided by the International Council of Societies of Industrial Design* (*Icsid*): "*Design is a creative activity whose aim is to establish the multifaceted qualities of objects*, *processes*, *services and their systems in whole life cycles*. *Therefore*, *design is the central factor of innovative humanisation of technologies and the crucial factor of cultural and economic exchange*" (http://www.icsid.org/about/about/articles31.htm).

Although design is a young discipline, it is becoming a research activity in which more and more different kinds of professionals are involved – designers, economists, cognitive psychologists, technologists, historians, and sociologists; the aim is to create an increasingly broad, multifaceted, and comprehensive global vision of design. Indeed, in the last 15–20 years, design has evolved and severed its ties with the concept of "industry"; in fact, ever since the nineteenth century design has been mainly considered as industrial design, in other words something used by industry or in serial production. This link between design and production not only led to a sudden increase in the production of all kinds of objects (often useless), but over the years it boosted several "unhealthy" relationships between society and the economy: for example, the production and distribution of objects made with toxic materials or the exploitation of nonrenewable resources used to make luxury goods. In the words of Victor Papanek, industrial design has put murder on a mass-production basis (Papanek, 1970).

Quite apart from any ethical and moral judgements about this kind of behavior, it is nevertheless obvious that the designer is an "accelerator" of events, a "force" he shares with the consumer (who has also evolved into the new and cultured figure of a coproducer); together they are capable of influencing market dynamics and therefore the production of goods and services. Nowadays, designers are professionals who work in increasingly international environments; every day they have to deal with a global world which, on the contrary, is actually finite (because it has limited resources), interconnected, and increasingly interlinked and not only as far as the circulation of information is concerned (the so-called global village). In one way or another, the choices a designer makes have a global fallout; their destiny is to play a crucial role in society.

In fact, designers have to ask themselves certain key questions: Should we design only products or instead focus on designing goods and services for mankind? Should we display our skills by creating forms or really help redesign society? Should we express ourselves through "hedonistic design" or "humanistic design?"

Whatever they decide, designers have to be aware of the positive or negative effects of what they do. Even in the economic world, there is the feeling that economic data alone cannot be used as the parameter on which to base growth; we have to adopt other imponderable factors (qualitative or otherwise) such as the quality of life, the environment, educational levels, and services, in other words the indexes that reveal people's moral rather than material well-being. In this kind of situation, industrial design is the key to these groundbreaking changes: designers have a responsibility towards people who ask them to solve real problems, satisfy as yet unfulfilled desires, and improve the quality of their lives. Sustainability is not a private issue, it is a common value shared by the entire community. Nowadays, designers are asked to design and create ecologically sustainable communities so that when political and technologies choices are made, they establish a relationship with the natural world and even replicate some of its more virtuous processes, rather than entering into conflict with it.

Description

In recent years the term design has been overexploited in popular magazines, in newspapers, and on television. We have to move beyond the gloss applied by nonspecialist mass

media which more often than not use the word design to convey the formal aesthetic values of a product usually associated with a certain lifestyle. To do this we have to get a real understanding of this multifaceted discipline which involves many fields of knowledge and continually renews its statute by revamping its didactic models. For some time now, several decades in fact, design schools have changed the main tool they use to train designers; they no longer employ a didactic model focusing primarily on teaching students to design "industrial mass-produced objects" – one of the most widespread definitions used until the 1970s. This trend has become complex and widespread in the last 10 years not only in Italy but also abroad; schools and universities have increased the courses on offer which now include very different and rather unusual design disciplines: social design, sound design, textile design, food design, web design, fashion design, car design, management design, and ecodesign (Margolin, 1989). The latter, in particular, is meta- and transdisciplinary and is omnipresent in all aspects of a designer's work: more than ever before, we need to design products, systems, and services efficiently and in an ecologically correct manner.

This makes it difficult to define the boundaries of this ▶ culture and its disciplinary statute (Simon, 1964), but it is just as difficult to understand not only which professions are involved in design but the many, at times unimaginable, ways design can be used by the market.

At the beginning of this entry, we mentioned that design means a project for the future but also an activity that gives things meaning – on the one hand, the technical and functional elements that make design activities coherent and, on the other, symbolic and linguistic elements. These aspects have been highlighted by many scholars including Tomàs Maldonado in his famous definition originally adopted by the International Council of Societies of Industrial Design (ICSID) in 1961: design is an activity that allows one to "coordinate, integrate and articulate all factors which in one way or another participate in the process of constituting the shape and the product. And more specifically, it refers both to factors relating to the use, enjoyment and individual or social consumption of the product (functional, symbolic or cultural factors) and to factors relating to production (technical-economic, technical-constructive, techno-systemic, techno-productive and techno-distributive factors)" (Maldonado, 1991).

Undoubtedly, designing only form and coordinating and integrating all these factors now seem obsolete.

Today when we design we cannot ignore the complex relationship between action and reaction in natural and artificial systems. People were already aware of this in the 1950s when they realized how complex and difficult design actually was. The architect Christopher Alexander in his famous book *Notes on the Synthesis of Form* (1964) wrote "(. . .) these problems have a background of needs and activities which is becoming too complex to grasp intuitively" (Alexander, 1964). Too many variables became involved and an interdisciplinary approach was needed with the input by experts from more than one field of learning. The process that gradually developed and grew during that period helped to break down disciplinary barriers and moved in the opposite direction to the monodisciplinary and specialist approach of the first half of the nineteenth century, an approach that had been adopted to counter the boom in knowledge, especially scientific knowledge.

The considerations expressed by Christopher Alexander and others after him, including Giuseppe Ciribini, and the systemic culture (Bertalanffy, 1968) of the latter part of the nineteenth century (Norbert Wiener, Ludwig von Bertalanffy, and Henri Lefebvre) prompted many schools to question the systemic value of design (Ciribini, 1984). In particular, architectural projects and design met with the culture of complexity at the Hochschule für Gestaltung in Ulm thanks to considerations by Tomàs Maldonado or Abraham Moles and the introduction of new "design" disciplines such as cybernetics, systems theory, information theory, semiotics, and ergonomics.

Today open industrial systems are designed to avoid production waste (Maldonado, 1970): in particular, the need to redirect the profession

towards a "new humanism" of design is beginning to catch on. In this kind of design, the physical object disappears, not only metaphorically, while the methodological process and metaproject become much more important.

If the demand for design changes over time, then obviously the methodological and didactic approach must change too. The discipline has evolved and the message has changed: a "how to" approach based on a conservative attitude towards problems (and their solution) now appears anachronistic; today designers are asked "what can we do?"; in other words, they are asked to strategically design a scenario that not only focuses on product innovation as an end in itself but involves developing broader issues which require the input and expertise of other fields of learning (Germak, 2008). These issues necessarily include nontraditional economic and industrial models: in fact, when we talk about production, we do refer not only to industrial production but also – on a par and with the same importance – to agricultural production. Within the same territorial context, we need to ensure that agriculture, industry, and the ▶ community at large blend harmoniously with the natural system (Capra, 1996, 2002; Bistagnino, 2008): this is the key to a production model of sustainable growth (Lanzavecchia, 2012).

This approach to design and production is undeniably very interesting if we consider how it affects the territory: not more production but better production in which the waste products of a production cycle (output) become a resource (input) for another production process. This is one of the most interesting challenges we need to win in order to activate virtuous growth processes in a territory. One of the many examples we could cite is the use of systemic design for a trade fair; this kind of event normally has a very high environmental impact, so design could create new sustainable consumption scenarios for the waste produced by the trade fair and, where possible, a correct use of the resources used prior to the process.

Contemporary designers must focus not only on the design of a single object but on the design of an entire system/product located in a precise social, political, economic, and cultural context – a kaleidoscope approach which might involve sophisticated technological products, mechanical elements, and household appliances for the home. Naturally these elements have to be considered as part of a complex system/product which must be designed by all the key players involved in the process (industrialists, lawmakers, users, etc.).

Cross-References

- ▶ Ecological Footprint
- ▶ Innovation Design
- ▶ Social Innovation
- ▶ Social Sustainability
- ▶ Sustainability
- ▶ Systemic Design

References

Alexander, C. (1964). *Notes on the synthesis of form*. Cambridge, MA: Harvard University Press.

Bertalanffy, L. (1968). *General system theory: Foundations, development, applications*. New York: George Braziller.

Bistagnino, L. (2011). *Systemic design* (2nd ed.). Bra: Slow Food. ebook.

Bonsiepe, G. (1975). *Teoria e pratica del disegno industriale: Elementi per una manualistica critica*. Milano: Feltrinelli.

Capra, F. (1996). *The web of life*. New York: Doubleday-Anchor Book.

Capra, F. (2002). *The hidden connections. Integrating the biological, cognitive and social dimensions of life into a science of sustainability*. New York: Doubleday.

Ciribini, G. (1984). *Tecnologia e progetto*. Torino: Celid.

Germak, C. (Ed.). (2008). *Uomo al centro del progetto. Design per un nuovo umanesimo*. Torino: Allemandi.

Lanzavecchia, C. (2012). *Il fare ecologico* (3° ed. by Barbero, S., Tamborrini, P.). Milan: Edizione Ambiente.

Maldonado, T. (1970). *La speranza progettuale*. Torino: Einaudi.

Maldonado, T. (1991). *Disegno industriale: Un riesame*. Milano: Feltrinelli.

Margolin, V. (1989). *Design discourse: History, theory, criticism*. Chicago: The University of Chicago Press.

Papanek, V. (1970). *Design for the real world*. Cambridge, MA: The MIT Press.

Simon, H. (1964). *The sciences of the artificial*. Cambridge, MA: The MIT Press.

Desire

▶ Motivation

Desire for Rest

▶ Fatigue

Desire Fulfillment Theories of Well-Being

▶ Preference Satisfaction Theories

Desire Satisfaction Theories of Well-Being

▶ Preference Satisfaction Theories

Desire, Sexual

Marta Meana[1] and Alessandra Lanti[2]
[1]Honors College, University of Nevada, Las Vegas, NV, USA
[2]Department of Psychology, University of Nevada, Las Vegas, NV, USA

Synonyms

Libido; Sexual drive; Sexual interest

Definition

Sexual desire generally refers to the motivational state that is likely to lead one to seek out sexual stimuli and/or activity or be receptive to sexual stimuli and/or advances from a potential sexual partner. The operationalization of desire has, however, been problematic. Research has shown sexual desire to have few reliable cognitive, physiological, or behavioral indicators, and the conceptualization of sexual desire has ranged from a pure biological drive to a more relationally motivated desire for intimacy.

Description

Masters and Johnson's (1966) model of the sexual response consisted of four stages: excitement (arousal), plateau, orgasm, and resolution. Partly as a function of their physiologically based research, they did not attempt to account for a motivational state that would draw individuals toward sexual stimuli or activity. The addition of sexual desire to the model of the sexual response was introduced by Kaplan (1977) and Lief (1977), simultaneously. The result was the sequential triphasic model of the sexual response (desire, arousal, orgasm) that has dominated the literature and on which the classification of sexual dysfunctions in various versions of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) has been based.

Since then, the construct of sexual desire has been a contentious one because of (1) difficulties in its operationalization (Basson, 2003; Meana, 2010), (2) questions about whether it is distinguishable from arousal and what the temporal relationship of desire and arousal is (Everaerd & Laan, 1995; Graham, Sanders, Milhausen, & McBride, 2004), (3) gender differences in its experience and expression (Baumeister, Catanese, & Vohs, 2001), (4) its unreliable relationship to physiological, cognitive, and behavioral indices, especially in women (Meana, 2010), and (5) its cultural suppression, again especially in women (Tolman, 1994). Confronted with the consistently lower levels of sexual desire reported by women, sexology has had to contend with the possibility that traditional ways of defining desire may have been based on a male analog, biological model that ignored the myriad psychological, relational, and social contextual variables that may have more of an impact on women than on men. On the other hand, low male sexual

desire is under-investigated as the focus in the literature on male sexuality has been predominantly on erectile difficulties (Meana & Steiner, in press). The reality is that there are no relevant norms for levels of sexual desire, and, even if there were, any level of sexual desire that does not have accompanying distress is by definition not problematic. A proposal for the redefinition of desire problems that addresses some of these concerns is currently being considered for the fifth edition of the DSM (Brotto, 2010a, b).

Regardless of these definitional issues, the general desire for sexual connection and the quality of that connection have in fact been tied to quality of life and relationship satisfaction. The World Health Organization (WHO) and other international entities, such as the World Association for Sexual Health, have moved toward the incorporation of pleasure into definitions of sexual health (Coleman, 2011). Clearly, sexual desire is an important part of sexual health, as pleasure is likely to have a strong link to desire. The relationship between sexual desire to quality of life has been demonstrated repeatedly as studies show that individuals with hypoactive sexual desire disorder (HSDD) show more quality of life impairment than control populations (e.g., Biddle, West, D'Aloisio, Wheeler, & Borisov, 2009). It is important to keep in mind that sexual desire deficits can be comorbid with other mental and physical health problems, as well as medications used to treat these problems (e.g., major depression, cardiovascular disease, selective serotonin reuptake inhibitors; Meana, 2012; Rowland, 2012). Sexual desire and sexual desire discrepancies in couples have also been tied to relationship satisfaction (e.g., Mark, 2012), which has also been found to be related to quality of life and well-being (e.g., Rosen & Bachmann, 2008).

In conclusion, sexual desire is a subjective construct that can only be directly accessed through self-report, with all of the attendant difficulties that self-report can have when we are dealing with a construct as socioculturally loaded as sexual desire. However, the literature does consistently link a satisfying sex life and sexual function to quality of life. Individual and gender variations notwithstanding, sexual desire does appear to be an important aspect of both sexual satisfaction and sexual function, both of which appear to be highly valued by men and women across the world (Laumann et al., 2006).

Cross-References

- ▶ Dating Couples' Sexual Desire Discrepancies
- ▶ Gender Role Beliefs
- ▶ Men's Health
- ▶ Religiosity and Sexual Attitudes
- ▶ Sexual Arousal Disorder
- ▶ Sexual Behaviors Desired Frequency
- ▶ Sexual Dysfunction(s)
- ▶ Sexual Functioning
- ▶ Sexual Interest/Arousal Disorder (SIAD)
- ▶ Sexual Motives and Quality of Life
- ▶ Sexual Satisfaction
- ▶ Sexual Satisfaction and Gender Differences
- ▶ Sexual Satisfaction and Sexual Costs in Women
- ▶ Sexual Satisfaction, Self-Esteem, and Assertiveness
- ▶ Women's Health
- ▶ Women's Sexual Satisfaction Predictors

References

Basson, R. (2003). Definitions of women's sexual dysfunction reconsidered: Advocating expansion and revision. *Journal of Psychosomatic Obstetrics and Gynecology, 24*, 221–229.

Baumeister, R. F., Catanese, K., & Vohs, K. (2001). Is there a gender difference in strength of sex drive? Theoretical views, conceptual distinction, and a review of relevant evidence. *Personality and Social Psychology Review, 5*, 242–273.

Biddle, A. K., West, S. L., D'Aloisio, A. A., Wheeler, S. B., & Borisov, N. N. (2009). Hypoactive sexual desire disorder in postmenopausal women: Quality of life and health burden. *Value in Health, 12*, 763–772.

Brotto, L. A. (2010a). The DSM criteria for hypoactive sexual desire disorder in women. *Archives of Sexual Behavior, 39*, 221–239.

Brotto, L. A. (2010b). The DSM criteria for hypoactive sexual desire disorder in men. *The Journal of Sexual Medicine, 7*, 215–230.

Coleman, E. (2011). What is sexual health? Articulating a sexual health approach for HIV prevention in men who have sex with men. *AIDS and Behavior, 15*, 18–24.

Everaerd, W., & Laan, E. (1995). Desire for passion: Energetics of the sexual response. *Journal of Sex & Marital Therapy, 21*, 255–263.
Graham, C. A., Sanders, S. A., Milhausen, R. R., & McBride, K. R. (2004). Turning on and turning off: A focus group study of the factors that affect women's sexual arousal. *Archives of Sexual Behavior, 33*, 527–538.
Kaplan, H. S. (1977). Hypoactive sexual desire. *Journal of Sex & Marital Therapy, 3*, 3–9.
Laumann, E. O., Paik, A., Glasser, D. B., Kang, J. H., Wang, T., Levinson, B., et al. (2006). A cross-national study of subjective sexual well-being among older women and men: Findings from the Global Study of Sexual Attitudes and Behaviors. *Archives of Sexual Behavior, 35*, 145–161.
Lief, H. I. (1977). Inhibited sexual desire. *Medical Aspects of Human Sexuality, 7*, 94–95.
Mark, K. P. (2012). The relative impact of individual sexual desire and couple desire discrepancies on satisfaction in heterosexual couples. *Sexual and Relationship Therapy, 27*, 133–146.
Masters, J., & Johnson, V. (1966). *Human sexual response*. Boston: Little Brown.
Meana, M. (2010). Elucidating women's (hetero)sexual desire: Definitional challenges and content expansion. *Journal of Sex Research, 47*, 104–122.
Meana, M. (2012). *Sexual dysfunction in women*. Cambridge, MA: Hogrefe Press.
Meana, M., & Steiner, E. T. (in press). Hidden disorder/Hidden desire: Presentations of low sexual desire in men. In Y. M. Binik, & K. Hall (Eds.) *Principles and practice of sex therapy* (5th ed.). New York: Guilford Press.
Rosen, R. C., & Bachmann, G. A. (2008). Sexual well-being, happiness, and satisfaction in women: The case for a new conceptual paradigm. *Journal of Sex & Marital Therapy, 34*, 291–297.
Rowland, D. L. (2012). *Sexual dysfunction in men*. Cambridge, MA: Hogrefe Press.
Tolman, D. L. (1994). Doing desire: Adolescent girls' struggles for/with sexuality. *Gender and Society, 8*, 324–342.

Desire-Fulfillment Theories of Happiness

► Well-Being and Self-Wants

Despair

► Worries (Global Measure)

Destitution

► Poverty, an Overview

Determinants of Donor Loyalty

► Trust, Satisfaction, and Donor Retention

Determinants of Health

► Environment and Health

Determinants of Health, Social

► Health Determinants

Determinants of Health-Related Quality of Life (HRQOL)

► Duke Severity of Illness Checklist
► Duke Social Support and Stress Scale (DUSOCS)

Determinants of Poverty in Europe

Caroline Dewilde
Department of Sociology, Tilburg University, Tilburg, The Netherlands

Synonyms

Exclusion from ordinary living patterns in Europe; Lifestyle deprivation in Europe; Material deprivation in Europe

Definition

Starting with the term "► poverty" in the title of this entry, it is safe to say that over the past decades, most scholars have come to define poverty as a multidimensional phenomenon that takes on different forms and shapes for different groups in the population. Many authors adhere to the definition introduced by Peter Townsend (1979: 31): "Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the type of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged, or approved, in the societies to which they belong. They are, in effect, excluded from ordinary living patterns, customs and activities." Put differently, poverty is a social and relative concept, depending on the standards of living in a particular society. This definition has been, in more or less similar words, accepted by the European Council as early as 1975 (EUROSTAT, 2010). It, however, took several decades for the European Union (EU) to come to terms with the fact that defining poverty as a multidimensional phenomenon also implicates measuring the concept accordingly. A large impetus was the enlargement of the EU toward Eastern Europe in 2004 and 2007. Early data on poverty and social exclusion based on the *EU Statistics on Income and Living Conditions* (*EU-SILC*) and the ► *European Quality of Life Survey (EQLS)* showed that the traditional income-based "at-risk-of-poverty" measure (where households are defined as poor when their equivalized disposable household income is lower than 60 % of median income in their country) was falling short of providing a complete and comprehensible picture of the extent and experience of poverty in old and new member states (for an overview, see Nolan & Whelan, 2010). For instance, while income poverty in both Hungary and Sweden stood at 12 % in 2008, material deprivation in the former country was much higher (Wolff, 2010). In a similar fashion, Fahey (2007: 35) showed that "what is defined as the poverty threshold in the richer Member States would count as an above-average income in the poorer Member States" and that the top income quartile in the poorest member states experienced more material deprivation compared to the bottom income quartile in the richest member states. These developments resulted in the EU putting forward a material deprivation index based on a set of items referring to "enforced lifestyle deprivation" on two dimensions: economic strain and enforced lack of durables (http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/). Furthermore, perhaps induced by the credit crisis and the ensuing economic problems, more attention is being placed on housing-related problems (overcrowding, housing costs, and housing deprivation) (e.g., Rybkowska & Schneider, 2011). One can thus conclude that the old and unfruitful distinction between so-called direct and indirect indicators of poverty (e.g., Ringen, 1988) has been overcome by analyzing both more "absolute" indices of material deprivation and more "relative" resource-based indicators at the same time (e.g., Dewilde, 2004). From an analytical point of view, however, it makes more sense to analyze these different dimensions alongside each other rather than to devise a "catch-all" index.

Concerning the determinants of poverty in Europe, this entry focuses on so-called institutional determinants. "Institutional" refers to the impact of welfare state arrangements on a specific policy domain, for instance, social assistance levels or unemployment benefits, on cross-country variations in multidimensional poverty. Such institutional effects or "macro-level" effects can be separated statistically from between-country differences arising from compositional effects or from differences in economic affluence. Compositional effects arise from differences in the population composition of individual- or household-related characteristics associated with higher or lower poverty rates, such as age, unemployment, or family composition. For instance, in two countries with comparable low unemployment benefits, the poverty level in country A could be higher because the proportion of unemployed is higher than in country B. In this case, differences in the national level of poverty cannot be attributed to unemployment regulations but to differences in the composition of the population.

Description

This entry reviews several studies looking into the impact of a range of institutional indicators on the extent of multidimensional poverty in Europe. Using data from the *European Community Household Panel* (*ECHP*) for 2001, Dewilde (2008) and Dewilde & Raeymaeckers (2008) estimates multinomial logit models in order to evaluate the impact of welfare state arrangements on the odds of being poor one dimension and on the odds of experiencing cumulative deprivation (being poor on several life domains). Such an approach takes account of the fact that the experience of poverty for different population groups manifests itself with different degrees of severity on one or more life domains for longer or shorter periods of time, resulting in an apparent "mismatch" between different measures of poverty. This mismatch is "apparent," because it can result from several processes.

A first argument states that resources and needs vary over the life course and are partly dependent on earlier life-course experiences. For instance, it has been noted that the elderly experience less lifestyle deprivation than expected on the basis of their income (Muffels & Fouarge, 2004). We can relate this to their position on the housing market (in several countries, most elderly are outright owners and can thus get by on a smaller income) but also to the fact that older people have better budgeting skills (age effect) or grew up in an era when people had less material demands (cohort effect). In the same line of reasoning, we can expect young people setting up their own household to be confronted with more housing deprivation, a situation which usually gradually improves over their life course. Whether they are really poor or not depends on their situation on other life domains. A second explanation relates to the time dimension: research shows that the correlation between income and lifestyle deprivation is stronger the longer people are confronted with financial poverty (Jeandidier & Kop, 1998). Thus, the most common income measure, "current household income," fails to capture longer-term accumulation and erosion of resources. One can imagine several situations leading to a mismatch between direct and indirect poverty measures. For instance, for people who are suddenly confronted with a large income drop, it probably takes a long time – perhaps even years – for this to translate into an observable decline of living standards based on indicators such as housing quality or the possession of certain durables. It takes a while for most durables to wear out, or people might initially draw on their savings or rely on support from family in order to keep up the lifestyle to which they are accustomed. On the other hand, people who have lived in a situation of cumulative deprivation for a long time, but manage to substantially raise their income at a certain point, will probably need several years to noticeably improve their living standards. Possible debts can cause severe financial strain for years afterward, while acquiring higher-quality housing requires large investments. This dynamic relationship between the experience of poverty on different domains of life has not yet been researched to its full extent, as one could image that the concept of "▶ capabilities" (Sen, 1992) (such as ▶ health or social capital) moderates the relationship between resources (such as income) and outcomes (such as material deprivation). A final more methodological argument relates to the way in which income is usually measured. Often, components such as savings, investment income, nonofficial income, gifts and loans, debts, or home production are not taken into account or not very reliable. Furthermore, from a comparative perspective, income measures should take account of price differences between regions and countries, differences in equivalence scales, and differential access to social transfers and services. Finally, the number of income poor is not only dependent on the median or mean income but also on the ▶ income distribution, complicating cross-national comparisons.

A first study (Dewilde, 2008) investigates the impact of a range of institutional indicators on a categorical poverty measure distinguishing the "poor on one domain" from the "cumulatively deprived," controlling for both individual-level characteristics (to ensure that a so-called institutional effect explaining between-country variation

is not due to compositional differences) and the level of economic affluence (to standardize for between-country differences in multidimensional poverty arising from overall differences in the standard of living). The domains of poverty are derived from a ▶ latent class model identifying three "domains" on which one can be poor: housing, financial stress (arrears), and limited financial resources. This measurement model was validated as cross-nationally comparable in previous research (Dewilde, 2004; Dewilde & Vranken, 2005). The sample of interest in this study is limited to the population under 65 years of age in 10 Western-European countries. Institutional arrangements which are expected to influence the odds of being poor on one or more domains refer to welfare state arrangements concerning income replacement, the labor market, and support for families. Controlling for compositional differences between countries and the level of economic affluence (measured in terms of gross domestic product per capita), a negative relationship between the extent of income replacement and the risk of poverty is expected. Indicators refer to the *OECD unemployment replacement rate* and the *social assistance benefit level* for a couple with two children. Given previous literature on the so-called *equality-jobs trade-off* (Esping-Andersen, 1990), it is expected that more labor market flexibility increases the risk of multidimensional poverty. Labor market flexibility is measured by the *OECD employment protection legislation index* and by the *percentage of employees on a fixed-term contract*. Regarding the two measures indicating public support for families with children, the *availability of public childcare* and the *value of the child benefit package* (taking account of ▶ taxes and benefits, housing costs, and services) (Bradshaw & Finch, 2002), there are large variations between countries belonging to the same welfare regime, in particular between those usually assigned to the "conservative" regime cluster. Both measures support families with children, either by allowing mothers to work and thus make an often vital contribution to the household economy or by providing financial support and/or cheap services, thereby partly lessening the financial burden of children. It is thus expected that the chances of being "multidimensional" poor are lower in countries with more childcare and a higher child benefit package.

A first general conclusion of this investigation is that economic affluence has a negative and significant impact on the odds of being poor on one life domain and of being cumulatively deprived, compared to not being poor. Thus, as the level of economic welfare increases, less people are touched by poverty, at least in the countries under consideration. As expected, higher unemployment replacement rates lower the odds of being poor on one or on several life domains. A point for discussion, however, concerns the effects of those indicators based on some absolute benefit level, the social assistance benefit level, and the child benefit package. Although benefit levels are generally higher in the more "elaborate" welfare states, it seems that they have not always kept pace with the overall increase of living standards in these societies or, in other words, that benefit levels are lower than expected given the level of affluence. Controlling for affluence, the negative and significant effect of these indicators on multidimensional poverty fades away and in some instances even reverses to a positive effect. Leaving Ireland, a country which has known rapid economic growth, out of the analysis, results in insignificant estimates for the social assistance benefit level. This suggests that it may take a while for countries to convert the benefits of economic growth into increased economic well-being for all population groups and more in particular the poor. Excluding Ireland, however, does not substantially change our results concerning the impact of the child benefit package. The value of the child benefit package is hence not proportional to the general level of affluence, which perhaps reflects the lack of political attention for family-supportive policies. These results might also suggest that there might exist some threshold of affluence above which the idea of poverty as a relative concept is replaced by more absolute notions of need. This is, however, a topic for future research. Controlling for economic affluence and other institutional arrangements, the provision of public childcare

has a negative effect on the chances of being cumulatively deprived. Finally, more employment protection results in a lower poverty risk. The % of employees on a fixed-term contract has an unexpected negative and significant effect on the odds of being poor. This is an interesting result, as at the individual level, labor market flexibility results in an increased likelihood of being poor on one or on several life domains. This indicates that certain amounts/certain types of labor market flexibility do not necessarily result in higher poverty levels, especially when having a fixed-term job provides people with more resources compared to being unemployed.

In a second study (Dewilde & Raeymaeckers, 2008), *ECHP* data for 2001 for 10 Western-European countries are used to evaluate the impact of welfare state arrangements on the poverty risk of older people (aged 65 years or more). Starting point is the idea that housing policies can reduce poverty in later life by promoting outright ownership, which provides a "hidden" source of income. Inspired by Kemeny (1981), Castles (1998: 13) pointed to a possible trade-off between the extent of homeownership and the generosity of old-age pensions. In Castles's words, "by the time of retirement, for a large percentage of owners, the process of home purchase is likely to be complete, leaving them with a net benefit equivalent to the rent they would otherwise have to pay on the property minus outgoings for maintenance and property taxes. In other words, when individuals own their own homes, they can get by on smaller pensions." Furthermore, Castles found that in countries with high ownership rates, lower-income groups were more successful in accumulating housing assets. This study tries to find out if and how the trade-off between pensions provision and housing policies affects the prevalence of old-age poverty. Poverty is again defined as a multidimensional concept and measured in terms of a variable with four categories: not poor, income poverty after housing costs, material deprivation, and the combination of both (cumulative deprivation). Again, a range of individual and household characteristics are introduced in order to control for compositional differences between countries. Country differences in economic affluence are also taken into account, as they tend to correlate with homeownership rates.

Although there is evidence of a trade-off between generous pensions and high ownership rates, the results show that the original hypothesis needs revision in several ways. First, in line with the trade-off hypothesis, at the individual level, being a homeowner effectively shields older people from different forms of poverty: homeowners have a significantly lower risk of being income poor, of being deprived, and of being cumulatively deprived. Furthermore, the poverty-reducing effect of homeownership diminishes as its rate increased; in accordance with Castles' findings that in countries with high ownership rates, low-income households are more successful in acquiring housing assets. Finally, in line with expectations, in countries with more generous pensions, homeowners enjoy a double advantage, which results in a significantly lower risk of being income poor and of being cumulatively deprived. There are similar indications that the stronger the assertion of one policy (e.g., more generous pensions), the greater is the poverty-reducing effect of the other (e.g., ▶ social housing provision). Thus, in countries where both policies are pursued, older people have a significantly lower risk of income poverty (the interaction between pensions provision and homeownership rate is significant) and a significantly lower risk of cumulative deprivation (a significant interaction between pensions provision and social housing provision).

Both institutional domains – housing policy and pensions provision – are again operationalized by means of several indicators, the most important addition to previous research being the inclusion of social housing provision as an important alternative to the encouragement of homeownership. The literature review made clear that a government's housing interventions include both ownership and social housing policies, so the macro-level indicators refer to both. One indicator simply measures *the size of the ownership sector* and is defined as "the percentage of respondents aged 65 and over in outright owner-occupation." The *relative importance of social housing for older people* is measured as "the number of

respondents aged 65 and over in social housing, expressed as a percentage of all older people in rented accommodation." Likewise, the type and generosity of pension systems is operationalized using several indicators. As a first indicator, an *empirical replacement rate* is calculated as "the average pension income for older people (aged 65 and over) as a percentage of average earnings among respondents aged 49–60 years." The second indicator is specific to the poorest elderly people: *the absolute level of the minimum pension* for a single-person household. It is expected that generous pension benefits, high homeownership rates, and extensive social housing provision all have an independent negative effect on old-age poverty. Additional hypotheses refer to interactions between macro-level indicators and to cross-level interactions, derived from the idea of a trade-off between housing and pension policies.

The results also point to several shortcomings of the original trade-off hypothesis. For instance, when the impact of all institutional indicators is estimated simultaneously, it is found that the policy that most reduces the risks of all types of old-age poverty is the provision of social housing. While pensions provision and high homeownership generally reduce poverty, the effects are modest and not (or no longer) significant. Finally, the encouragement of homeownership does not benefit all pensioners. Even in countries with high ownership rates, some older people for whatever reason have not managed to acquire their own homes. The results for "cumulative deprivation" indicate that this group is not only excluded from the housing market but also tends to benefit less from pension transfers: as the homeownership rate increases, the poverty-reducing effect of pensions provision becomes significantly weaker. Although this interaction might arise from a selection effect, by which the higher the rate of homeownership, the more selected are the older people who do not own their homes, there is no similar effect for the other types of poverty. This indicates that certain groups of older people face a double disadvantage, in both housing opportunities and pensions. Fortunately, social housing policies might provide the answer for these groups.

Cross-References

- ▶ Deprivation and Social Exclusion in Europe
- ▶ Social Exclusion
- ▶ Social Inclusion

References

Bradshaw, J., & Finch, N. (2002). *A comparison of child benefit packages in 22 countries*. Leeds: Department for Work and Pensions.

Castles, F. G. (1998). The really big trade-off: Home ownership and the welfare state in the New World and the Old. *Acta Politica, 33*(1), 5–19.

Dewilde, C. (2004). The multidimensional measurement of poverty in Belgium and Britain: A categorical approach. *Social Indicators Research, 68*(3), 331–369.

Dewilde, C. (2008). Individual and institutional determinants of multidimensional poverty: A European comparison. *Social Indicators Research, 86*(2), 233–256.

Dewilde, C., & Raeymaeckers, P. (2008). The trade-off between home-ownership and pensions: Individual and institutional determinants of old-age poverty. *Ageing & Society, 28*(6), 805–830.

Dewilde, C., & Vranken, J. (2005). Mesure multidimensionelle de la pauvreté au sein de l'Union européenne: une approche catégorielle. *Revue belge de sécurité sociale, 47*(1), 21–58.

Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Cambridge: Polity Press.

EUROSTAT. (2010). *Combating poverty and social exclusion. A statistical portrait of the European Union 2010*. Luxembourg: Publications Office of the European Union.

Fahey, T. (2007). The case for an EU-wide measure of poverty. *European Sociological Review, 23*(1), 35–47.

Jeandidier, B., & Kop, J. L. (1998). The convergence between different measures of poverty in a static versus dynamic perspective: An empirical illustration in France (Trans.). In H. J. Andreß (Ed.), *Empirical poverty research in a comparative perspective* (pp. 205–226). Aldershot: Ashgate.

Kemeny, J. (1981). *The myth of home ownership. Private versus public choices in housing tenure*. London: Routledge & Kegan Paul.

Muffels, R., & Fouarge, D. (2004). The role of European welfare states in explaining resources deprivation. *Social Indicators Research, 68*(3), 299–330.

Nolan, B., & Whelan, C. T. (2010). Using non-monetary deprivation indicators to analyze poverty and social exclusion: Lessons from Europe? *Journal of Policy Analysis and Management, 29*(2), 305–325.

Ringen, S. (1988). Direct and indirect measures of poverty. *Journal of Social Policy, 17*(3), 351–365.

Rybkowska, A., & Schneider, M. (2011). Housing conditions in Europe in 2009. In EUROSTAT (Ed.), *Statistics in focus* (Vol. 4). Luxembourg: European Commission.

Sen, A. (1992). *Inequality reexamined*. Oxford: Oxford University Press.
Townsend, P. (1979). *Poverty in the United Kingdom. A survey of household resources and standards of living*. Harmondsworth: Penguin.
Wolff, P. (2010). 17% of EU citizens were at-risk-of-poverty in 2008. In EUROSTAT (Ed.), *Statistics in focus* (Vol. 9). Luxembourg: European Commission.

Detroit Area Studies (DAS)

Robert W. Marans
Institute for Social Research, University of Michigan, Ann Arbor, MI, USA

Synonyms

DAS; Survey research practicum

Definition

The Detroit Area Study (DAS) was a practicum in survey research at the University of Michigan (UM) from 1952 to 2004. In 1951, Angus Campbell, the first director of UM's relatively new Survey Research Center (SRC) put forth the idea of establishing a "Training and Research Laboratory in the Community" (i.e., the Detroit area). The laboratory would have three explicit purposes: (1) to provide a research facility through which basic research can be conducted by social scientists at the University of Michigan, (2) to provide an agency for training graduate students of the social sciences in basic research techniques, and (3) to make available social science data of value to the Detroit community.

Description

DAS was launched in 1951 with the help of a Ford Foundation grant secured by Ronald Freedman, a UM professor of sociology and colleague of Campbell (Freedman, 1953). The first DAS was conducted in 1952 under the direction of Freedman with Samuel Eldersveld from the political science department serving as its principal investigator. The topic was "political behavior in a metropolitan area." As in most of the subsequent years, the 1952 study used survey research, the relative new and powerful tool for collecting quantitative data that was appropriate for statistical analysis. Survey research involved the collection of information from a multistage sample of Detroit area residents using standardized questionnaires. The questionnaires were typically administered in the sampled households to the designated respondents by trained interviewers. The Detroit area was defined as the city of Detroit, the reminder of Wayne County in which the city is located and two contiguous counties – Oakland and Macomb.

Process

As a practicum, graduate students actively participated in a full year of coursework involving questionnaire design, face-to-face interviewing, coding of question responses, data analysis, and writing papers covering different aspects of the survey. Questionnaire design was largely performed during the fall semester with interviewing taking place between semesters (in December). From the beginning of DAS, it was recognized that students were unlikely to complete all the assigned interviews during the semester break; consequently, professional interviewers from SRC were contracted to contact and conduct interviews in about half of the sampled households. The beginning of the second or winter semester (January) involved an intensive period of coding leaving students little time for data analysis and the writing of a paper based on that analysis. This labor-intensive set of student activities persisted until 1988 when DAS changed from a two-semester to a three-semester course sequence. The first semester was now devoted to teaching the fundamentals of survey research and theoretical issues related to topic under investigation while the second semester was used to design and pretest the questionnaire and launch the interview process. Interviewing typically occurred during and after the final exam period with SRC interviewers completing

the remainder of the scheduled interviews during the summer months. Coding and file building were then relegated to the DAS staff, enabling students who entered the third and final DAS semester to devote more time to data analysis and writing their papers.

Evaluation

DAS's initial purpose of providing "a research facility through which basic research can be conducted by social scientists at U-M" has clearly been fulfilled. In 2002, DAS published a 50th anniversary report summarizing its activities. The report identified 37 books based on DAS data, 64 dissertations, 437 journal articles, conference papers, and book chapters, and nearly 1,200 requests for DAS datasets archived by UM's Inter-University Consortium for Political and Social Research (ICPSR, n.d.) (Couper, Clemens, & Powers, 2002). When taking into account the last three studies carried out after the report (2002, 2003, and 2004), these figures are undoubtedly higher. Moreover, 75 faculty members representing numerous UM departments (predominantly sociology) have served as DAS principal investigators over the years.

In terms of training graduate students in social science research techniques, there is little dispute that DAS has also been successful. Since its inception, over 1,300 students participated in the DAS practicum gaining hands-on experience in all facets of survey research. Many have gone on to teach survey research methods at other universities around the world. During the first few decades of the program, enrollments averaged between 25 and 30 graduated students in each yearly exercise with the dominant number being students from UM's sociology department where DAS was required of all its graduate students. In the mid-1990s, the department began to offer two alternative methodological requirements and the number of students participating in DAS decreased despite an increase in student participation from other university departments.

It is generally agreed that the third objective of "making available social science data of value to the Detroit community" was not reached for a number of reasons. First and foremost, continuity of topics over the years was largely nonexistent. That is, a new faculty investigator, each with his/her own research interests or agenda, was selected every year to lead DAS. Topics varied from political participation to end-of-life decisions to quality of urban life. Some topics may have piqued the interest of governmental or civic leaders but most were not relevant. Moreover, DAS was not designed to deal with trends. Potentially relevant topics were seldom repeated, providing little opportunity to examine changes in public attitudes or behaviors about the topic. Among the few replicated studies of potential interest to decision makers were those dealing with social indicators (Duncan, Schuman, and Duncan, 1973); changes in child-rearing practices (Alwin, 1984, 1986), changes in preferences for racially mixed neighborhoods (Krysan & Bader, 2007), and changes in the quality of community life (Marans & Kweon, 2011). Furthermore, faculty investigators were not inclined to identify pressing informational needs of key governmental, corporate, or institutional actors prior to launching their studies. From an academic perspective, it was not considered a high priority use of one's time, given that Detroit was 50 miles from UM's Ann Arbor campus. Finally, the Detroit area was geographically large and consisted of multiple governmental jurisdictions representing diverse constituencies. Data of potential value to one governmental unit were unlikely to be of interest to others in the region.

Content of studies

The majority of studies undertaken during its 53 years of operation involved survey research around a substantive topic of interest to the faculty investigator. Most of the studies relied on face-to-face interviewing although some were supplemented with telephone interviewing or mail questionnaires. Other studies had a methodological focus including "split sample" experiments in question form or "vignette analysis" combining conventional survey techniques with an experimental factorial design in question content (e.g., Hamilton & Sanders, 1992).

The Demise of DAS

To the disappointment of many at UM and others throughout the world who had participated in DAS, the program ended in 2005; the last DAS was conducted in 2004, with the final cohort of students completing their work at the end of the following year. Several interrelated factors contributed to its demise.

As noted above, the DAS course sequence was no longer required of all sociology graduate students and consequently, the number of students enrolling in DAS began to diminish in the late 1990s. The diminished number of students resulted in fewer student interviews and added professional interviewer involvement, the latter increasing the costs of collecting data. While there were increased DAS enrollments of students from other university departments who wanted training in survey research, this increase was not enough to offset the loss of sociology students. Thus, the number of completed interviews diminished over the years and with it, the potential for conducting complex analyses.

The increasing costs of data collection were accompanied by an increase in DAS staff salaries and other operating costs. This occurred during a period when university budgets were being strained and despite supplemental DAS funding from the sociology department and SRC, the overall cost of operating DAS far exceeded expenses. Additional expenditures also included the funding of modest financial incentives needed to ensure the cooperation of sampled persons. For various reasons, response rates for surveys in general and for surveys in the Detroit region had decreased over the years and incentives of various kinds have been increasingly used to induce respondent participation.

Finally, face-to-face interviewing was becoming less cost-effective in terms of increased time necessary to find the sampled household, enlist the cooperation of the designated respondent, and conduct the interview. At the same time, advances in telephone interviewing procedures were rapidly taking place, promising significant cost savings in conducting surveys. Despite the educational benefits of a field interview experience offered to DAS students, there was growing pressure to shift to other techniques for collecting information.

Although no longer in operation, the legacy of DAS remains. Throughout the world, there are large numbers of DAS alumni in leadership positions at universities and in the world of market research. Many have launched educational and training programs modeled after DAS which during its existence offered a comprehensive, hands-on approach to learning the theory and practice of survey research.

Cross-References

- ▶ Institute for Social Research Michigan
- ▶ Survey Research

References

Alwin, D. F. (1984). Trends in parental socialization values: Detroit, 1958 to 1983. *American Journal of Sociology, 90*, 359–382.

Alwin, D. F. (1986). Religion and parental child-rearing orientations: Evidence of a Catholic-Protestant convergence. *American Journal of Sociology, 92*, 412–440.

Couper, M. O., Clemens, J., & Powers, K. (2002). *Detroit areas study 1952–2001: Celebrating 50 years*. Ann Arbor: University of Michigan.

Duncan, O. D., Schuman, H., & Duncan, B. (1973). *Social change in a metropolitan community*. New York: Russell Sage.

Freedman, R. (1953). The Detroit area study: A training and research laboratory in the community. *American Journal of Sociology, 59*, 30–33.

Hamilton, V. L., & Sanders, J. (1992). *Everyday justice: Responsibility and the individual in Japan and the United States*. New Haven: Yale University Press.

ICPSR. (n.d.). Detroit area studies series. https://www.icpsr.umich.edu/icpsrweb/ICPSR/series/00151. Accessed 25 February 2013.

Krysan, M., & Bader, M. (2007). Perceiving the metropolis: Seeing the city through a prism of race. *Social Forces, 86*(2), 699–733.

Marans, R. W., & Kweon, B. S. (2011). The quality of life in metro detroit at the beginning of the millennium. In R. W. Marans & R. Stimson (Eds.), *Investigating quality of urban life: Theory, methods, and empirical research*. Dordrecht, NL: Springer.

Developing Countries

Laura Camfield
Department of International Development, University of East Anglia, Norwich, UK

Synonyms

Emerging and developing economies; Global South; Less developed countries; Majority world; Relatively poor countries; Third world

Definition

Every financial year the World Bank uses a measure of gross national income per capita to define countries as low income (<$995), middle income ($996–$12,195, subdivided into lower and upper middle), or high income (>$12,196) http://data.worldbank.org/about/country-classifications. The middle- and low-income countries are labeled "developing" and include most of the countries in Africa and Asia (a similar exercise is carried out using the ▶ Human Development Index and classifying countries scoring below 0.89 out of 1.00 as developing). Developing countries contain 83–85 % of the world's population (5.7 billion), depending on whether income or ▶ human development is used as the measure (http://www.prb.org/pdf10/10wpds_eng.pdf).

Description

The measurement of subjective quality of life or ▶ well-being in developing countries is an expanding area which despite its challenges has the potential to improve international and local understanding of the challenges faced by people in these environments and the policies and interventions that will support their responses (Camfield & McGregor, 2009). This expansion has become possible through greater sophistication in measurement, combined with multidisciplinary research into local conceptions of quality of life. Whether researchers are exploring quality of life quantitatively or qualitatively, they all share an interest in what it means for different people to live well or badly in their environment. The increasing emphasis on the subjective and on people's relationships is paralleled by an expansion of measures of ▶ objective quality of life to include aspects other than income. This means that measures can capture the multidimensionality of poverty and include nontraditional domains such as ▶ agency or shame (Alkire, 2007). This entry focuses on measuring subjective quality of life in developing countries as this has lagged behind the measurement of objective quality of life. It is an ethical priority as it reflects a growing interest in how people in developing countries view themselves, their lives, their immediate surroundings, and their larger social situation. For example, recent research on the role of ▶ core affect and the homeostasis of subjective well-being in keeping responses to "global" life satisfaction questions stable and positive may provide a fresh perspective on the problem of ▶ adaptation or "false consciousness." Finally, working in very different environments encourages researchers to reflect on their normative assumptions and measurement practices. For example, the extent to which quality of life measures are "appropriate technologies" (i.e., work equally well in resource-poor environments), the challenges of translation, and the ▶ ethics of research with people who are relatively poor and powerless.

The main actors in this field are the ▶ social indicators movement and ▶ health-related quality of life where cross-cultural assessment of individual quality of life is well established (Schmidt & Bullinger, 2006). These comprise people from the following disciplines: economics (especially development and "happiness" economists), psychology (health and social psychologists), social policy, community development, and most recently, development studies. Individual quality of life measures are becoming part of development practice as they can assist needs assessment, planning, monitoring, and

evaluation (Copestake & Camfield, 2010). Data from these measures could also help development policymakers and practitioners choose between types of intervention and justify these decisions in terms of outcomes and the efficiency of resource allocation (see the 3-Dimensional Human Well-being (http://www.ids.ac.uk/download.cfm?objectid=EEF7C7D1-9C06-F4AB-57CB96843B4FA275) and Well-being and Poverty Pathways approaches (www.wellbeingpathways.org)). Although individual quality of life measures are relatively new to development studies, they have a number of advantages over qualitative methods. For example, (a) they do not require special expertise to use, (b) they are quick to administer and analyze and so take less time from the researcher and the respondent (reducing costs on both sides), (c) they can be combined with other methods (e.g., as a module in a household survey), and (d) they may have more credibility with policymakers than participatory methods, despite having the same subjective element (White & Pettit, 2005). In the remainder of the entry, I describe the types of measure currently used in developing countries, discuss some of the challenges, and provide some examples of how these challenges have been engaged with.

The three main types of measure used in developing countries are:

1. Global, single item, unidimensional, for example, the Global Happiness Question used in the Barometer surveys of social and political attitudes

   These capture people's ▶ happiness and satisfaction with their life as a whole, mainly using three-, four-, or 10-point scales. They are quick and simple to administer and easy both for respondents to understand and researchers to analyze; however, they can have a high ratio of ▶ error variance to true variance. The measures are used to address topical issues (e.g., effects of political conflict), generate longitudinal data sets to explore the effect of processes such as globalization, and provide accurate data for planning. They are included in population surveys such as World Values, International Social Survey Program, Comparative Study of Electoral Systems, Latinobarometer, Afrobarometer, East Asia Barometer, AsiaBarometer, Arab Barometer, Globalbarometer, and Social Weather Station in Latin America, Asia, and Africa (see http://www.eur.nl/fsw/research/happiness/).
2. Global, multiple item, unidimensional, for example, the ▶ Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen, & Griffin, 1985), which measures ▶ satisfaction with life as a whole and has been used in the majority of developing countries, including Ethiopia, Bangladesh, Zambia, Peru, India, Argentina, Cape Verde, Angola, South Korea, Nepal, South Africa, Taiwan, various Arabic-speaking countries, China, and Thailand

   These are primarily used to measure people's satisfaction with their life "as a whole" or single psychological traits like anxiety. Although multi-item measures take longer to administer, they are thought to have greater reliability and validity than single items as they have less variability due to item-placement effects or external influences at the time of response. For this reason, the fact that the SWLS generally gives lower values for life satisfaction than single items is interpreted as a sign that it is less affected by biases such as "global positivity." The precision of these measures is enhanced by larger response scales (5, 7, or 11 points, rather than the 3- or 4-point scales used with global single items). However, these can prove a problem for translation and interview administration if scales with adjectival descriptors are used as some languages do not have sufficient "measurement" words to draft meaningful response options (this is why the ▶ Personal Well-being Index uses an 11-point End-Defined Response Scale (0–10, "extremely dissatisfied" to "extremely satisfied," with a midpoint labeled "neither satisfied nor dissatisfied")).
3. Profile, multidimensional, with either overlapping or independent domains, for example, the World Health Organization Quality of Life Measure – 100 items (WHOQOL-100, World Health Organization Quality of Life [WHOQOL], 1995) or the

Personal Well-being Index (PWI, Cummins, Eckersley, Pallant, van Vugt, & Misajon, 2003), which is often administered alongside the ▶ National Well-being Index

There are two forms of profile measure: (1) overlapping, which explore different aspects of a complex construct such as social support, and (2) independent, which ask the respondents to judge their quality of life, or another construct, across a range of separate domains and do not attempt to produce a total score. Profile measures are usually phrased in terms of satisfaction with specific domains of life, but they can use other question stems, for example, relating to frequency. They may include an element of weighting (e.g., the WHOQOL importance scores), as this increases "face validity"; however, its explanatory value is still debated. Alternatively, measures can be entirely individualized, for example, the ▶ Cantril Self-Anchoring Striving Scale, which uses person-defined endpoints, or the ▶ Global Person Generated Index. The most widely used profile measure within international health research is the WHOQOL, with over 50 different language versions, and within social indicators research the Personal Well-being Index, used in over 40 countries.

Measuring quality of life in any setting is challenging, for example, capturing meaning as well as function and the intangible or social aspects of people's experiences, being explicit about the conceptual foundations of measures to increase the accuracy of interpretation and translation (Bowden & Fox-Rushby, 2003), and managing culturally specific response biases. However, these challenges are more acute in developing countries when they are compounded by logistical problems such as low literacy, respondents' unfamiliarity with scales or with articulating their inner feelings and experiences, and lack of psychometrically validated translated measures or population data. Two further problems, which I discuss in more detail, are ethnocentricity and translation. Many scales are founded on concepts of quality of life that are normative and culturally specific (Christopher, 1999) or use inappropriate or irrelevant reference points. Hunt (1999: 230) observes that "the ethnocentricity of assuming that a measure developed in, say, the USA, or England, will be applicable (after adaptation) in pretty much any country or language in the world... is highlighted if one imagines the chances of a health questionnaire developed in Bali, Nigeria, or Hong Kong being deemed suitable for use in Newcastle, Newark, or Nice."

Translation also presents problems as even where concepts are understood across cultures they often require more than one word to convey their meaning. For example, in Thailand the best translation of well-being is "kin dee, yu dee" (eat well, live well). A good translation from the original into the "target" language is a precondition of successful measure adaptation. However, for this to be possible there needs to be a similar concept of, for example, health in both cultures that is used in the same way and has the same relationship to other values. There should also be a comparable system of, for example, health care and medical education, assumptions that would not be plausible in Europe, let alone internationally. For this reason some authors argue that rather than trying to transpose a measure from one language to another as closely as possible, the inconsistencies, ambiguities, and untranslatable expressions identified during translation should be used to reformulate the original questionnaire.

Many different forms of equivalence have been proposed to assess the quality of a translation, but the most comprehensive account is given by Herdman, Fox-Rushby, and Badia (1998:331) who makes the following distinctions: conceptual (the measure has the same relationship to the underlying concept in both cultures, evidenced by the choice of domains and the emphasis placed on different domains), item (estimates the same parameters on the latent trait being measured and is equally relevant and acceptable in both cultures), semantic (achieves a "similar effect" on respondents who speak different languages; this should not be confused with a literal translation, which may be meaningless), operational (similar questionnaire format, instructions, mode of administration, and measurement method), measurement

(psychometric properties are equivalent), and functional (when "an instrument does what it is supposed to do equally well in two or more cultures"). This attention to the different aspects of translation is important and illustrates the value of thorough pretesting and piloting of adapted measures.

There are measures developed or adapted for use in developing countries that address these challenges by basing the content of their measures on extensive qualitative research and carrying out rigorous pretesting. Examples include the KENQOL health-related quality of life measure (Bowden, Fox-Rushby, Nyandieka, & Wanjau, 2002), the GPGI individualized measure (Camfield & Ruta, 2007), and the WeDQoL measure of subjective quality of life, which was developed by the Well-being in Developing Countries ESRC Research Group (WeD, www.welldev.org.uk) in Ethiopia, Thailand, Peru, and Bangladesh. WeD based their measure on a definition of subjective quality of life as arising from the disjuncture between what people aspire to and their evaluation of their ability to achieve those aspirations. This recognizes that the goals that people regard as important for their well-being include material items but also relationships, personal qualities, and dispositions. Measure development involved a review of existing methods of subjective quality of life used in developing countries and open-ended qualitative research by local fieldworkers in each of the four countries to identify what local people regarded as important goals for their quality of life (Camfield, 2006). The WeDQoL contained two components addressing subjective well-being (adaptations of the ▶ SWLS and ▶ PANAS) and aspirations (WeDQoL-goals) and was pretested, piloted, and psychometrically validated in all four countries (see Woodcock et al., 2009 for an account of this process in Thailand).

Developing better measures of quality of life for people in developing countries is clearly important as "GNP per capita is a fairly weak proxy for many of the things commonly associated with the good life" (Kenny, 2005: 209). However, the measures used need to reflect local understandings of the good life and should therefore be preceded by extensive qualitative and participatory work (Camfield, Crivello, & Woodhead, 2008). Thorough pretesting is also important, as there is little point in administering a measure if you are not sure what it is measuring. The experience of answering irrelevant or badly drafted questions can also visibly reduce the quality of life of both researcher and respondent! In developing countries as in all areas of practice, the best measures are the ones that are "fit for purpose." So while domain-specific or even objective assessments might give a more accurate evaluation of the person's current state, if the researcher wanted to know their basis for decision-making or planning (e.g., "shall I join this new credit and savings group?"), they might be better off using a global assessment. Similarly, if a policymaker wanted to know about people's satisfaction with their health in order to plan or evaluate an intervention, then a profile measure would be the best choice and could be supplemented with a global measure to calculate what affect their dissatisfaction with their health was having on their life as a whole.

Cross-References

- ▶ Cantril Self-Anchoring Striving scale
- ▶ Core Affect
- ▶ Error Variance
- ▶ Ethics
- ▶ Global Person Generated Index
- ▶ Gross National Product (GNP)
- ▶ Happiness
- ▶ Health-Related Quality of Life
- ▶ Human Development
- ▶ Human Development Index
- ▶ National Well-being Index
- ▶ Personal Well-being Index
- ▶ Positive and Negative Affect Schedule (PANAS)
- ▶ Satisfaction with Life
- ▶ Satisfaction with Life Scale (SWLS), an Overview
- ▶ Social Indicators
- ▶ Well-being

References

Alkire, S. (2007). The missing dimensions of poverty data: Introduction to the special issue. *Oxford Development Studies, 35*(4), 347–359.

Bowden, A., & Fox-Rushby, J. A. (2003). A systematic and critical review of the process of translation and adaptation of generic health-related quality of life measures in *Africa, Asia, Eastern Europe, the Middle East, South America, Social Science & Medicine, 57*(7), 1289–1306.

Bowden, A., Fox-Rushby, J. A., Nyandieka, L., & Wanjau, J. (2002). Methods for pre-testing and piloting survey questions: Illustrations from the KENQOL survey of HR-QoL. *Health Policy and Planning, 17*, 322–330.

Camfield, L. (2006). *Why and how of understanding 'Subjective' well-being: Exploratory work by the WeD group in four developing countries*. Well-being in Developing Countries Working Paper 26.

Camfield, L., & McGregor, J. A. (2009). Editorial. Quality of life and international development policy and practice. *Applied Research in Quality of Life, 4*(2), 129–134.

Camfield, L., & Ruta, D. (2007). 'Translation is not enough': Using the Global Person Generated Index (GPGI) to assess individual quality of life in Bangladesh, Thailand, and Ethiopia. *Quality of Life Research, 16*(6), 1039–1051.

Camfield, L., Crivello, G., & Woodhead, M. (2008). Well-being research in developing countries: Reviewing the role of qualitative methods. *Social Indicators Research, 90*(1), 5–31.

Christopher, J. C. (1999). Situating psychological wellbeing: Exploring the cultural roots of its theory and research. *Journal of Counseling and Development, 77*, 141–152.

Copestake, J., & Camfield, L. (2010). Measuring multidimensional aspiration gaps: A means to understanding cultural aspects of poverty. *Development Policy Review, 28*(5), 617–633.

Cummins, R. A., Eckersley, R., Pallant, J., van Vugt, J., & Misajon, R. (2003). Developing a national index of subjective wellbeing: The Australian Unity Wellbeing Index. *Social Indicators Research, 64*(2), 159–190.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71–75.

Herdman, M., Fox-Rushby, J., & Badia, X. (1998). A model of equivalence in the cultural adaptation of HRQL instruments: The universalist approach. *Quality of Life Research, 7*, 323–355.

Hunt, S. (1999). The researcher's tale: A story of virtue lost and regained. *Quality of Life Research*, *8*(7), 556. In Joyce, C. R. B., O'Boyle, C. A., & McGee, H. (1999). *Individual quality of life: Approaches to conceptualization and assessment*. Amsterdam/Netherlands: Harwood Academic.

Kenny, C, (2005). Why are we worried about income? Nearly Everything that Matters is Converging. *World Development*, Elsevier, *33*(1), 1–19.

Schmidt, A., Bullinger, M. (2006). Cross-cultural quality of life assessment approaches and experiences from the health care field. In I. Gough, & J. A. Mcgregor (Eds.), *Wellbeing in developing countries: New approaches and research strategies*. Cambridge: Cambridge University Press

White, S., & Pettit, J. (2005). Participatory approaches and the measurement of human wellbeing. In M. McGillivray (Ed.), *Measuring human wellbeing*. Oxford: WIDER/Oxford University Press.

WHOQOL Group. (1995). The World Health Organisation Quality of Life assessment (WHOQOL): Position paper from the World Health Organisation. *Social Science & Medicine, 41*, 1403–1409.

Woodcock, A., Camfield, L., McGregor, J. A., & Martin, F. (2009). Validation of the WeDQoL-Goals-Thailand measure: Culture-specific individualised quality of life. *Social Indicators Research, 94*(1), 135–171.

Developing Land for Growing

▶ Gardening

Development

Craig Talmage
Community Resources and Development, Arizona State University, Tempe, AZ, USA

Synonyms

Growth; Organizational change; Positive change; Progress

Definition

An effective change process aimed towards positive impact that is facilitated through the efficient use of resources.

Description

Development is a change process that results from a number of different inputs and spurs a number of

different outcomes depending on your research lens or project scope. Development relies heavily on the goals of the parties interested in stimulating development. Thus, development is seen as an effective process based on "the degree to which goals have been reached" (Boulmetis & Dutwin, 2011, p. 24).

The outcome of development is a developed entity, which can be a person, place, or object. In order for development to be successful, its inputs (also called resources) need to be used efficiently. Efficiency in terms of program development is seen as "the degree to which a program or project has been productive in relationship to its resources" (Boulmetis & Dutwin, 2011, p. 24).

The short-term or long-term impact of development thus depends on the effectiveness of the development process and the efficient use of resources. Impact within program development is seen as "the degree to which a program or project resulted in changes" (Boulmetis & Dutwin, 2011, p. 24). It is no wonder that dictionaries like Collins English Dictionary see development as "the act or process of growing, progressing, or developing." The important commonality that the somewhat synonymous words "growing, progressing, or developing" share is that they all are active verbs reflecting change, assumingly positive change. The short-term or long-term effects are determined strongly by the agendas of the parties interesting in facilitating development.

Development is defined as a process that is facilitated because often not all variables can be accounted for in the development process; one cannot simply create development. Inputs can be manipulated, but unforeseen changes to these inputs can occur throughout the development process unbeknownst to or out of the control of the change agent, the person or entity facilitating the change (Cummings & Worley, 2009). The same situation could occur as well to the process itself, and sometimes byproducts or unintended consequences or outcomes may result from even the most well-planned development situations. Any developer, practitioner, or researcher must always account for error.

Additionally, researchers and practitioners usually refrain from seeing growth and development as fully synonymous. Blair (1995) commented that growth with regards to economic and community development can both improve and harm communities in the long run. Phillips and Pittman noted the following: "Since growth does not always equate with a better standard of living, a higher order concept of economic development is needed that better reflects the actual well-being of residents" (p. 9). Therefore, much development research and practice has moved to focus on sustainable development seen as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission, 1987). The initial definition above assumes that development spurs positive impact; if the impact is not positive, then it should not be considered as development.

Development is expressed in multiple domains. An individual seeking to understand development would likely find his or her information in the following three realms: (1) the development of objects, tools, or other things; (2) the development of organizations, communities, and other groups or institutions; and (3) the development of individual persons. Notably, these may not be the only realms of development.

The science and technology field mainly focuses on developing objects, tools, or other things. Many researchers focus on topics such as green development, energy development, drug development, or software development. All of these forms of development are aimed at discovering knowledge or tools that will hopefully better humanity. This scientific process of discovery requires an understanding of how inputs and processes result in expected or unexpected outcomes.

The development of organizations, communities, and other institutions is another well-researched field more rooted in the social sciences. Organizational development is defined

by Cummings and Worley (2009) as "a systemwide application and transfer of behavior science knowledge to the planned development, improvement, and reinforcement of the strategies, structures, and processes that lead to organization effectiveness" (p. 2). This definition shares many similarities to the presented definition of development. Organizational development based on the goals of the persons interested in organizational change (i.e., change agents) uses knowledge as inputs to plan effective processes that will lead hopefully to short- and long-term positive impact.

Community development is another form of institutional or group development. Phillips and Pittman (2009) defined community development broadly as:

> A process: developing and enhancing the ability to act collectively, and an outcome: (1) taking collective action and (2) the result of that action for improvement in a community in any or all realms (p. 6)

Their definition takes development a step further than the understanding of development as a process and includes its outcomes in their definition. Even still, inputs are used (i.e., knowledge, training) to work to develop and enhance the ability of the collective to act to make their community better.

Another example of development is economic development. Economic development defined by Phillips and Pittman (2009) is "the process of creating wealth through the mobilization of human, financial, capital, physical and natural resources to generate marketable goods and services" (p. 8). Like all development, economic development is a process that requires inputs (i.e., human resources) that result in effective outcomes (i.e., marketable goods and services).

Thirdly, the development of individual persons is another area in which development is illustrated on a personal level. A great deal of research has gone into professional or employee development and training (Noe, 2008). Noe (2008) defines development, specifically employee development, as "formal education, job experiences, relationships, and assessments of personality and abilities that help employees prepare for the future" (p. 502). All of these noted items are processes that fit well within the present definition of development. Developmental experiences in the work place are aimed at increasing positive workplace outcomes.

Another description concerns personal development, which is illustrated well by the work of Rath and Harter (2010). They suggested there are five elements of well-being that a person should work to develop: (1) career well-being, (2) social well-being, (3) financial well-being, (4) physical well-being, and (5) community well-being. Rath and Harter (2010) provide readers of their book tangible ways that they can improve these five elements and develop their own well-being. The psychological growth of individuals is important and should not be forgotten as an aspect of development.

On a final note but not shown in the above definition, development can be seen as an ideology. An ideology of development is an ideology of action. This ideology of action looks to restructure systems as big as world order or as small as incremental changes to improve persons, organizations, governments, or communities (see Robinson & Green, 2011).

Development thus remains an effective change process aimed towards positive impact that is facilitated through the efficient use of resources. As mentioned earlier, development spurs positive impact; if the impact is not positive, then it should not be considered as development. Development has the ability to increase the quality of life of persons on individual (i.e., professional development), institutional (i.e., community development), and knowledge-seeking levels (i.e., scientific development). Development as a process likely will not decrease as a topic of interest over time and should continue to be researched and practiced.

Cross-References

▶ Community Participation

References

Blair, J. P. (1995). *Local economic development: Analysis and practice*. Thousand Oaks, CA: Sage.
Boulmetis, J., & Dutwin, P. (2011). *The ABCs of evaluation: Timeless techniques for program and project managers* (3rd ed.). San Francisco: Jossey-Bass.
Cummings, T. G., & Worley, C. G. (2009). *Organization development and change* (9th ed.). Mason, OH: South-Wester CENGAGE Learning.
Development. (n.d.). *Collins English dictionary – Complete & unabridged 10th edition.* Retrieved April 20, 2012, from Dictionary.com website: http://dictionary.reference.com/browse/development
Noe, R. A. (2008). *Employee training and development* (4th ed.). New York: McGraw-Hill Irwin.
Phillips, R., & Pittman, R. H. (2009). A framework for community and economic development. In R. Phillips & R. H. Pittman (Eds.), *An introduction to community development* (pp. 3–19). New York: Routledge.
Rath, T., & Harter, J. (2010). *Well-being: The five essential elements*. New York: Gallup Press.
Robinson, J. W., Jr., & Green, G. P. (Eds.). (2011). *Introduction to community development: Theory, practice, and service-learning*. Thousand Oaks, CA: Sage.
World Commission on Environment and Development. (1987). *Our common future*. New York: Oxford University Press.

Development of Social Indicators

► History of Social Indicators and Its Evolution

Development Studies Website

► Praxis

Development Theory

► Marital Adjustment over 25 Years

Development, Spiritual

► Adolescents and Spirituality

Developmental Assets

Claire Topping
Whittington Health, London, UK

Synonyms

External and internal assets; Positive youth development; Protective health factors

Definition

A developmental asset is an internal or external resource that assists any child or young person to achieve health and well-being, i.e., thrive.

Description

Developmental assets encompass a wide range of concepts such as relationships, opportunities, and personal qualities and can be explored at the level of the individual, family, or community settings such as schools. The term *youth asset* is also sometimes used when referring to older children and/or adolescents.

Much of the research related to developmental assets has taken place in North America, with an emerging evidence base regarding interventions.

Through the systematic collation of survey data across several decades, the Search Institute has identified 40 developmental assets which are subdivided into 20 internal and external assets (Benson, 2006; Scales & Leffert, 1999).

Cross-sectional studies from the Search Institute indicate that that there is a positive correlation between high numbers of assets and positive behaviors such as leadership, good health, valuing diversity, and succeeding in school. Conversely, low numbers of developmental assets correlate strongly with the increased likelihood of high-risk behaviors such as problem alcohol use, violence, illicit drug use, and sexual activity.

Within interventional studies based on the Search Institute model, the emphasis is on raising

the overall number of assets available to all children and young people rather than focusing on building individual assets. As such it can be aligned with a public health approach with associated interventions designed to work preventatively across the whole population rather than focusing on those with specific needs. There is emerging evidence that while the relationship between overall numbers of assets and positive behaviors holds across ethnic and social groups, there are also differences (Sesma, Roehlkepartain, Benson & Van Dulmen, 2003).

In addition to the specific approach described above, asset-based frameworks are increasingly being utilized to explore specific issues within the public health agenda such as child obesity. For example, Fenton et al. (2010) investigated the processes and factors that contribute to the acquisition of body image among young people. Using secondary data analysis of the WHO Health Behaviour in School-Aged Children Study (11–15 years old), they found that adolescents who self-identified as having a positive body image were more likely to report ease of talking with a father figure, feeling intelligent, perceiving that their family were well-off, and a belief that their teachers were interested in them as people. When these findings are compared to some of the developmental asset categories provided by the Search Institute, it is interesting to note that there are some similarities particularly regarding positive family communication, a caring school climate, and high self-esteem.

Cross-References

- ▶ Adolescent Life Satisfaction Measurement
- ▶ Child Participation
- ▶ Salutogenesis

References

Benson, P. L. (2006). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents* (2nd ed.). San Francisco: Jossey-Bass.

Fenton, C., Brooks, F., Spencer, N. H., & Morgan, A. (2010). Sustaining a positive body image in adolescence: An assets-based analysis. *Health & Social Care in the Community, 18*(2), 189–198.

Scales, P. C., & Leffert, N. (1999). *Developmental assets: A synthesis of the scientific research on adolescent development*. Minneapolis, MN: Search Institute.

Sesma, A., Jr., Roehlkepartain, E. C., Benson, P. L., & Van Dulmen, M. (2003). Unique strengths, shared strengths: Developmental assets among youth of color. *Search Institute Insights & Evidence, 1*(2), 1–13.

Developmental Delays

▶ Developmental Disabilities

Developmental Disabilities

Anne Wheeler
Carolina Institute for Developmental Disabilities, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

Synonyms

Developmental delays; Intellectual disabilities

Definition

Developmental disability (DD) refers to a diverse group of chronic conditions that involves physical and/or mental/cognitive impairment. Individuals with DD have significant, lifelong limitations in self-sufficiency, learning, language, mobility, and/or self-care. DD is generally associated with mild to severe intellectual disabilities, onset occurs before the age of 18, and it affects 1–2 % of the western population. Causes for DD vary widely but include genetic and chromosomal disorders, autism spectrum disorder, brain injury or infection during or prior to birth, extreme prematurity, poor prenatal nutrition or care, and severe child abuse. Quality of life for individuals with DD and their families/caregivers has been a focus of research aimed at improving the well-being of individuals with DD.

Description

Prior to the 1960 normalization movement, QoL for individuals with DD was thought of primarily with regard to maintaining physical health and basic life-sustaining needs. However, with a shift in focus toward individual human rights, there has been an increase in cultural sensitivity and a promotion of QoL for individuals with DD being multidimensional and requiring involvement of the individual within their natural communities (Brown, Schalock, & Brown, 2009). In 2002 a group of international researchers developed a document (Schalock et al., 2002) to outline core principles related to the conceptualization, application, and measurement of QoL for individuals with DD. These principles provide direction with regard to QoL (1) as a way to provide reference and guidance for improving the well-being of the individual with DD and (2) as a way to understand and promote family well-being for parents and other caregivers who provide direct care for individuals with DD. Further, QoL as a concept is more frequently used within policy development as an outcome measure for programs and service provision.

Quality of Life for Individuals with DD

QoL for individuals with DD does not differ significantly from the concept of QoL for all people – across cultural and developmental contexts, individuals tend to value the same general aspects of life (Brown & Brown, 2003; Keith, 2001). Beyond basic life-sustaining needs such as food, shelter, and safety, other aspects of QoL that are often considered important to many people (although the importance of each may vary significantly by individual) are having a satisfactory job or career, being involved in hobbies or pursuing specific interests, having satisfying interactions with others, maintaining a certain level of health or fitness, engaging in religious or cultural opportunities, and many others (Brown et al., 2009). Applying QoL for all individuals generally starts with identifying what is most important to the person, allowing and following the individual's choices, encouraging empowerment and self-management, increasing the person's self-image, and involving the individual in all stages of any intervention that is implemented (Brown et al., 2009). However, for individuals with DD, whose independence with daily activities is often limited by their disability, consideration of ways to improve their overall QoL is crucial for those providing support (Verdugo & Schalock, 2009). Furthermore, for individuals with DD, consideration of their involvement, including choices, and opportunities for experiencing a variety of options and activities relies significantly on the developmental context. In other words, it is important to consider the individual's mental/developmental age as well as their chronological age (Brown et al., 2009). While the amount and degree of the ability to be involved in decision-making will vary based on the level of impairment, the provision of choice appears to be crucial for increasing self-image, motivation, interests and ultimately the QoL of individuals with all levels of DD severity (Brown & Brown, 2009). Therefore, there has been an increasing focus on how to provide individuals with DD more opportunities for choice making in an effort to increase their QoL. In an effort to provide guidance for service and support providers who wish to promote choice making for their clients or family members with DD, Brown and Brown (2009) outline a four-step strategy for integrating choice into daily practice. These steps include (1) assessing the acceptance of choice in the environment; (2) determining ways to increase opportunities; (3) determining how choice making can increase skills, initiative, and freedom for the individual; and (4) increasing the skills of the individuals who support those with DD in order to encourage and support choice making.

Quality of Life for Caregivers

The presence of a family member with DD is increasingly recognized as having an impact on the overall QoL of family members, especially primary caregivers (Turnbull, Brown, & Turnbull, 2004). Research has documented increased stress and burden, as well as greater prevalence of mental health problems among caregivers of

individuals with DD (Bode, Weidner, & Storck, 2000). However, conceptually, QoL cannot be considered an absence of stress or mental health problems as these psychosocial constructs do not capture the multidimensional aspects of parent–child or family-level interactions. Further, focusing on the negative aspects of caregiver burden captures only one component of the greater impact of disability on individual family members or the family as a unit (Summers et al., 2005). In order to more fully capture the complexity of QoL for families affected by DD, Zuna, Turnbull, and Summers (2009) propose a theoretical model for use by researchers and service providers in conceptualizing and promoting family QoL. This model of four concepts is thought to interact in the overall QoL of families of individuals with DD. These concepts include (1) systemic concepts, which include systems (e.g., healthcare, education, and legal systems), policies (e.g., educational rights), and programs (e.g., early intervention or vocational programs); (2) performance concepts, which include services (e.g., social and health-related activities) and supports (e.g., information about resources, emotional support from teachers or other parents); (3) individual-member concepts, which include basic demographics (e.g., age, gender, type of disability), characteristics (e.g., challenging behaviors, mental health or health needs of the individual with DD or other family members), and beliefs (e.g., attributions of meaning, expectations); and (4) family-unit concepts, which include family characteristics (e.g., family income, size of the family) and family dynamics (e.g., interactions among family members, communication, cohesion).

Using this theoretical model as a guide, practitioners seeking to promote QoL among family members of individuals with DD can examine the family's understanding of the systemic components involved in DD policy, explore service and support resources, and assess the strengths and needs of the individual family members as well as the family as a unit. Evaluation of these areas can assist in explaining a lower family QoL and provide direction for specific interventions to promote well-being among the individual with DD and their families.

Impact for Policy

Increasingly, western cultural and societal contexts are emphasizing sensitivity to individuals with DD, which is reflected in public policy that provides that all individuals have a right to lives of quality. Therefore, enhancement of QoL for people with DD is becoming a priority within programs that serve this population. As a result, QoL has become an emphasized outcome measure within the evaluation of programs and services designed for individuals with DD and their families. Promotion of empirically based services to promote QoL has therefore been emphasized with additional focuses on the most appropriate ways to measure QoL within the context of program evaluation. Guidelines, performance indicators, outcome measures, and other programmatic requirements are more and more frequently being issued by governmental programs in an effort to promote QoL for individuals with DD (Verdugo & Shalock, 2009).

Cross-References

- ▶ Childhood Diseases and Disabilities
- ▶ Disability and Health
- ▶ Down Syndrome
- ▶ Intellectual Disability

References

Bode, H., Weidner, K., & Storck, M. (2000). Quality of life in families of children with disabilities. *Developmental Medicine and Child Neurology, 42*, 354.

Brown, I., & Brown, R. I. (2003). *Quality of life and disability: An approach for community practitioners*. London: Jessica Kingsley.

Brown, I., & Brown, R. I. (2009). Choice as an aspect of quality of life for people with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 6*, 10–17.

Brown, R. I., Schalock, R. L., & Brown, I. (2009). Quality of life: Its application to persons with intellectual disabilities and their families–Introduction and overview. *Journal of Policy and Practice in Intellectual Disabilities, 6*, 2–6.

Keith, K. D. (2001). International quality of life: Current conceptual, measurement and implementation issues. *International review of Research in Mental Retardation, 24*, 49–74.

Schalock, R. L., Brown, I., Brown, R., Cummins, R. A., Felce, D., Matikka, L., et al. (2002). Conceptualization, measurement, and application of quality of life for persons with intellectual disabilities: Report of an international panel of experts. *Mental Retardation, 40*, 457–470.

Summers, J. A., Poston, D. J., Turnbull, A. P., Marquis, J., Hoffman, L., Mannan, H., et al. (2005). Conceptualizing and measuring family quality of life. *Journal of Intellectual Disability Research, 49*, 777–783.

Turnbull, A., Brown, I., & Turnbull, H. R. (2004). *Family quality of life and people with mental retardation: International perspectives*. Washington, DC: American Association on Mental Retardation.

Verdugo, M. A., & Schalock, R. L. (2009). Quality of life: From concept to future applications in the field of intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 6*, 62–64.

Zuna, N. I., Turnbull, A., & Summers, J. A. (2009). Family quality of life: Moving from measurement to application. *Journal of Policy and Practice in Intellectual Disabilities, 6*, 25–31.

Developmental Disability

▶ Down Syndrome

Deviance

Kuei-Hsiu Lin
Sociology, National Taipei University, New Taipei City, Taiwan

Synonyms

Antisocial behavior; Conduct disorder; Crime; Criminal behavior; Delinquency; Deviant behavior; Problem behavior

Definition

There is no consensus on the definition of deviance. Some consider deviance a violation of social norms that attracts others disapproval, such as behaviors that are considered crimes or delinquency. Others argue that individuals with characteristics devalued by society, such as people with mental illness, should be characterized as deviant.

Description

Deviance is related to a variety of problems in ▶ education, work, marriage, economic circumstances, and ▶ health. It can have profound effects on individuals quality of life through its influence on education, employment, economic status, family status, and ones health.

There is no consensus on the definition of deviance. Some consider deviance a violation of social norms that attracts others disapproval, such as behaviors that are considered crimes or ▶ delinquency. Others argue that individuals with characteristics devalued by society, such as people with mental illness, should be characterized as deviant. Here, I will focus on the first definition.

Gottfredson and Hirschi (1990) claim that individuals with early propensities toward crime (e.g., low self-control) tend to persist in behaving throughout adulthood in ways consistent with this tendency. According to Gottfredson and Hirschi, other than individual differences, the major cause of low self-control in young people is inept parenting in their families. People who lack self-control tend to be impulsive and will tend, therefore, to engage in criminal and other deviant acts.

Committing a crime influences the likelihood that a person will engage in future crimes. For instance, delinquent and impulsive youths tend to choose deviant peers and partners and unstable jobs, and to continue their deviant behavior in adulthood. Thus, deviance also persists through weakening the social and institutional bonds linking adults to society (e.g., commitments to education, labor force attachment, and marital cohesion). With these negative consequences for their deviant behavior, stigmatized and institutionalized youths are left with few options for a conventional life and are prone to crime and delinquency (Hirschi, 1969). For example, arrest and incarceration may cause failure in school,

► unemployment, and weak ► community bonds, which, in turn, contribute to the adult commission of crimes.

The early propensity toward crime can also lead to criminality through the deviant labeling process. A child with impulsiveness tends to have problems in conventional settings, such as family and school; this causes parents and teachers to discipline and label the child as a troublemaker, which alters the childs views of self and excludes him/her from conventional opportunities. At the same time, these processes often result in increased contact with and support from deviant subgroups, which may lead to further deviance (Agnew, 2001; Sampson & Laub, 1993).

The role of the criminal justice system in the labeling process is especially important. Legal sanctions can impede educational opportunities. Educational achievement, in turn, influences employment in adulthood. Employers tend to avoid hiring someone who has a criminal record. Thus, blocked educational and employment opportunities weaken the labeled persons social bonds to society, further increasing the possibility of subsequent involvement in deviant activity. These problems are then translated into difficulties in other life domains, such as educational achievement, employment stability, and family formation and maintenance (Sampson & Laub, 1997).

The psychiatric labeling (e.g., conduct disorder and AHDH) has similar influence. On the one hand, the labeling and perception of dangerousness significantly increase others preferences for social distance. On the other hand, the diagnostic labeling has a negative effect on self-feelings and might trigger various defensive behaviors that further lead to harmful outcomes (Link, 1987; Martin, Pescosokido, Sigrun, & Mcleod, 2007).

In sum, beyond early antisocial propensities, deviance can extend beyond the consequences of the behavior itself (cumulative continuity) and interactions with others (interactional continuity). Thus, the continuity of deviance is not only a result of stable individual differences in criminal propensity, but a dynamic process whereby childhood antisocial behavior and adolescent delinquency foster adult crime through the weakening of adult social bonds. Young people labeled deviant become trapped by the consequences of antisocial behaviors.

Antisocial individuals also have higher risks of poor physical and mental health. The antisocial personality and lifestyle, along with economic stress, place people at higher risk for poor physical health, mental illness, and early mortality. People with histories of many forms of deviance tend to engage in high-risk behaviors (e.g., smoking, drinking, drug use, and criminal behavior), experience more stress in life (e.g., financial insecurity and relationship difficulty), and suffer from psychological vulnerability (Moffitt, 1993, 2006a, 2006b).

However, negative outcomes for those who engage in early deviant behaviors are not inevitable (Sampson & Laub, 1993). According to Moffitt (1993), antisocial behavior appears to be highly stable and consistent only in a relatively small number of individuals whose antisocial behavior is life-course-persistent. A much larger group of individuals experience an increase in crime during adolescence and then decrease their involvement in late adolescence (Laub & Sampson, 2003; Sampson & Laub, 1993, 1997, 2003). For them, adolescence-limited social factors may work to modify the trajectories of crime and delinquency. Important life events, including social bonds and legal sanctions, might modify trajectories in crime and status achievement. The amplifying loop is interrupted by the transition to adulthood – which involves the development of new commitments to conventional activity, such as marriage and jobs. Laub et al. (1998) found some high-rate offenders enter into circumstances like marriage that provide the potential for informal social control. When marital unions are cohesive, the investment has a significant preventive effect on offending (Farrington & West, 1995; Laub et al., 1998). What is important is the quality of the social bonds, not the mere existence of the bonds themselves.

The association between crime and social bonds is complicated. It might reflect a selection process (Gottfredson & Hirschi, 1990) or cumulative disadvantages through reciprocal causality. Thus, when investigating the relationship between social bonds and crime, researchers

need to consider latent traits and interactional processes (Wright, Caspi, Moffitt, & Silva, 1999).

Cross-References

- ▶ Adolescent Problem Behavior
- ▶ Adolescent Substance Use
- ▶ Education
- ▶ Health
- ▶ Health and Violence
- ▶ Marital Adjustment
- ▶ Marital Conflict and Health
- ▶ Parenting Style
- ▶ Parent-Child Relationship(s)
- ▶ Peer Influence(s)
- ▶ School Experiences
- ▶ School Violence
- ▶ Unemployment
- ▶ Work Stress

References

Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency, 38*(4), 319–361.

Farrington, D. F., & West, D. J. (1995). Effects of marriage, separation and children on offending by adult males. In Z. S. Blau & J. Hagan (Eds.), *Delinquency and disrepute in the life course* (Current perspectives on aging and the life cycle, Vol. 4, pp. 249–281). Greenwich, CT: JAI Press.

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.

Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA/Los Angeles: University of California Press.

Laub, J. H., Nagin, D., & Sampson, R. J. (1998). Trajectories of change in criminal offending: Good marriages and the desistance process. *American Sociological Review, 63*, 225–238.

Laub, J. H., & Sampson, R. J. (2003). *Shared beginnings, divergent lives: Delinquent boys to age 70*. Cambridge, MA: Harvard University Press.

Link, B. G. (1987). Understanding labeling effects in the area of mental disorders: An assessment of the effects of expectations of rejection. *American Sociological Review, 52*, 96–112.

Martin, J. K., Pescosokido, B. A., Sigrun, O., & Mcleod, J. D. (2007). The construction of fear: Americans preferences for social distance from children and adolescents with mental health problems. *Journal of Health and Social Behavior, 48*, 50–67.

Moffitt, T. E. (1993). Life-course-persistent and adolescence-limited antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674–701.

Moffitt, T. E. (2006a). Life-course persistent versus adolescence-limited antisocial behavior. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology* (Vol. 3, pp. 570–598). New York: Wiley.

Moffitt, T. E. (2006b). A review of research on the taxonomy of life-course persistent and adolescence-limited offending. In F. T. Cullen, J. P. Wright, & K. Blevins (Eds.), *Taking stock: The status of criminological theory* (pp. 277–312). New Brunswick, NJ: Transaction Publishers.

Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.

Sampson, R. J., & Laub, J. H. (1997). A life-course theory of cumulative disadvantage and the stability of delinquency. In T. P. Thornberry (Ed.), *Developmental theories of crime and delinquency* (Advances in criminological theory, Vol. 7, pp. 133–161). New Brunswick, NJ: Transaction.

Sampson, R. J., & Laub, J. H. (2003). Life-course desisters? Trajectories of crime among delinquent boys followed to age 70. *Criminology, 41*(3), 555–592.

Wright, B. R. E., Caspi, A., Moffitt, T. E., & Silva, P. A. (1999). Low self-control, social bonds, and crime: Social causation, social selection, or both? *Criminology, 37*, 479–514.

Deviant Behavior

- ▶ Deviance

DFS-2

- ▶ Flow Scales

Diabetes Mellitus Type 1

- ▶ Type I Diabetes Mellitus and Quality of Life

Diagnostic Analysis of Nonverbal Accuracy (DANVA)

- ▶ Measuring Emotion Recognition Ability

Dialogic Self

► Independent/Interdependent Self

Dialysis

► Hemodialysis Patients, Quality of Life

Dichotomous Questions

► Closed-Ended Question Format

Dichotomous Response Format

► Binary Response

Differences in Well-Being of Older Immigrants in Australia

► Well-Being Disparities of Immigrant Aged in Australia

Differential Item Functioning (DIF)

Wen-Hung Chen and Dennis Revicki
Center for Health Outcomes Research, United BioSource Corporation, Bethesda, MD, USA

Synonyms

Differential item performance; Item bias

Definition

Differential item functioning refers to the situation where members from different groups (age, gender, race, education, culture) on the same level of the latent trait (disease severity, quality of life) have a different probability of giving a certain response to a particular item.

Description

Differential item functioning (DIF) is a threat to the validity of a patient-reported outcome (PRO) instrument. DIF occurs when subjects on the same level of the latent trait, such as disease severity, answer differently to the same item depending on their group memberships (e.g., age group, gender, race) (Chang, 2005; Holland & Thayer, 1988). The validity of the instrument is threatened because the response to the DIF item is governed by something other than the construct that the instrument is intended to measure. For example, crying spells is one of the symptoms for patients with depression, but this concept is reported more by women than men with the same level of depression severity (Teresi et al., 2009). An item asking about the amount of crying will likely to underestimate the severity of men than women who are otherwise equally depressed. The crying item is said to exhibit DIF due to gender for assessing depression.

DIF has been studied in the educational testing since the 1960s (Berk, 1982) and was usually referred to as "item bias." A test item is biased when it favors (more easy to answer the item correctly) one group of test takers, but is against (harder to answer the item correctly) another group. The term DIF was later created from the understanding that differentiating behavior of the item did not always arise from a bias situation. This is almost always the case for items in PRO instruments. A PRO item usually does not favor a particular group of patients; it is just behaving like a different item depending on the group memberships.

Group difference on the scale for assessing a certain latent construct is often confused with DIF. An item where the average scores are different between two groups is not evidence of DIF for that item. Two groups of subjects with different distribution on the latent construct

are expected to have different average scores. However, subjects with the same level of the latent construct from both groups are expected to answer similarly to the same items regardless of their group membership. DIF is suspected only when subjects on the same level of the latent construct answer differently to the same items. This is the most important part of the definition of DIF. In mathematical terms, DIF can be described as a discrepancy between two groups of subjects in the conditional probability of a response to an item conditioned on the level of the latent construct.

Early methods for DIF detection relied on the assumption that the percentages of test takers answer correctly will be different between two groups to an item with DIF. In classical test theory, this percentage is referred to as item difficulty and denoted as the p value of an item. The delta plot (Angoff, 1984; Angoff & Ford, 1973) involves the transformation of the p values. Several methods all involve with construction of three-way contingency tables of frequency counts; these include Scheuneman's chi-square (Scheuneman, 1979), Camilli's chi-square (Ironson, 1982), and the Mantel-Haenszel procedure (MH D-DIF) (Holland & Thayer, 1988). Generally, for all the DIF detection methods, groups are first identified based on the group membership of particular interest (i.e., age >60 vs. <60, male vs. female, Blacks vs. Whites, high school graduate vs. some college degree). It is customary to refer one group as the reference group and the other the focal group. Subjects then are divided into subgroups with matching criterion between the reference and focal groups. The criterion used should be the measure of the level of the latent construct to be assessed, usually the score of the instrument itself. The percentages of the correct (and incorrect) answers to the item under investigation between the two groups are then compared across the subgroups. Unlike educational tests, the concept of correct answers does not apply to PRO instruments in health-care research. For many PRO instruments, Likert-type scales are used, and some may even include numeric rating scale (NRS) and visual analogue scale (VAS) which are continuous variables. In these cases where there are more than two item responses (i.e., polytomous item responses), generalized Mantel-Haenszel procedure can be used for DIF detection (Fidalgo & Madeira, 2008; Zwick, Donoghue, & Grima, 1993).

With the advances of item response theory (IRT) in psychometric analysis of items and instrument construction, DIF detection methods based on IRT were also developed. Because IRT consists of mathematical models already expressed as conditional probability of a certain item response given the latent trait, its application to DIF detection is straightforward. One approach is to compare the item characteristic curves (ICC) between the reference and focal groups (Linn, Levine, Hastings, & Wardrop, 1981; Runder, 1977). Alternative to comparing the ICC is to compare the item parameters directly (Hambleton & Swaninathan, 1985; Muthen & Lehman, 1985; Thissen, Steinberg, & Gerrard, 1986), since item parameters determine the ICC. A more elaborate approach involves a likelihood ratio test between the item parameters estimated separately for the target items for the reference and focal groups versus when these item parameters are constrained to be equal (Thissen, Steinberg, & Wainer, 1988). One of the special features of these IRT-based methods is that they do not require computation of the level of the latent construct for each individual and match them into subgroups. While these IRT-based methods were first developed for dichotomous response items, they can be extended to polytomous response items which are more common in health outcome assessments.

Two methods commonly used for DIF detection for polytomous response items are SIBTEST (Chang, Mazzeo, & Roussos, 1996; Shealy & Stout, 1993a, 1993b) and ordinal logistic regression (Zumbo, 1999). SIBTEST is based on a multidimensional model of DIF that formally defines a second latent trait that contributes to the DIF. Many variations of the SIBTEST methods have been developed since its first introduction. The ordinal logistic regression method of detecting DIF is a straightforward application of logistic regression modeling. Because an interaction term of latent trait by groups can be

included in the model, the logistic regression method can be used to detect the nonuniform DIF directly. The concept of uniform and nonuniform DIF was first introduced by Mellengergh (1982) and was referred to as crossing DIF in SIBTEST (Li & Stout, 1996). Uniform DIF is where the discrepancy between reference and focal groups is constant across the range of the latent construct. Whereas with nonuniform DIF, the discrepancy between the two groups differs depending on the level of the latent construct. More recently, a method based on complex multiple indicators, multiple causes (MIMIC) confirmatory factor analysis model was developed for DIF detection (Finch, 2005).

The usual treatment of DIF item in education testing is to remove the item from the test. While items with DIF are serious problem in education testing, especially if the DIF item biases against a certain group of test takers, the role of DIF in health outcomes research is less clear. Multiple factors affect the assessment health-related quality of life and other patient-reported outcomes. In many cases, differences in item responses are expected for members of different groups. An item may cover very important content for assessing a health-related quality of life or patient-reported outcome, despite different groups of subjects responding to it differently. In this case, this item should be kept in the instrument, but each individual's response should be compared within his or her group. This required the item to be treated differently according to the group memberships, e.g., different item scores between male and female. An ideal assessment of health-related quality of life or patient-reported outcomes involves tailoring the items to the unique characteristics of the individual for maximum information. This is possible by using computerized adaptive testing with a large item bank. In this case, items with DIF are no longer a threat to the validity of the test; they become asset of the instrument.

Cross-References

► Item Response Theory

References

Angoff, W. H. (1984). *Scales, norms, and equivalent scores*. Princeton, NJ: Educational Testing Service.

Angoff, W. H., & Ford, S. F. (1973). Item-race interaction on a test of scholastic aptitude. *Journal of Educational Measurement, 10*, 95–105.

Berk, R. A. (Ed.). (1982). *Handbook of methods for detecting test bias*. Baltimore: John Hopkins University Press.

Chang, C. H. (2005). Item response theory and beyond: Advanced in patient-reported outcomes measurement. In W. R. Lenderking & D. A. Revicki (Eds.), *Advancing health outcomes research methods and clinical applications* (pp. 37–55). McLean, VA: Degnon Associated.

Chang, H., Mazzeo, J., & Roussos, R. (1996). Detect DIF for polytomously scored items: An adaptation of Shealy-Stout's SIBTEST procedure. *Journal of Educational Measurement, 33*, 333–353.

Fidalgo, A. M., & Madeira, J. M. (2008). Generalized Mantel-Haenszel methods for differential item function detection. *Educational and Psychological Measurement, 68*(6), 940–958.

Finch, H. (2005). The MIMIC model as a method for detecting DIF: Comparison with Mantel-Haenszel, SIBTEST, and the IRT likelihood ratio. *Applied Psychological Measurement, 29*(4), 278–295.

Hambleton, R. K., & Swaninathan, H. (1985). *Item response theory: Principles and applications*. Hingham, MA: Kluwer.

Holland, P. W., & Thayer, D. T. (1988). Differential item performance and the Mantel-Haenszel procedure. In H. Wainer & H. I. Braun (Eds.), *Test validity* (pp. 129–145). Hillsdale, NJ: LEA.

Ironson, G. H. (1982). Use of chi-square and latent trait approaches for detecting item bias. In R. A. Berk (Ed.), *Handbook of methods for detecting test bias* (pp. 117–160). Baltimore: John Hopkins University Press.

Li, H.-H., & Stout, W. (1996). A new procedure for detection of crossing DIF. *Psychometrika, 61*, 647–677.

Linn, R. L., Levine, M. V., Hastings, C. N., & Wardrop, J. L. (1981). An investigation of item bias in a test of reading comprehension. *Applied Psychological Measurement, 5*, 159–173.

Mellenbergh, G. J. (1982). Contingency table models for assessing item bias. *Journal of Educational Statistics, 7*(2), 105–118.

Muthen, B., & Lehman, J. (1985). Multiple group IRT modeling: Application to item bias analysis. *Journal of Educational Statistics, 10*, 133–142.

Runder, L. M. (1977, April). *An approach to biased item identification using latent trait measurement theory*. Paper presented at the annual meeting of the American Educational Research Association, New York.

Scheuneman, J. D. (1979). A new method of assessing bias in test items. *Journal of Educational Measurement, 16*, 143–152.
Shealy, R., & Stout, W. (1993a). An item response theory model for test bias and differential test functioning. In P. Holland & H. Wainer (Eds.), *Differential item functioning* (pp. 197–240). Hillsdale, NJ: Earlbaum.
Shealy, R., & Stout, W. (1993b). A model-based standardization approach that separates true bias/DIF from group ability differences and detects test bias/DIF as well as item bias/DTF. *Psychometrika, 58*, 159–194.
Teresi, J. A., Ocepek-Welikson, K., Kleinman, M., Eimicke, J. P., Crane, P. K., Jones, R. N., et al. (2009). Analysis of differential item functioning in the depression item bank from the Patient Reported Outcome Measurement Information System (PROMIS): An item response theory approach. *Psychology Science Quarterly, 51*(2), 148–180.
Thissen, D., Steinberg, L., & Gerrard, M. (1986). Beyond group mean differences: The concept of item bias. *Psychological Bulletin, 99*, 118–128.
Thissen, D., Steinberg, L., & Wainer, H. (1988). Use of item response theory in the study of group differences in the trace lines. In H. Wainer & H. I. Braun (Eds.), *Test validity* (pp. 147–168). Hillsdale, NJ: LEA.
Zumbo, B. D. (1999). *Functioning (DIF): Logistic regression modeling as a unitary framework for binary and Likert-type (ordinal) item scores*. Ottawa, ON: Directorate of Human Resources Research and Evaluation, Department of National Defense.
Zwick, R., Donoghue, J. R., & Grima, A. (1993). Assessment of differential item functioning for performance tasks. *Journal of Educational Measurement, 30*, 233–251.

Differential Item Performance

▶ Differential Item Functioning (DIF)

Digital Competences

Caroline Rizza
European Commission, Joint Research Centre, Ispra, Italy
Telecom ParisTech, Paris, France

Synonyms

ICT competences; IT competences

Definition

Digital competences is the general term used to describe or explain the ability (of a citizen, a student, a teacher, etc.) to use information technology (IT) in a specific context.

Usually, when it comes to define, describe, or explain this ability of use IT, different denominations are found in the literature such as digital competences, digital skills, e-competences or e-skills, and twenty-first century skills or competences. These denominations refer to different concepts which are not synonymous (cf. Description).

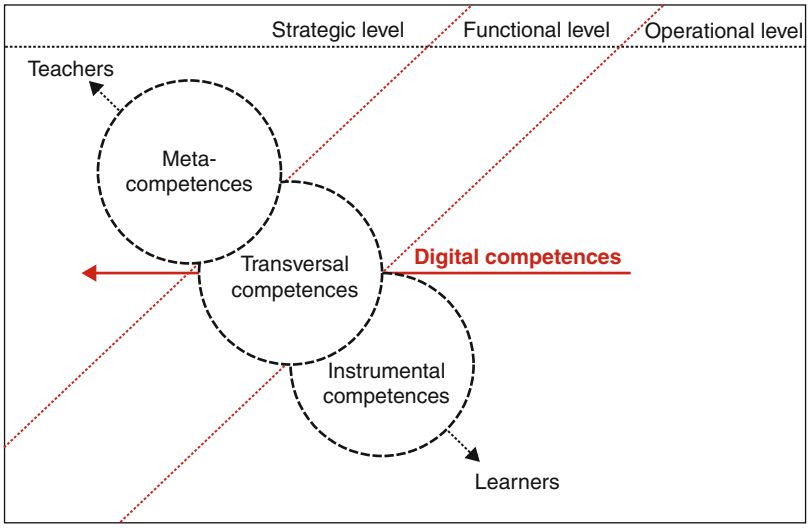
Description

Today, no one doubts we live in an information or knowledge society. Information and communication conveyed by IT are at the core of social, economic, and cultural activities of every citizen. In this context, IT plays a crucial role in the knowledge economy. Its impact on society concerns both knowledge manipulation and knowledge creation processes. In this information and knowledge society, digital competences are required as a sine qua non condition for the quality of life of every citizen.

The following section sheds light on the differences between the terms used to describe the ability to use information technologies (IT) in order to provide a clear definition of digital competences.

Digital Competence vs. Digital Skill

According to the European Commission (2007), a competence is a combination of knowledge, skills and attitudes appropriate to the context. Among other possible competences, key competences are those which all individuals need for personal fulfillment and development, active citizenship, social inclusion, and employment. Digital competence is part of the eight key competences for lifelong learning. In this set of key competences, it is defined as follows:



Digital Competences, Fig. 1 Partition of the digital competences in the three-level category proposed by Cerisier et al. (2008)

> Digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in IT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet. (p. 7)

The terms e-competence and e-skill also appear in the literature. They usually refer (following the same differences between digital competence and digital skill) to the required workforce competences or skills related to IT uses, i.e., a citizen's ability to use IT in the work context.

A Digital Competence Is a Multilevel Competence

Perrenoud (1995) defines a competence as

> a high level know-how, requiring the integration of multiple cognitive resources when it comes to deal with complex situations. (p. 20)

Based on this definition, Cerisier, Rizza, Devauchelle, and Nguyen (2008) show that regarding IT uses, we need to consider different levels of competence. They distinguish three levels of digital competences:

- Instrumental competences at the operational level;
- Transversal competences at the functional level;
- Meta-competences at the strategic level. (pp. 8–9)

The instrumental competences cannot be dissociated from IT itself. Since the higher-level competences are of a transversal nature they can be mobilized in contexts that are not related to IT. The framework developed by Cerisier et al. (2008) allows for a better understanding and explanation of the difficulties some young people from the Internet generation may have. Their strong instrumental competence in using IT can hide the lack of higher-level competences or, in the case of teachers, the higher-levelcompetences are in place, but they lack the instrumental ones (see Fig. 1).

What About Twenty-First Century Competences?

In the context of the OECD/CERI project on New Millennium Learners (NML) and on the basis of a literature review as well as the two international initiatives Definition and Selection of Competencies (DeSeCo) program and the Programme for International Student Assessment (PISA), Ananiadou and Claro (2009) provide a typology of the digital competencies in three different levels:

> ICT [information and communication technologies] functional [competences], that includes [competences] relevant to mastering the use of different ICT applications; ICT [competences] for learning, which include [competences] that combine both

Digital Competences, Table 1 Partition of the digital competences in the three levels, with a focus on twenty-first century competences, proposed by Ananiadou and Claro (2009)

Three levels of competences		Objectives	Context of mobilization
Level 1.	ICT functional competences	For mastering the uses of ICT applications	
Level 2.	ICT competences for learning	For learning	
Level 3.	21st century competences through 3 dimensions:		
	Information dimension	For accessing, evaluating and organizing information in digital environment (information as a source)	Information literacy, research, inquiry and media literacy
		For modeling and transforming information to create new knowledge or ideas (information as a product)	Creativity and innovation, problem solving and decision making
	Communication dimension	For presenting, exchanging, sharing and transmitting ideas, points of view as well as criticizing them (effective communication)	Information and media literacy, critical thinking and communication skills
		For collaborating and interacting in virtual groups (collaboration and virtual interaction)	Collaboration/team working, flexibility and adaptability
	Ethic & social impact dimension	For applying criteria for its responsible ICT use at personal and social levels, acknowledging potential risks (social responsibility)	Critical thinking, responsibility and decision making
		For supporting and contributing to the development of a consciousness about the challenges in the new digital age; for being able to reflect upon the impact of ICT on social life considering the social, economic and cultural implications for individuals and society (social impact)	Digital citizenship

> cognitive abilities or higher-order thinking [competences] with functional [competences] for the use and management of ICT applications; and twenty-first century [competences] which bring together [competences] considered necessary in the knowledge society but where the use of ICT is not a necessary condition. (pp. 7–8)

The authors focus their analysis of digital competences on the third level named "the twenty-first century competences." They propose a description of this level through three categories that we synthesize in the Table 1.

As the European Commission (2007), Ananiadou and Claro (2009) systematically place the digital competences (from every level) in a context of mobilization.

Cerisier et al. (2008) and Ananiadou and Claro (2009) consider that higher-level competences (i.e. the twenty-first century competences) are not systematically related with IT uses. Nevertheless, Cerisier et al. (2008) consider that "transversal competences" and "meta-competences" (for learning) are higher-level competences, whereas Ananiadou and Claro (2009) do not consider that "ICT competences for learning" are higher-level competences.

The comparison between these two approaches makes it clear that there are similarities among the competences classified differently. Thus, the discussion is no longer about the definition of digital competence and its contexts of mobilization but about the relevance of the term "twenty-first century competences." Indeed, the term "twenty-first century competences" presupposes that additional competences are required for using IT since a new generation of tools (such as web 2.0) is introduced into the society. Authors such as Ananiadou and Claro (2009) consider "twenty-first century competences" as an additional and higher level of competences. However, does this new generation of IT really require additional or deeper digital competences? Or, in other words, are the "twenty-first century competences" fundamentally different from the highest levels of digital competences (transversal and meta-levels)?

Are Digital Natives Already Digital Competent?

Tapscott (1998) was one of the first authors speaking about the impact of IT on the "new generation" of children. He defines the Internet generation as the generation born from 1977 onwards, including all children that have grown up while IT was introduced in the society. According to him, the Internet generation has been shaped by IT and its interactive characteristics. So, through a natural demographic process, this generation should impose or should have already imposed its digital culture on the whole society. Prensky (2001) also argues that IT changes the physical structure of the "digital native" brains, making them more adapt at effective "multitasking." Following these ideas, the also called "New Millennium Learners" (OECD, 2010) should already have acquired the digital competences required to use IT optimally and to benefit from the quality of life it can promote.

Nevertheless, this is not always the case since digital competences can be categorized by levels as it has been shown above. Furthermore, authors like Bullen, Morgan, and Qayyum (2011) reject this techno-determinist approach according to which IT would have a direct impact on youngsters. They demonstrate the inconsistency of the generational approach when it comes to IT uses, underlining the limitations of the technicist beliefs related to the impact of IT uses, particularly in learning contexts. Rizza (2006, 2010) refers to the "paradox" of this Internet generation and proposes three levels of the digital divide between: the persons having access to IT and those who do not (the "haves" and the "have-nots"); the persons knowing how to use IT, in which context and for what purpose, and those who do not (the "knowers" and "know-nots"); as well as the persons able to act in the information and knowledge society and those who cannot (the "doers" and "do-nots"). She argues that the digital divide is based on socioeconomic and cultural inequalities (social inequalities, educational inequality, socioeconomic factors, social capital, cultural capital, socioeconomic status) that already existed before the introduction of IT in society. Also, she rejects the idea of an Internet generation able to impose its culture on the whole society, to reduce inequalities and behavioral differences when it comes to use IT and to take advantage of all the benefits of the information and knowledge society. The author highlights the "paradox" of this generation unable to reduce the digital divide and places in the center of the debates the role of school and educational institutions (▶ education, ▶ educational system) as a vector of ▶ social mobility in this new context.

Discussion

When it comes to discussing the "impact of IT on society," two opposing points of view must be considered. According to the technicists, IT, by its nature and purposes, should only have a positive impact on society, creating social inclusion spontaneously. Nevertheless, the recurrent questions regarding the digital divide and its manifestation in society, despite of the Internet generation who grew up while IT was being introduced (Tapscott, 1998), undermines the technicist approach.

By studying the processes of communication supported by IT, Jouët (1993) highlights the need for a double mediation, both technical (because

IT can modify practices) and social (because of the ways in which IT is used as well as the signification of the practices that are determined by society). This double mediation is required for an effective introduction of technology in society. Through this double mediation and the role it assigns to knowledge and know-how, IT can be a vector of ▶ social inclusion or ▶ social exclusion. In an information and knowledge society, digital competences are thus required as *a sine qua non* condition for the effective quality of life of every citizen.

At the political level, the necessity of implementing measures and policy to support the acquisition of digital competences by learners from primary school to higher education has been well understood. Numerous initiatives and working groups are now involved and mobilized to work on this area, such as the digital competences working group led by European Schoolnet (2011, forthcoming) or the Unesco project "ICT Competency Framework for Teachers." Nevertheless, the reforms of curricula based on the so-called twenty-first century competences as well as the implementation of digital competence frameworks for learners, are not sufficient. Indeed, on the one hand, teacher competencies are not always clearly defined and sometimes they do not reflect a clear vision of what teaching and learning in the knowledge society is all about and what the role of IT is in this (Ananiadou & Rizza, 2010; OECD, 2013; Rizza, 2011). The necessity of working on the digital-competence-multiple-dimensions (i.e., from knowledge to attitudes and from the operational to the higher-levels) is still a stake for policy makers and practitioners.

Cross-References

- ▶ Cultural Capital
- ▶ Digital Divide
- ▶ Education
- ▶ Educational Inequality
- ▶ Educational System
- ▶ Quality of Life
- ▶ Social Exclusion
- ▶ Social Inclusion
- ▶ Social Inequalities
- ▶ Social Mobility

References

Ananiadou, K., & Claro, M. (2009). *21st century skills and competences for new millennium learners in OECD countries, OECD education* (Working Papers, 41), OECD Publishing. doi: 10.1787/218525261154. Accessed March 16, 2011.

Ananiadou, K., & Rizza, C. (2010). ICT in initial teacher training: First findings and conclusions of an OECD study. *Proceedings of EDULEARN10 Conference*. Valencia: International Association for Technology, Education and Development, 5621–5632.

Bullen, M., Morgan, T., & Qayyum, A. (2011). *Digital learners in higher education: Generation is not the issue*. Canadian Journal of Learning & Technology, *37*(1).

Cerisier, J. F., Rizza, C., Devauchelle, B., & Nguyen, A. (2008). *Former des jeunes à l'usage des médias*, Cachan: Cned-Hermès sciences-Lavoisier Editions, Distances et Savoirs, vol. Hors Série.

European Commission (2007). Key competences for lifelong learning: European reference framework. http://ec.europa.eu/dgs/education_culture/publ/pdf/ll-learning/keycomp_en.pdf. Accessed March 16, 2011.

European Schoolnet (2011, forthcoming). The digital competence working group. http://insight.eun.org/ww/en/pub/insight/policy/network/new_remit_of_the_digital_compe.htm.Accessed March 16, 2011.

Jouët, J. (1993). Pratiques de communication et figures de la médiation. *Réseaux, 11*(60), 99–120.

numériques : heurs et malheurs du brevet informatique et internet (B2i) en France. *Distances et savoirs. Hors-série*. http://www.distanceandaccesstoeducation.org/Results.aspx?searchMode=4&criteria=DS. Accessed March 16, 2011.

OECD. (2010). *Are new millennium learners making the grade? Technology use and educational performance in PISA*. Paris: Educational Research and Innovation, OECD Publishing.

OECD. (2013, forthcoming). *ICT in initial teacher training*. OECD Publishing.

Perrenoud, P. (1995). Des savoirs aux compétences: De quoi parle-t-on en parlant de compétences ? *Pédagogie Collégiale, 9*(1), 20–24.

Prensky, M. (2001). Digital natives, digital immigrants. *On the horizon*. Bradford, West Yorkshire, MCB University Press, *9*(5).

Rizza, C. (2006). La fracture numérique, paradoxe de la génération Internet. *Fracture dans la société de la connaissance. Hermès, 45*, 25–32.

Rizza, C. (2010). La fracture numérique, paradoxe de la génération internet. In Critiques de la société de l'Information. Paris: CNRS Editions, Les Essentiels d'Hermès, 33–49.

Rizza, C. (2011). ICT and initial teacher education: National policies. *OECD Education* (*Working Papers*, no. 61), OECD Publishing. http://dx.doi.org/10.1787/5kg57kjj5hs8-en.
Tapscott, D. (1998). *Growing up digital: the rise of the net generation*. New York: McGraw-Hill.

Digital Connectivity Index

▶ Public Attitudes Toward the State in Asia-Pacific Region

Digital Divide

Caroline Rizza
European Commission, Joint Research Centre, Ispra, Italy
Telecom ParisTech, Paris, France

Synonyms

Digital gap; Digital exclusion; e-Exclusion

Definition

The digital divide is a negative consequence of the introduction of information technology (IT) in society. In the information society, the digital divide is a consequence of the economic, cultural, and ▶ social inequalities that already existed in the industrial society. It combines inequalities at the level of access to IT ("economic capital") and disparities in terms of knowledge and know-how in using IT (social capital, ▶ cultural capital) in a specific context ▶ digital competences.

Description

The massive introduction and the pervasiveness of IT in society has completely changed the way of editing, processing, and storing information as well as the way people communicate and interact with each other. In the current information and knowledge society, IT is at the core of social, economic, and cultural activities of every citizen. In this context, both accessing this technology and acquiring the digital competences to use it in everyday life constitute a sine qua non condition for the ▶ quality of life of every citizen.

Thus, the digital divide relates to the inability of some citizens to:

1. Access to IT.
2. Use IT because of their lack of digital competences.

The following sections present the two dimensions of the digital divide and discuss the concept: since its causes are more social than technical, the digital divide is an educational divide.

Information Technology Has Been Transforming Social Practices in the Information and Knowledge Society

The introduction in society of individual and interactive media such as the Internet constituted a real information revolution, and it has been completely changing the way of producing, processing, and storing information and knowledge. IT plays a crucial role in the knowledge economy. The way organizations and contemporary societies function has been altered, and today no one doubts we live in an information or knowledge society. Then, information and communication conveyed by IT are at the core of the social, economic and cultural activities of every citizen.

Miège (2006) explains that a new form of communication called *mediated communication* prompts a restructuring of society based on the implementation of ITs (connection and transmission of information and knowledge), on the one hand, and putting individuals and groups of individuals in touch with each other through the circulation of information and knowledge, on the other hand.

By studying the processes of communication supported by IT, Jouët (1993) highlights the need for a double mediation; both technical (because IT can modify practices) and social (because of the ways in which IT is used as well as the signification of the practices that are determined by society). This double mediation is required for an effective introduction of technology in

society. Through this double mediation and the role it assigns to knowledge and know-how, IT becomes a vector of ▶ social inclusion or ▶ social exclusion.

According to Venezky (2000), it is about *"unequal capacity for accessing in a meaningful sense the resources that the world wide web possesses – due either to physical access limitations or to difficulties in controlling communications mechanisms or to inability to understand what is retrieved (. . .)"* (p. 66).

The First Dimension of the Digital Divide: Missing Infrastructures or Access to IT

The first level of the digital divide consists in an unequal access to IT. Even if many efforts and progresses in terms of access have been accomplished since the 1990s, numerous disparities still remain between groups of countries or countries, as well as between areas or groups of people in the same country. Then, inequalities of access to IT are still visible:

- At the international level between, for instance, industrialized and developing countries or between countries belonging to the same homogeneous (cultural and socioeconomical) area such as those from the European Union.
- At the national level between urban and rural areas or between people from different socioeconomic statuses.

These disparities concern both the access to infrastructures such as FTTx (Fiber to the . . .) or to IT such as computers or Internet more generally.

The Second Dimension of the Digital Divide: Missing Digital Competences

According to Bowie (2000), *"even if everyone in the world could have a free personal computer, and free Internet access via reliable information infrastructures, that would not be enough. The technology could not empower those individuals who were illiterate and lacked know-how. Literacy itself is of strategic importance to individuals, regions and nations in the information society"* (p. 41). In this context, illiteracy and educational inequalities both constitute an obstacle to the use of IT and to the access of information on the Internet. In fact, at the international level between rich and poor countries as well as at the national level between privileged and underprivileged populations, economic and social inequalities explain disparities regarding the use of IT and the access of information processing or production (Rizza, 2006).

Finally, the OECD (2000) shows that the most evident manifestations of the digital divide are located in the educational systems themselves. Indeed, OECD (2000) sheds light on the disparities between schools when it comes to their IT infrastructures, the technological equipment, and the Internet connection, as well as the digital competences of teachers. ▶ Education should provide an equitable access to IT to all children and students and an equal level of digital literacy independently of their socioeconomic factors or socioeconomic status, but this is not the case. In a digital society, bridging the digital divide at the educational level is a sine qua non condition to ensure that all citizens acquire the digital competences required to use IT optimally and to benefit from the quality of life it can promote.

Discussion

The digital divide is another layer in the manifestation of the socioeconomic and cultural inequalities that already existed in industrial society. It combines inequalities at the level of access ("economic capital") and disparities in terms of knowledge and know-how ("social capital" and "cultural capital"). As such, it constitutes a new factor of social exclusion. It has been shown that the digital divide is an educational divide and that its causes are more social than technological.

The digital divide has two constitutive dimensions: missing access to infrastructures and IT as well as missing knowledge and know-how in using IT (digital competences). On the basis of these two dimensions, the information and knowledge society appears with two facets:

- One facet comprises the info-rich, who have access to ITs and the digital competences

needed to use them and thus benefit from the quality of life they can promote in a digital society.

- The other facet is where the info-poor reside. They do not have access to ITs because of their socioeconomic status, socioeconomic factors, and educational and social inequalities. They cannot act in a world now governed by the information and knowledge economy.

These "info-rich" and "info-poor" become the "info haves" and "info have-nots" of the digital society and knowledge economy.

The ▶ social mobility of the info-poors becomes a sine qua non condition of social inclusion. It has to be supported by education and educational systems, since the digital gap may add to the recurrent problems of poor education and illiteracy and further accentuate the establishment of social and cultural exchanges limited to certain geographical regions and certain groups of the population.

More specifically, in the context of the digital society, the concept of "digital literacy" based on digital competences has to become a priority in the development of equity policies.

Cross-References

- ▶ Cultural Capital
- ▶ Digital Competences
- ▶ Education
- ▶ Educational Inequality
- ▶ Educational System
- ▶ Quality of Life
- ▶ Social Exclusion
- ▶ Social Inclusion
- ▶ Social Inequalities
- ▶ Social Mobility

References

Bowie, N. A. (2000). The digital divide: Making knowledge available in a digital context. In OECD (Ed.), *Schooling for tomorrow: Learning to bridge the digital divide* (pp. 37–50). Paris: Educational Research and Innovation, OECD Publishing.

Jouët, J. (1993). Pratiques de communication et figures de la médiation. *Réseaux, 11*(60), 99–120.

Miège, B. (2006). *La société conquise par la communication, tome 1, Logiques sociales*. Grenoble: Presses Universitaires de Grenoble.

OECD. (2000). *Schooling for tomorrow: Learning to bridge the digital divide*. Paris: Educational Research and Innovation, OECD Publishing.

Rizza, C. (2006). La fracture numérique, paradoxe de la génération Internet. Fracture dans la société de la connaissance. *Hermès, 45*, 25–32.

Venezky, R. L. (2000). The digital divide within formal school education: Causes and consequences. In OECD (Ed.), *Schooling for tomorrow: Learning to bridge the digital divide* (pp. 63–76). Paris: Educational Research and Innovation, OECD Publishing.

Digital Exclusion

▶ Digital Divide

Digital Gap

▶ Digital Divide

Digital Quality of Life

▶ ICTs Role in QoL

Dimensionality and Measurement Invariance of Satisfaction with Life Scale

Jocelyne Clench-Aas, Ragnhild Bang Nes and Leif Edvard Aarø
Division of Mental Health, Norwegian Institute of Public Health, Oslo, Norway

Synonyms

SWLS

Definition

Satisfaction with life is one of several aspects of positive mental health. It is not a direct, verifiable experience nor a known personal fact, but a cognitive product that involves a comparative process between the individual's current life situation and internalized standards, allowing respondents to use the information they subjectively deem relevant when evaluating their own lives. It is important, when using a scale, that one understands the dimensional structure of the scale, and assure also other aspects of measurement invariance among subgroups.

Description

The satisfaction with life scale (SWLS) (Pavot, Diener, Colvin, & Sandvik, 1991; Diener, Emmons, Larsen, & Griffin, 1985) is perhaps the most commonly used measure of ▶ life satisfaction worldwide. The scale consists of five statements and was originally developed to circumvent problems inherent in previous scales based on single items or scales based primarily on domain- or culture-specific items. As people derive their life satisfaction from different sources and vary considerably in their ideas about what constitutes a ▶ good life, the SWLS measures people's perception of their life as a whole, using items that are supposedly free from the varying criteria people use when evaluating their lives. The scale thus reflects a global evaluative judgment, partly determined by the respondent's current ▶ mood and immediate context, and partly by stable personality factors (Fujita, Diener, & Sandvik, 1991; Lucas & Fujita, 2000) and genetic influences (Stubbe, Posthuma, Boomsma, & De Geus, 2005)

This entry compares results obtained using ▶ confirmatory factor analysis (CFA), in a Norwegian study to those found internationally. The Norwegian study aimed to examine the dimensionality of the SWLS in a large and representative sample (N = 4,984) and to study the robustness of the scale in different subpopulations. This was done by exploring (i) the dimensional structure and (ii) ▶ measurement invariance across gender and age. To our knowledge, no other study has examined dimensionality or subgroup invariance across a continuous and wide age distribution, in a comparatively large community sample (Clench-Aas, Nes, Dalgard, & Aaro, 2011)

Dimensionality

An important issue concerns the degree to which the five SWLS questions reflect one or more underlying constructs (dimensions). The dimensionality of the scale is not totally resolved. Many studies have supported a unidimensional model, attesting a single latent factor accounting for a majority of the variance in life satisfaction scores (Anaby, Jarus, & Zumbo, 2010; Arrindell, Heesink, & Feij, 1999; Balatsky & Diener, 1993; Diener et al., 1985; Lewis, Shevlin, Smekal, & Dorahy, 1999). Some of these studies were based on ▶ principal component analysis, however, and when there are well-founded hypotheses about dimensionality, confirmatory factor analysis (CFA) is a preferred analytical method. Some studies claim essential, but not strict unidimensionality, as item five shows a weaker association with the latent variable than the remaining four items (Gouveia, Milfont, da Fonseca, & Coelho, 2009; Hultell & Gustavsson, 2008; Oishi, 2006; Pavot & Diener, 2008; Slocum-Gori, Zumbo, Michalos, & Diener, 2009; Wu & Yao, 2006). Yet other studies support a modified unidimensional structure (Sachs, 2003). Some studies even suggest that a two-factor structure consisting of strongly correlated "present" (i.e., items 1-3 give the status at the moment) and "past" (i.e., items four and five ask the individual to reflect the status over the life course) factors should be considered (Hultell & Gustavsson, 2008; McDonald, 1999). Most studies are based on fairly small, nonrandom samples, however (see Table 1).

Altogether three models were tested in the Norwegian study:

1. A simple one-factor model
2. A two-factor model including "present" (first three items) and "past" (last two items) factors
3. A modified one-factor model nested under model one allowing the residual terms of items four and five to be correlated

Dimensionality and Measurement Invariance of Satisfaction with Life Scale, Table 1 Overview of the literature examining dimensionality of SWLS

Author	Sample characteristics	Sample size	Gender		Age	
			Male	Female	Range	Average
One-factor models						
Anaby et al. (2010)	Israeli adults	487	190	297	27–60	
Arrindell et al. (1999)	Dutch young adults	2,800	888	887	18–30	
Atienza et al. (2003)	Spanish junior high students	2,080	1,023	1,057		
Balatsky and Diener (1993)	Soviet students	116				18.9
Blais et al. (1989)	French-Canadian students	871				
	French-Canadian elderly	313				
Durak et al. (2010)	Turkish university students, correctional officers, and elderly adults (three groups)	547, 166 and 123				20.7, 37.2, 68.2
Lewis et al. (1999)	Czech university students	109	38	71		23.0
Oishi (2006)	Chinese and American students	556 Chinese, 442 American				
Pons et al. (2000)	Spanish junior high students	266	65	65	11–15	
	Spanish elderly		68	65	60–91	
Shevlin et al. (1998)	British undergraduates	258	173	85	18–57	20.6 (M) vs. 22.9 (F)
Swami and Chamorro-Premuzic (2009)	Malay community sample	816				
Vaultier et al. (2004)	Gr one Questions successively administered-French	494	233	261	47.7	
	Gr two Questions scattered throughout questionnaire-French	795	334	461	37.1	
Two-factor or modified one-factor models						
Clench-Aas et al. (this study)	Norwegian Community sample	4,984	2,369	2,615	16–79	46.2 (M), 44.1(F)
Gouveia et al. (2009)	Five groups, high school students, teachers, undergraduate students, physicians, general population from Brazil	2,180 (306–797)				(21-43)
Hultell and Gustavsson (2008)	Swedish student teachers	2,900	453	2,447		28.9
Sachs (2003)	Hong Kong University students	123	43	80		32
Slocum-Gori et al. (2009)	Canadian (BC) adults	410	239	166	18–90	46.9
Wu and Yao (2006)	University students (Taiwan)	476	207	269		

The data essentially supported a single-factor solution for the SWLS with 74 % of variance explained by this single factor. The loadings are on the high side compared to some of the previous studies (Table 2), and there is a tendency for the last two items to load on a second, less important factor reflecting past accomplishments. This finding is in accordance with several previous reports, but the finding has been interpreted differently across studies. The correlation between the two factors indicated in this Norwegian study was very high ($r = 0.93$), however, and similar to previously reported estimates (Hultell & Gustavsson, 2008; Wu & Yao, 2006), indicating that the two factors could not be easily differentiated. A post hoc modification test on the data showed gained fit for the single-factor model when allowing the residual variances for items

Dimensionality and Measurement Invariance of Satisfaction with Life Scale, Table 2 Overview of the standardized factor loadings found in the literature of SWLS

Author	Clench-Aas et al. (2011)	Clench-Aas et al. (2011) Submodel	Arrindell, Heesink, and Feij (1999)	Oishi (2006)	Pavot et al. (1991)		Hultell and Petter Gustavsson (2008)		Swami and Chamorro-Premuzic (2009)
Ethnicity	Norway	Norway	Netherlands	China	USA	US elderly	US students	Sweden	Malay/ Chinese
Analysis method[1]	CFA	CFA	PCA	CFA	PCA	CFA	CFA	CFA	CFA
In most ways my life is close to ideal	0.86	0.86	0.83	0.62	0.84	0.83	0.93	0.93	0.76
The conditions of my life are excellent	0.83	0.83	0.79	0.66	0.80	0.89	0.83	0.82	0.67
I am satisfied with my life	0.87	0.87	0.81	0.72	0.85	0.82	0.89	0.94	0.77
So far, I have gotten the important things I want in life	0.79	0.78	0.78	0.49	0.67	0.68	0.81	0.75	0.70
If I could live my life over, I would change nothing	0.73	0.71	0.64	0.38	0.71	0.78	0.81	0.72	0.62

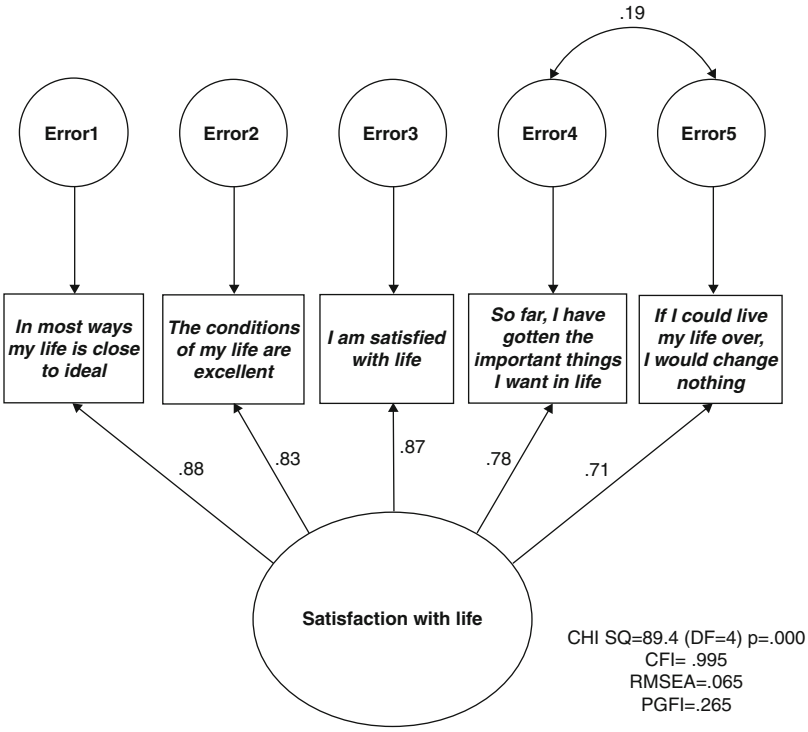
[1]CFA – confirmatory factor analysis, PCA – principal component analysis

four and five to be correlated (Fig. 1). This modified single-factor model has an improved fit relative to the baseline model and produced fit measures identical to the two-factor model. The latter is hardly surprising, since two-factor model and the modified one-factor model are equivalent. The single-factor model agrees with the theoretical development of the SWLS and measurement processes have been shown to elicit minor secondary factors for psychological measures (Slocum-Gori et al., 2009). Taken together these results therefore indicate that a single factor is sufficient to explain the data in this large community sample and, even more importantly, that the SWLS can be regarded as reflecting a single underlying dimension.

Measurement Invariance

Another unresolved issue concerns the invariance of the scale. Measurement invariance indicates that the same underlying construct is measured across the relevant comparison groups. This means that possible group differences can more validly be interpreted in terms of group differences in the underlying construct. Should the assumption of invariance not hold, comparisons across groups may not be valid, the subsequent interpretations may not be meaningful, and conclusions incorrect.

Findings concerning the invariance of the SWLS are somewhat inconsistent. Some studies have reported the SWLS to be invariant (factor loadings, unique variances, factor variance) across gender (Shevlin, Brunsden, & Miles, 1998) and age groups (Blais, Vallerand, Pelletier, & Briere, 1989; Durak, Senol-Durak, & Gencoz, 2010; Siedlecki, Tucker-Drob, Oishi, & Salthouse, 2008), whereas other studies have reported sensitivity to either sex (Atienza, Balaguer, & Garcia-Merita, 2003) or age (Pons, Atienza, Balaguer, & Garcia-Merita, 2000). These inconsistencies may partly be explained by inadequate sample sizes and/or composition of samples. To explore invariance sufficiently well, respondents should represent the entire adult life span and both genders. Most studies, however, are based on small to moderately sized (e.g., Pons et al., 2000; Shevlin et al., 1998; Tucker, Ozer, Lyubomirsky, & Boehm, 2006) or highly homogenous samples such as Spanish



Dimensionality and Measurement Invariance of Satisfaction with Life Scale, Fig. 1 The best fitting model, with standardized estimates based on results of confirmatory factor analysis of the five items in the Satisfaction with Life Scale. This modified one-factor model (correlation between items four and five) was used for all further analyses (Norwegian Health Interview Survey 2005; N = 4,984)

Dimensionality and Measurement Invariance of Satisfaction with Life Scale, Table 3 Unstandardized factor loadings for all five SWLS items in a one-factor model with correlation between error terms for items four and five, for the entire sample and for each subgroup by gender and age (Clench-Aas et al., 2011)

		Gender		Age groups (years)			
	Entire sample	Males	Females	16–24	25–44	45–64	65+
SWLS mean score*	26.20	26.17	26.23	26.76	26.29	25.93	27.12
Item 1	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Item 2	0.86	0.87	0.85	0.67	0.85	0.91	0.95
Item 3	0.88	0.90	0.87	0.90	0.87	0.91	0.84
Item 4	0.85	0.88	0.83	0.83	0.86	0.85	0.85
Item 5	0.95	0.97	0.93	0.91	0.97	0.94	0.94
χ^2(df)	89.4(4)	35.3(4)	61.4(4)	16.6(4)	18.5(4)	72.7(4)	49.3(4)
CFI	0.995	0.996	0.993	0.992	0.998	0.990	0.981
RMSEA	0.065	0.057	0.074	0.071	0.044	0.097	0.129

* = means on a range of 5–35

junior high school students (Atienza et al., 2003), Taiwanese (Wu & Yao, 2006) and British (Shevlin et al., 1998) university students, and Swedish student teachers (Hultell & Gustavsson, 2008) and consequently exhibit both restricted age ranges, biased sex ratios, and limited sociodemographic profiles.

In the Norwegian study, the single-factor model fitted the data better for males than for females and gave better fit for the two youngest age groups than for the two elder age groups as seen in Table 3. Despite the fact that the last items, perhaps due to their reference to past accomplishments rather than current conditions, appear to involve a somewhat different cognitive search, the overall results support a single dimension in all the subgroups investigated.

Dimensionality and Measurement Invariance of Satisfaction with Life Scale, Table 4 Fit indices for measurement invariance models for men and women and for four age groups: baseline (unconstrained), weak (measurement weights), strong (measurement intercept), and strict (measurement residual) (Clench-Aas et al., 2011)

Parameter	Baseline	Weak	Strong	Strict
Between genders				
Chi^2(df)	96.7(8)	101.1(12)	125.5(17)	145.0(22)
ΔCh^{i2}(Δdf)	–	4.4(4)	24.4(5)*	19.5(5)*
CFI	0.995	0.995	0.993	0.992
RMSEA	0.047	0.039	0.036	0.034
Between age groups				
Chi^2(df)	163.7(18)	244.0(30)	453.3(45)	744.7(59)
ΔChi^2				
(Δdf)	–	80.3(12)*	209.3(15)*	291.3(14)*
CFI	0.991	0.987	0.976	0.959
RMSEA	0.040	0.038	0.043	0.048

Testing of measurement invariance was conducted by multigroup CFAs using maximum likelihood estimation (Clench-Aas et al., 2011). This method employs successive analyses where constraints to the models are added consecutively. The baseline model was an unconstrained model, with one-factor loading constrained to unity. The weak (metric) model, nested under the baseline model, constrained the factor loadings to be equal across groups. The strong (scalar) model also constrained intercepts to equality across comparison groups and the strict model additionally constrains the residuals. The fit indices of these analyses are presented in Table 4.

Between Genders

No gender differences were observed at the level of factor loadings, indicating metric or "weak" invariance across gender in the total sample. This attests that the latent variable is related to the items in similar ways for males and females. Further constraints equating the intercepts (strong invariance) and the residuals (strict invariance) resulted in significantly reduced fit in terms of the Chi^2 test. Analyses based on large samples may result in high Chi^2 values, however, and increased risk for rejecting good models. In the Norwegian study, additional fit indices were either improved (RMSEA) or fit indices were slightly reduced (CFI) when adding further constraints (equating intercepts and residuals) to the baseline model. This suggests that the intercepts and residuals may be fixed to equality in males and females, thereby supporting the assumption of strict invariance across gender. Further testing for invariance revealed that the differences between genders were not present at either the strong or strict levels. This implies that group means on the latent variable as well as analyses involving correlations with the latent variable are comparable across gender. This finding confirms the previously described findings (Hultell & Gustavsson, 2008; Shevlin et al., 1998; Swami & Chamorro-Premuzic, 2009; Wu & Yao, 2006), although Atienza (2003) in Spanish junior high students came to a different conclusion.

Between Age Groups

People differ in what they require for a satisfying life and different dimensions of well-being seem to be meaningful to people of varying age. Different ages and life circumstances may cause systematic shifts in how people evaluate their life situation. Oishi and colleagues (Oishi, Diener, Suh, & Lucas, 1999) have for example proposed a "value as ▶ Moderator model" which predicts that as individuals age, changes in values lead to changes in the determinants of their life satisfaction. Ryff (1989) found middle-aged individuals to stress the importance of self-confidence, self-acceptance, job and career issues, and older

respondents to focus more on health issues. The Norwegian study found that the SWLS is sensitive to age at the strong and strict levels indicating that life satisfaction as measured by the SWLS does not have the same meaning across the life span.

The results from the Norwegian study also indicated that the underlying construct is not fully comparable across the age groups. This finding is in accordance with previous reports (Hultell & Gustavsson, 2008; Pons et al., 2000) although others (Blais et al., 1989; Durak et al., 2010; Gouveia et al., 2009; Siedlecki et al., 2008) found invariance among age groups. These studies were based on far more age homogenous samples (mainly students) and were therefore not able to examine invariance across the entire adult life span. By including respondents from 15 to 79 years, the Norwegian study shows that intercepts and residuals vary across the adult life span. Manifest and latent SWLS scores are therefore only partially comparable across age groups. This important finding may partly be due to different ▶ adaptation strategies, cohort effects, socialization practices, age-specific circumstances influencing interpretations, and conceptualizations of the items on the SWLS (Westerhof, Dittmann-Kohli, & Thissen, 2001). Older individuals have been shown to make more global evaluations, to be more present oriented, and to stress interpersonal aspects, whereas younger people focus more on intrapersonal and specific evaluations (Westerhof et al., 2001). The temporal framing of the items may also be important. The SWLS incorporates items referring to both current conditions and past accomplishments and the time perspectives are likely to vary across age groups (Pavot & Diener, 2008).

Conclusions

The overall results indicate that the one-factor latent structure of the SWLS is valid in the Norwegian data and that comparing males and females is feasible, whereas some caution must be exerted when comparing age groups.

References

Anaby, D., Jarus, T., & Zumbo, B. (2010). Psychometric evaluation of the Hebrew language version of the satisfaction with life scale. *Social Indicators Research, 96*, 267–274.

Arrindell, W. A., Heesink, J., & Feij, J. A. (1999). The Satisfaction With Life Scale (SWLS): appraisal with 1700 healthy young adults in The Netherlands. *Personality and Individual Differences, 26*, 815–826.

Atienza, F. L., Balaguer, I., & Garcia-Merita, M. L. (2003). Satisfaction with life scale: Analysis of factorial invariance across sexes. *Personality and Individual Differences, 35*, 1255–1260.

Balatsky, G., & Diener, E. (1993). A comparison of the well-being of Soviet and American students. *Social Indicators Research, 28*, 225–243.

Blais, M. R., Vallerand, R. J., Pelletier, L. G., & Briere, N. M. (1989). L'echelle de satisfaction de vie: Validation Canadienne-Francaise du "satisfaction with wife scate" [French-Canadian Validation of the Satisfaction With Life Scale]. *Canadian Journal of Behavioral Science, 21*, 210–223.

Clench-Aas, J., Nes, R. B., Dalgard, O. S., & Aaro, L. E. (2011). Dimensionality and measurement invariance in the satisfaction with life scale in Norway. *Quality-of-Life Research, 20*(8), 1307–1317.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75.

Durak, M., Senol-Durak, E., & Gencoz, T. (2010). Psychometric properties of the satisfaction with life scale among Turkish University students, correctional officers, and elderly adults. *Social Indicators Research*. doi:10.1007/s11205-010-9589-4.

Fujita, F., Diener, E., & Sandvik, E. (1991). Gender differences in negative affect and well-being: The case for emotional intensity. *Journal of Personality and Social Psychology, 61*, 427–434.

Gouveia, V., Milfont, T., da Fonseca, P., & Coelho, J. (2009). Life satisfaction in Brazil: Testing the psychometric properties of the satisfaction with life scale (SWLS) in five Brazilian samples. *Social Indicators Research, 90*, 267–277.

Hultell, D., & Gustavsson, J. P. (2008). A psychometric evaluation of the satisfaction with life scale in a Swedish nationwide sample of university students. *Personality and Individual Differences, 44*, 1070–1079.

Lewis, C. A., Shevlin, M. E., Smekal, V., & Dorahy, M. J. (1999). Factor structure and reliability of a Czech translation of the satisfaction with life scale among Czech university students. *Studia Psychologica, 41*, 239–244.

Lucas, R. E., & Fujita, F. (2000). Factors influencing the relation between extraversion and pleasant affect. *Journal of Personality and Social Psychology, 79*, 1039–1056.

McDonald, R. P. (1999). *Test theory: a unified treatment*. Mahwah, N.J.: Lawrence Erlbaum Associates.
Oishi, S. (2006). The concept of life satisfaction across cultures: An IRT analysis. *Journal of Research in Personality, 40*, 411–423.
Oishi, S., Diener, E., Suh, E., & Lucas, R. E. (1999). Value as a moderator in subjective well-being. *Journal of Personality, 67*, 157–184.
Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology: Dedicated to Furthering Research and Promoting Good Practice, 3*, 137–152.
Pavot, W., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment, 57*, 149–161.
Pons, D., Atienza, F. L., Balaguer, I., & Garcia-Merita, M. L. (2000). Satisfaction with life scale: Analysis of factorial invariance for adolescents and elderly persons. *Perceptual and Motor Skills, 91*, 62–68.
Ryff, C. D. (1989). In the eye of the beholder: Views of psychological well-being among middle-aged and older adults. *Psychology and Aging, 4*, 195–201.
Sachs, J. (2003). Validation of the satisfaction with life scale in a sample of Hong Kong university students. *Psychologia: An International Journal of Psychology in the Orient, 46*, 225–234.
Shevlin, M., Brunsden, V., & Miles, J. N. V. (1998). Satisfaction with life scale: Analysis of factorial invariance, mean structures and reliability. *Personality and Individual Differences, 25*, 911–916.
Siedlecki, K. L., Tucker-Drob, E. M., Oishi, S., & Salthouse, T. A. (2008). Life satisfaction across adulthood: Different determinants at different ages? *The Journal of Positive Psychology, 3*, 153–164.
Slocum-Gori, S., Zumbo, B., Michalos, A., & Diener, E. (2009). A note on the dimensionality of quality-of-life scales: An illustration with the satisfaction with life scale (SWLS). *Social Indicators Research, 92*, 489–496.
Stubbe, J. H., Posthuma, D., Boomsma, D. I., & De Geus, E. J. (2005). Heritability of life satisfaction in adults: A twin-family study. *Psychological Medicine, 35*(11), 1581–1588.
Swami, V., & Chamorro-Premuzic, T. (2009). Psychometric evaluation of the Malay satisfaction with life scale. *Social Indicators Research, 92*, 25–33.
Tucker, K., Ozer, D., Lyubomirsky, S., & Boehm, J. (2006). Testing for measurement invariance in the satisfaction with life scale: A comparison of Russians and North Americans. *Social Indicators Research, 78*, 341–360.
Vaultier, S., Mullet, E., & Jmel, S. (2004). Assessing the structural robustness of self-rated satisfaction with life: A SEM analysis. *Social Indicators Research, 68*, 235–249.
Westerhof, G. J., Dittmann-Kohli, F., & Thissen, T. (2001). Beyond life satisfaction: lay conceptions of well-being among middle-aged and elderly adults. *Social Indicators Research, 56*, 179–203.
Wu, C., & Yao, G. (2006). Analysis of factorial invariance across gender in the Taiwan version of the satisfaction with life scale. *Personality and Individual Differences, 40*, 1259–1268.

Dimensions and Values of Elderly People, Quality of Life

Paula Elosua
University of the Basque Country,
San Sebastian, Spain

Synonyms

Quality of Life (QOL) 65

Definition

► Quality of life in elderly people has become an important multidimensional construct which is studied from a variety of disciplines and which has significant effects on designing social policies for ► well-being. Quality of life dimensions are determined by demographic, environmental, political, social, or historical aspects; in elderly, there are especially important factors related to health, environment, or social relationships.

Description

The relevance of quality of life is scientifically and socially accepted. Scientists assess it from a variety of disciplines (psychology, economics, sociology, biology, or medicine), and policy makers try to define social policies in order to improve the quality of life for the elderly. Quality of life is a dynamic construct (Allison, Locker, & Feine, 1997) which varies among individuals and cultures (Carr, Gibson, & Robinson, 2001). In each stage of the life cycle, it will have

distinctive characteristics. The characteristics of each period are determined by demographic, political, social, or historical aspects, and with reference to elderly people, there are especially important dimensions related to health or social relationships (Bowling & Windsor, 2001; Farquhar, 1995; Fry, 2000).

Different definitions of quality of life, which include more general or specific dimensions, can be found in the literature (see Gill & Feinstein, 1994), and different methodological approaches can be followed to assess quality of life (Feeny, 2005; Kind, 2005). For now, there is no single, universally accepted definition of quality of life (Lauer, 1999), but the present conception recognizes that quality of life is determined by personal/social factors as well as subjective/objective factors. Related to elderly people, the five most cited factors are "► health" (physical, psychological), "functional autonomy," "social activities," "► family or ► social support," and "home and environment" (Farquhar, 1995; Fernández-Ballesteros, & Zamarrón, 2006; Gabriel & Bowling, 2004; Wiggings, Higgs, Hyde, & Blane, 2004). Those five general domains are measured with questionnaires which cover them to a greater or lesser extent by including information about pain, mental illness, cognitive deterioration, levels of functional ability, well-being, beliefs, attitudes or emotions, societal support, or environmental quality.

Most researchers accept that in order to assess quality of life, both subjective and objective information is necessary. Much work has gone into the development of objective measures, but there is less agreement on how to measure the subjective aspects (Ranzijn & Luszez, 2000). The objective information contributes to drawing a general profile based on social, medical, or economical indicators of quality of life, but no information is given about well-being or about the relevance of the dimensions of quality of life to well-being. The objective information is, of course, important since it allows us to know the context and this is the first step towards designing policies to mediate in those domains which need to be improved.

But this information has to be completed. Subjective assessment of those domains gives us information about the relative importance of the factors determining the quality of life. This information is doubly important; it is individually pertinent, and it is socially relevant. The subjective perspective lets us define individual profiles of quality of life by weighting the dimensions according to the subjective values, and having group-subjective information enables the design of services and policies for improving quality of life, with emphasis on the most weighted dimensions.

Several researchers have analyzed the subjective importance or preferences among quality of life dimensions in elderly people by using exploratory and qualitative methodology based on open or semi-open interviews. The results are tables based upon frequency that offer information about the subjective relevance of the dimensions of quality of life (Bowling, 1995; Farquhar, 1995; Nilsson, Ekman, Ericsson, & Winblad, 1996; Wilhelmson, Andersson, Waern, & Allebeck, 2005). These works contribute to defining more precisely the meaning of quality of life. However, it would be interesting to complete this information with quantitatively measured values which help one to understand and analyze the subjective dimensions among groups. In order to get those subjective values, formal measurement models are needed. In this context, it is possible to analyze the subjective preferences among quality of life dimensions in elderly people using the Thurstonian (Thurstone, 1927) approach in the Structural Equation Modeling (SEM) framework (Elosua, 2007; Maydeu-Olivares & Böckenholt, 2005). The methodology is significant because new perspectives are offered to assess the subjective aspects of quality of life. It is substantively noteworthy due to the fact that the results help one understand what aspects of quality of life are considered to be important by elderly people and we are able to quantify this subjective importance.

Analyzing data coming from 65QOL (Elosua, 2011) which was constructed to assess the quality of life of elderly people in five dimensions related to health, functional autonomy, social and family nets, home and environmental conditions, and social activities, a scale for latent preferences among dimensions of quality of life was defined.

The elderly sample was representative of a population of elderly people who live at home and maintain a medium-high level of social activity. According to the estimated dimension values, the quality of life preference latent means could be sorted into four groups. The first group would be composed of the preferences regarding health. The second would include personal autonomy. The third place was for home and support, and the dimension related to social activities was in last place.

The estimated preference values and the order of latent preferences were equivalent for gender and age; so the quality of life dimension values were independent of both factors. Although the differences were nonsignificant, health, autonomy, support, and home means were slightly higher for females, whereas the latent mean value for the dimension related to social activities was higher for the male subsample.

This general order among quality of life dimensions is not concordant with the results reported in several exploratory studies which stressed the importance of non-health dimensions in quality of life (Bowling, 1995; Farquhar, 1995; Wilhelmson, Andersson, Waern, & Allebeck, 2005). However, from a methodological point of view, the results' comparability depends on the comparability of the methods, and one needs to consider the characteristics of the analyzed culture. Regarding the first factor, it is clear that by using different ways of gathering data, it is possible to find a different order among the dimensions. In the same study, Wilhelmson et al. (2005) report different results on the same sample by using different methods. On the other hand, given the cultural and social factors affecting the quality of life, it is not surprising that we can find a different order among dimensions in different cultures. In assessing cross-cultural differences-similarities among quality of life dimensions, it is necessary to use the same methodological instruments and the same formal model.

From the dimension values, we would like to highlight the subjective value given to the dimension related to home. This result agrees with the aspiration to age in place, which has been extensively documented in the gerontological literature (Gitlin, 2003). It is recognized from the World Health Organization that an important goal in aging healthily is to create environments supporting healthy living and well-being, and in this sense the role of housing is especially important. Particularly in old age, much time is spent at home and personal autonomy, which is the second dimension in relevance, strongly depends on having an adapted physical environment. Promoting adequately adapted housing is one strategic approach for improving the quality of life by preserving autonomy, identity, and, therefore, healthy aging.

In relation to the methodological approach used, we would like to comment on two aspects. The Thurstonian model for the paired comparisons is an older method for modeling preferences, which we used to analyze the subjective values of dimensions of quality of life of one elderly sample from a new perspective. (1) The estimation process is based on the five descriptors of the latent domains. Domain descriptors must be carefully defined and selected in the preference choice task since the validity of the inferences will depend on how well the descriptors represent the target domains and cover the construct. (2) The estimation of latent preferences was carried out in the Structural Equation Modeling (SEM) framework. The Thurstonian approach enables us to work with estimated latent variables instead of observed variables and to incorporate covariates to the model in order to explain individual differences. Using paired comparison designs, minimal restrictions on the response behavior of a respondent are imposed. Particularly when differences between choice alternatives are small, this method provides more information about individual preferences than is obtainable using summative scales. In short, the use of this framework would improve the assessment of the preferences by making an interesting link between the observed data and the measurement model. This allows for the incorporation of explanatory variables in the model, as well as using a method for collecting data that provides more information about individual preferences.

Acknowledgments This research was supported through grants by Ministry of Economy and Competitivity (PSI2011-30256) and by University of Basque Country (GIU12/32).

Cross-References

► Subjective Indicators of Well-being

References

Allison, P. J., Locker, D., & Feine, J. S. (1997). Quality of life: A dynamic construct. *Social Science and Medicine*, *45*, 221–230.

Bowling, A., & Windsor, J. (2001). Towards the good life: A population survey of dimensions of quality of life. *Journal of Happiness Studies, 2*, 55–81.

Carr, A. J., Gibson, B., & Robinson, P. G. (2001). Measuring quality of life: Is quality of life determined by expectations or experience? *British Medical Journal*, *322*, 1240–1243.

Elosua, P. (2007). Assessing vocational interests in the Basque country using paired comparison design. *Journal of Vocational Behavior, 71*(1), 135–145.

Elosua, P. (2011). Subjective values of quality of life dimensions in elderly people. A SEM preference model approach. *Social Indicators Research, 104*, 427–437.

Farquhar, M. (1995). Elderly People's definitions of quality of life. *Social Science & Medicine, 41*(10), 1439–1446.

Feeny, D. (2005). Preference-based measures: Utility and quality -adjusted life years. In P. Fayers & R. Hays (Eds.), *Assessing quality of life in clinical trials* (pp. 405–430). UK: Oxford University Press.

Fernández-Ballesteros, R., & Zamarrón, C. (2006). *Cubrecavi*. Madrid, Spain: TEA.

Fry, C. L. (2000). Culture, age, and subjective well-being-health, functionality, and the infrastructure of eldercare in comparative perspective. *Journal of Family Issues, 21*, 751–777.

Gabriel, Z., & Bowling, A. (2004). Quality of life from the perspectives of older people. *Ageing & Society, 24*(5), 675–691.

Gill, T. M., & Feinstein, A. R. (1994). A critical appraisal of the quality of quality-of-life measurements. *Journal of the American Medical Association, 272*, 619–626.

Gitlin, L. N. (2003). Conducting research on home environments: Lessons learned and new directions. *The Gerontologist, 43*(5), 628–637.

Kind, P. (2005). Values and valuation in the measurement of HRQoL. In P. Fayers & R. Hays (Eds.), *Assessing quality of life in clinical trials* (pp. 391–404). Oxford: Oxford University Press.

Lauer, G. (1999). Concepts of quality of life in mental health care. In S. Priebe, J. P. J. Oliver, & W. Kaiser eds.), *Quality of life and mental health care* (pp. 1–18). Petersfield: Wrightson Biomedical.

Maydeu-Olivares, A., & Böckenholt, U. (2005). Structural equation modeling of paired comparisons and ranking data. *Psychological Methods, 10*(3), 285–304.

Nilsson, M., Ekman, S. L., Ericsson, K., & Winblad, B. (1996). Some characteristics of the quality of life in old age illustrated by means of Allardt's concept. *Scandinavian Journal of Caring Sciences, 10*, 116–121.

Ranzijn, R., & Luszez, M. (2000). The measurement of subjective quality of life of elders. *International Journal of Aging & Human Development, 50*(4), 19–34.

Thurstone, L. L. (1927). A law of comparative judgment. *Psychological Review, 34*, 273–286.

Wiggings, R. D., Higgs, P. F. D., Hyde, M., & Blane, D. B. (2004). Quality of life in the third age: Key predictors of the CASP-19 measure. *Ageing & Society, 24*, 693–708.

Wilhelmson, K., Andersson, C., Waern, M., & Allebeck, P. (2005). Elderly people's perspectives on quality of life. *Ageing & Society, 25*, 585–600.

Diminishing Marginal Returns

► Diminishing Returns

Diminishing Returns

Carme Riera-Prunera
Econometrics, Statistics and Spanish Economy, University of Barcelona, Barcelona, Spain

Synonyms

Decreasing returns to scale; Diminishing marginal returns; Flowerpot law; Law of diminishing (marginal) returns

Definition

With this concept, we are referring to the behavior of production in the short and long run as the quantity of inputs increases. What happens is that beyond a certain point, production fails to increase proportionately with added investment, effort, or skill. More specifically, a production function has decreasing returns to scale if an

increase of an equal percentage in all factors of production causes at some point an increase in output of a smaller percentage, yielding lower per -unit returns. It can also be stated saying that it refers to a decrease in the marginal quantity of output produced as the amount of one input increases, while holding the amounts of all other factors of production constant.

Description

History

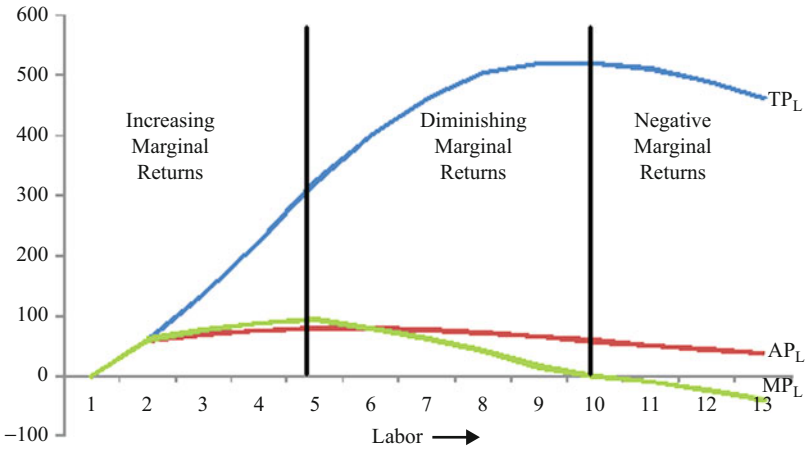
Returns to scale are an old concept. Early economists such as Johann Heinrich von Thünen, Turgot, West, Thomas Malthus, and David Ricardo were already concerned. Classical economists such as Malthus and Ricardo were worried about the fact that in order to increase output from agriculture, farmers would have to farm less fertile land or farm existing land with more intensive production methods. In fact, they attributed the successive diminishment of output to the decreasing quality of the inputs. However little attention was paid to it until Alfred Marshall used this concept to capture the idea that firms may face "economies and diseconomies of scale" (1890). Marshall dealt with technical and monetary (price in imperfect competition) explanations in order to explain why firms may face changing returns to scale. Later on neoclassical economists replied them by assuming that each unit of labor is identical and diminishing returns depend on the relation of labor and capital. The discussion on the concept of returns to scale in a technical sense was further analyzed by Knut Wicksell (1900, 1901, 1902), J.A. Hobson (1900), P. H. Wicksteed (1910), A. Aftalion (1911), F. Edgeworth (1911), W.E. Johnson (1913); Piero Sraffa (1926), C.W. Cobb and P.H. Douglas (1928), John Hicks (1932, 1934, 1936), N. Kaldor (1934), F. Machlup,(1937) or Allen, R.G. (1938) among others. Later on a great variety of economists have also included this concept in their studies, such as P.H. Douglas (1948, 1967), R. Frisch (1950), DG. Champernowne (1953), N. Kaldor (1955, 1961), K. J. Arrow et al. (1961), C.E. Ferguson (1969), P. A. Samuelson (1979), J. M. Ostroy (1984), J. Silvestre (1987), J. Eatwell (1987), S. Vassilakis (1987)and R. G. Chambers (1988); or more recently, J. M. Buchanan and Y. J. Yoon (1994), G. M. Gelles, Mitchell DW (1996), A. Sullivan A and S.M. Sheffrin (2003) and Basu, S. (2008). Also Karl Marx developed a version of the law of diminishing returns in his theory of the tendency of the rate of profit to fall, described in Volume III of *Das Kapital*.

At first, since economists neglected the possibility of technical progress as a means to improve production, based on this law, they predicted that a large population expansion would be followed by a decrease in output per head, thus contributing to poverty and preventing further increases in population. We can see this possible effect only in stagnant economies, with scarce technical change throughout a long period of time. However, modern economies facing constant advances are able to surpass this problem and succeed in increasing their population and their standard of living at the same time.

Concept

Production functions can exhibit increasing, constant, or diminishing returns to scale, depending mainly on the phase and the level of output (Knut Wicksell, 1901, 1902). It is generally assumed that when a firm is producing at a very small scale and increases its size, by making more efficient use of resources through division of labor and specialization of skills, it often faces increasing returns. However, if a firm is already producing at a very large scale, with high output levels, it will probably face decreasing returns because it is already quite difficult to manage all resources properly; thus, any increase in size will probably introduce a certain level of inefficiency (Frisch, 1965).

The law of diminishing returns is one of the most famous laws in economics and it plays a central role in economic theory. It is said as first written by Anne Robert Jacques Turgot and further worked by Thomas Malthus. The law states that in all productive processes, when one of the factors of production is fixed, successive additions of another factor will initially lead to



Diminishing Returns, Fig. 1 Law of diminishing returns. © mbainexperience.com

the desired increase in returns and profit up to a certain point. But, beyond that point, new additions of the input yield progressively smaller returns. What happens is that in the beginning, as we increase the quantity of one production factor, its marginal return is reduced, and as we keep adding the factor, a point is reached where eventually the overall average returns start decreasing. It is important to remark that the law assumes that at least one factor of production is fixed and that technology does not change for a certain period of time. Hence, the law of diminishing returns applies generally to the short run, since in the long run the firm is likely to increase the quantity of all factors of production as well as to introduce new technology and methods.

Formal Definition

The formal definition would be as follows: for any constant a greater than 1,

$$F(aK, aL) < aF(K, L)$$

where K and L are factors of production, capital, and labor, respectively.

A formal example with a Cobb-Douglas functional form would look as follows:

It has decreasing returns to scale when the sum of the exponents adds up less than one. The function is

$$F(K, L) = AK^b L^{1-b} \tag{1a}$$

where $A > 0$ and $0 < b < 1$. Thus,

$$\begin{aligned} F(aK, aL) &= A(aK)^b (aL)^{1-b} \\ &= Aa^b a^{1-b} K^b L^{1-b} \\ &= aAK^b L^{1-b} = aF(K, L). \end{aligned} \tag{1b}$$

But if the Cobb-Douglas production function has its general form

$$F(K, L) = AK^b L^c \tag{1c}$$

with $0 < c < 1$, then there are decreasing returns if $b + c < 1$, since

$$\begin{aligned} F(aK, aL) &= A(aK)^b (aL)^c = Aa^b a^c K^b L^c \\ &= a^{b+c} AK^b L^c = a^{b+c} F(K, L), \end{aligned} \tag{1d}$$

which is greater than or less than $aF(K, L)$ as $b + c$ is greater or less than 1.

This graph (Fig. 1) depicts the law of diminishing returns using one input, x. As the unique input x increases, output (y) increases, but at different rates. At low levels of output (around y_1), the production function $y = F(x)$ is *convex*; thus, it exhibits increasing returns to scale (doubling inputs more than doubles output). At high levels of output (around y_3), the production function $y = F(x)$ is *concave*; thus, it exhibits decreasing returns to scale (doubling inputs less than doubles output).

The economic justification for increasing returns to scale has to do with the division of labor and its specialization as well as with new emerging techniques or changes in the old technique. Thus, it can be posed that it is just capturing the idea of technical progress (Allyn A. Young (1928) and Nicholas Kaldor (1966), and modern neoclassical endogenous growth theory). However, decreasing returns to scale are more difficult to justify and accept, especially at a technical level, since every input and aspect in production can always be replicated; thus, it is not only a question of changing factor proportions. In this sense, the asymmetry of the three types of returns to scale was explicitly admitted by Alfred Marshall, "the *forces which make for Increasing Return are not of the same order as those that make for Diminishing Return: and there are undoubtedly cases in which it is better to emphasize this difference by describing causes rather than results*" (Marshall, 1890). We can also think of the size of production as overstretching itself, meaning that in big firms or with a large production level, the advantages gained through specialization are being outweighed by the disadvantages coming from, for instance, managerial coordination, among other aspects. In most cases, what economists do is to assume a fixed factor or some indivisibilities.

Reasons for Decreasing Returns to Scale

They mainly arise from diseconomies of scale, which basically result in a reduction of productivity:

- Lower management efficiency, arising from scale expansion.
- Inefficient organization of production.
- Exhaustibility of natural resources.
- Inefficient control: when the size of the firm increases efficiently, controlling all departments may hinder production.
- The firm is reaching the upper end of its capacity and would require significant investment to produce more.
- Scale effects are reaching an end.
- No more specialization is possible to attain.
- Proportion increasing cost.
- Bottlenecks of critical inputs used in the production process.
- Laws and regulations that hinder a firm as it tries to expand output.
- Overworked managers and employees.
- Overuse of the existing fixed capital stock.

Cross-References

▶ Diminishing Returns

References

Aftalion, A. (1911). Les trois notions de la productivité et les revenues. *Revue d'Economie Politique, 25*, 145–184.

Allen, R. G. D. (1938). *Mathematical analysis for economists*. New York: St. Martin's.

Arrow, K. J., Chenery, H. B., Minhas, B. S., & Solow, R. M. (1961). Capital-labor substitution and economic efficiency. *Review of Economics and Statistics, 43*, 225–250.

Basu, S. (2008). Returns to scale measurement. *The new palgrave dictionary of economics*, 2nd ed.

Buchanan, J. M., & Yoon, Y. J. (Eds.). (1994). *The return to increasing returns*. Ann Arbor: the University of Michigan Press.

Chambers, R. G. (1988). *Applied production analysis: A dual approach*. Cambridge, UK: Cambridge University Press.

Champernowne, D. G. (1953). The production function and the theory of capital: A comment. *Review of Economic Studies, 21*(1), 112–135.

Cobb, C. W., & Douglas, P. H. (1928). A theory of production. *American Economic Review, 18*, 139–165.

Douglas, P. H. (1948). Are there laws of production? *American Economic Review, 38*, 1–41.

Douglas, P. H. (1967). The Cobb-Douglas production function once again: Its history, its testing and some empirical values. *Journal of Political Economy, 84*(5), 903–916.

Eatwell, J. (1987). Returns to scale. *The New Palgrave: A Dictionary of Economics, 4*, 165–166.

Edgeworth, F. Y. (1911). Contributions to the theory of railway rates. *The Economic Journal*, *XXI*(83), 346–370.

Edgeworth, F. Y. (1911). Contributions to the theory of railway rates. II. *The Economic Journal*, *XXI*(83), 551–571. Reprinted in 1925 as The laws of increasing and diminishing returns in Papers Relating to Political Economy, Vol. 1, London: Macmillan: 61–99.

Ferguson, C. E. (1969). *The neoclassical theory of production and distribution*. London: Cambridge Univ. Press.

Frisch, R. (1950). Alfred Marshall's theory of value. *Economic Journal, 64*(4), 495–524.
Frisch, R. (1965). *Theory of production*. Drodrecht, The Netherlands: Reidel. ed.
Gelles, G. M., & Mitchell, D. W. (1996). Returns to scale and economies of scale: Further observations. *Journal of Economic Education, 27*, 259–261.
Hicks, J. (1932). *Theory of wages* (2nd ed. 1963). London: Macmillan.
Hicks, J. (1934). Marginal productivity and the principle of variation. *Economica, XII*(35), 79–88.
Hicks, J. (1936). Mr Keynes's theory of employment. *The Economic Journal*, *46*, 238–253.
Hobson, J. A. (1900). *The economics of distribution*. New York: Macmillan.
Johnson, W. E. (1913). The pure theory of utility curves. *Economic Journal, 23*, 483–513.
Kaldor, N. (1934). The equilibrium of the firm. *The Economic Journal, 44*(173), 60–76.
Kaldor, N. (1955). Alternative theories of distribution. *Review of Economic Studies, 23*(2), 83–100.
Kaldor, N. (1961). Capital accumulation and economic growth. In F. Lutz & D. Hague (Eds.), *The theory of capital*. London: Macmillan.
Kaldor, N. (1966). Causes of the slow rate of economic growth in the UK: An inaugural lecture. London: Cambridge University Press.
Machlup, F. (1937). On the meaning of marginal product. In: Augustus M. Kelley, Publishers (Eds.), *Explorations in economics in honor of Frank Taussig*. New York: McGraw-Hill.
Marshall, A. (1890). *Principles of economics* (First ed.). London: Macmillan.
Marshall, A. (1920). *Principles of economics* (Revised ed.). London: Macmillan; reprinted by Prometheus Books.
Ostroy, J. M. (1984). A reformulation of the marginal productivity principle. *Econometrica, 52*(3), 599–630.
Samuelson, P. A. (1979). Paul Douglas's measurement of production functions and marginal productivities. *Journal of Political Economy, 87*(5), 923–939.
Sraffa, P. (1926). The laws of returns under competitive conditions. *The Economic Journal*, *36*, (144), 535–550.
Silvestre, J. (1987). Economies and diseconomies of scale. *The New Palgrave: A Dictionary of Economics, 2*, 80–84.
Sullivan, A., & Sheffrin, S. M. (2003). *Economics: Principles in action* (p. 157). Upper Saddle River: Pearson Prentice Hall.
Vassilakis, S. (1987). Increasing returns to scale. *The New Palgrave: A Dictionary of Economics, 2*, 761–764.
Wicksell, K. (1900). *Om gränsproduktiviteten såsom grundval för den nationalekonomiska fördelningen, Ekon Tidskrift* [Translation: Marginal Productivity as the Basis for Economic Distribution] (1958). New York: M.E. Sharpe.
Wicksell, K. (1901). *Lectures on political economy* (Two volumes) (1901–6). London: Routledge & Kegan Paul.
Wicksell, K. (1902). Till fördelningsproblemet, Ekon Tidskrift. [On the problem of distribution] In E. Lindahl (Ed.), *Knut Wicksell*: *Selected papers on economic theory* (1958) (pp. 121–130). London: Allen & Unwin.
Wicksteed, P. H. (1910). *The common sense of political economy*: *including a study of the human basis of economic law* (2 volumes). London: Macmillan, 2nd ed. reprinted in 1933, Robbins, L. (Ed). Clifton, NJ: Augustus M. Kelley Publishers.
West, E. (1815). *Essay on the application of capital to land*. Printed for T. Underwood, 32, Fleet Street; by C. Roworth, Bell Yard, Temple Bar. London: Underwood.
Young, A.A. (1928). Increasing returns and economic progress. *Economic Journal*, 28.

Dipsomania

► Addiction, An Overview

Direct Rescaling (of the Scale Ratings)

► Linear Scale Transformation

Direct Stretching (of the Rating Scale)

► Linear Scale Transformation

Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH)

Felix Angst
Research, Rehabilitation Clinic (RehaClinic), Bad Zurzach, Bad Zurzach, Switzerland
Schulthess Klinik, Zurich, Switzerland

Synonyms

DASH Disabilities of the Shoulder, Arm and Hand questionnaire (30-item full length version); Quick DASH, questionnaire (13-Item short version)

Definition

Introduction

The DASH is the most important and most widely used measurement instrument for self-rated outcome of the upper extremity, that is, the shoulder, elbow, and hand, that is, wrist and finger joints (Kennedy, Beaton, Solway, McConnell & Bombardier, 2011). This entry summarizes the psychometric properties of the DASH and its short form, the *Quick*DASH focusing on validity. Since the two most important references used are recent systematic reviews, this condensate of DASH data is also a systematic review of the current world literature (Angst, Schwyzer, Aeschlimann, Simmen & Goldhahn, 2011; Kennedy, Beaton, Solway, McConnell & Bombardier, 2011). Where necessary, single studies were individually reviewed (about 150 studies).

Validity is the most important psychometric property of a measurement tool because it proves whether an instrument measures the content, construct, dimension, and domain or that it is intended, supposed, and constructed to measure by its definition, description, and purpose (Katz, 2011; Streiner & Norman, 2008). Validity also depends on the other two major psychometric properties, ▶ reliability and responsiveness. High levels of reliability and responsiveness are necessary, but not sufficient, for high validity (Streiner & Norman, 2008).

Psychometric Properties

The following concepts and definitions are extensively described in Streiner and Norman (2008) and summarized in Angst et al. (2011), Katz (2011), and Kennedy et al. (2011).

Reliability

Reliability examines whether an instrument measures the same, if it should measure the same, especially when administered at two time points (test-retest, intra-rater) or two examiners (inter-rater) and the status under question did not change. It quantifies stability, reproducibility, repeatability, agreement, and precision. High reliability means low (especially random) ▶ measurement error of the tool. The most important concept to measure reliability is test-retest reliability, which is most accurately quantified by the ICC type (2,1), the correlation of two replicates of the same variable. The ICC varies from 0.00 = no reliability to 1.00 = perfect reliability. Another measure for cross-sectional reliability is the CA that quantifies the ▶ internal consistency of a scale from 0.00 = no to 1.00 = perfect consistency. It measures the agreement of the single items with the composing scale or the extent to which items in a scale are consistent with each other. A CA should lie in the range 0.70–0.90; values >0.90 mean that some items composing the scale are of redundant content and could be omitted (Angst et al., 2009; Streiner & Norman, 2008).

Validity

Face and ▶ content validity assesses whether the items appear to measure the relevant content and the desired qualities, especially representativeness, and is usually based on subjective judgment. ▶ Criterion validity correlates the measure under examination to "some other measure of the trait of disorder under study, ideally, a 'gold standard' which has been used and accepted in the field." ▶ Construct validity compares the measurement properties of the instrument to hypothetical constructs based on a "mini-theory" that "explains relationships among various behaviors and attitudes of the examined persons."

These three most important types of validity belong together and interact. For example, shoulder ▶ pain is a subjective perception (content, construct); it is impossible to measure it directly or "objectively" (no gold standard: criterion). As surrogate (criterion) for a pain scale, we only can ask the patient, "How much is your shoulder pain?" (content, face). Pain leads to resting the shoulder joint, a certain behavior (construct). If another instrument also measures pain and is validated, it serves as criterion. The correlation of the two pain scales then quantifies construct validity. Correlation coefficients vary (in absolute value) from 0.00 (no agreement, divergent construct) to 1.00 (perfect agreement, convergent construct). If pain subsides, the score must

change (content, construct, responsiveness). Squared correlation coefficients quantify how much variance of one scale is explained by the other scale (Angst et al., 2009). This means that correlations of 0.01 to 0.19 are zero to very low (0 % – 4 % explained variance – divergent construct), 0.20–0.49 low (4 % – 24 %), 0.50–0.69 moderate (25 % – 48 %), 0.70–0.85 high (49 % – 72 %), and 0.86–1.00 very high (74 % – 100 % – convergent construct).

The ability to detect change or to discriminate (discriminant validity) is part of the content and construct validity and also depends on precision and sensitivity of measurement, that is, reliability and responsiveness. Important parameters are the MDC95 and the MCID. The MDC95 quantifies the score difference by which two patients have, with 95 % confidence, different health states. It is a sort of minimal statistically detectable difference. In the cross-sectional case, the MDC95 equals 1.96*SD*square root(1-CA), where SD is the baseline standard deviation of the group and 1.96 is the z score for 95 % probability (Kennedy et al., 2011; Streiner & Norman, 2008). SD*square root (1-reliability parameter) is the standard error of measurement. For longitudinal measurement, it is MDC95 = 1.96*SD*square root(1-ICC)*square root(2), while square root(2) ≈ 1.414 (Kennedy et al., 2011; Streiner & Norman, 2008). The MCID is the minimal change of health that can be subjectively perceived by the individual. The most accepted concept is the assessment on the global health rating, the "transition" item (Angst et al., 2008, 2009, 2011, 2012; Katz, 2011; Kennedy et al., 2011). The difference of the mean score differences (effects) between the response categories "(slightly) better (or worse)" and "unchanged" is then equal to the MCID.

Normal distribution of the scores (content, construct), low floor and ceiling effects (content, construct), and properties of the instrument when examined by item-response theories (e.g., ▶ Rasch analysis: criterion) are also important to rate validity.

Responsiveness

Responsiveness quantifies the instrument's sensitivity to change of health and is, in this view, a measure of longitudinal validity (Angst et al., 2011; Katz, 2011; Kennedy et al., 2011; Streiner & Norman, 2008). The most important parameters are the ES that is the mean score difference divided by the group's standard deviation at baseline and the SRM that is the mean score difference divided by the group's standard deviation for the score changes (Streiner & Norman, 2008). Both are (by standard deviations) standardized parameters of change, unit-free, and independent of the scaling used. An ES of 0.20–0.49 is small, 0.50–0.79 moderate, and ≥0.80 large (Angst et al., 2008, 2009, 2012).

Description

DASH

The DASH was designed to measure physical disability and symptoms in people with various upper limb disorders by self-rating (Kennedy et al., 2011). It aims to describe different groups of people to compare the impact of upper limb disorders (discriminative) and to measure change over time (responsiveness) (Kennedy et al., 2011). It should be "relevant to a wide variety of health care-professions, insurers, and service providers who wish to understand the full impact of upper-limb disorders" (Kennedy et al., 2011). Table 1 lists the items and their content of the DASH and the *Quick*DASH (Angst et al., 2009). The DASH has 23 items for function (items 1–23) of which two are about social function (items 22 and 23). They are scored as 1 = no difficulty, 2 = mild difficulty, 3 = moderate difficulty, 4 = severe difficulty, and 5 = unable to do. Symptoms are assessed by 7 items (items 24–30) scaled as 1 = none, 2 = mild, 3 = moderate, 4 = severe, and 5 = extreme (severity). Item 29, "difficulty to sleep," also has a symptomatic component. Validity testing of the subscores of symptoms and function is still ongoing; thus, data on the total scores are reported in the following. Two optional modules ask about difficulties regarding the ability to work (work module) and to perform sports/arts (sports/arts module) by 4 items each. They are used for manual workers and for athletes/musical

Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH), Table 1 Items and content of the DASH and the *Quick*DASH

Item	DASH	*Quick*DASH	Construct
01	Open a tight/new jar	Open a tight/new jar	Function
02	Write		Function
03	Turn a key		Function
04	Prepare a meal		Function
05	Push open a heavy door		Function
06	Place an object on shelf above head		Function
07	Do heavy household chores	Do heavy household chores	Function
08	Garden or yard work		Function
09	Make a bed		Function
10	Carry shopping bag or briefcase	Carry shopping bag or briefcase	Function
11	Carry a heavy object (>10 lbs.)		Function
12	Change a light bulb overhead		Function
13	Wash or blow-dry your hair		Function
14	Wash your back	Wash your back	Function
15	Put on a pullover/sweater		Function
16	Use a knife to cut food	Use a knife to cut food	Function
17	Recreational activities requiring little effort		Function
18	Recreational activities requiring some force	Recreational activities requiring some force	Function
19	Recreational activities moving the arm freely		Function
20	Manage transport needs		Function
21	Sexual activities		Function
22	Interference with social activities	Interference with social activities	Function
23	Limitation in work, regular daily activities	Limitation in work, regular daily activities	Function
24	Pain	Pain	Symptom
25	Pain when performing a specific activity		Symptom
26	Tingling	Tingling	Symptom
27	Weakness		Symptom
28	Stiffness		Symptom
29	Difficulty to sleep because of pain	Difficulty to sleep	Function/symptom
30	Feel less capable, confident, useful		Symptom

instrumentalists. Since there is sparse use and literature of the two optional modules, review of them is omitted in the following.

For patient settings, the 30-item DASH version is mostly used and best tested. To score, the item values are summed up and transformed to the original scale from 0 = no symptoms/full function to 100 = maximal symptoms/no function. 90 % completed items are necessary to determine the score (missing rule). We recommend the use of the unweighted mean of the items; for example, the DASH total score = (mean-1)*25 (Angst et al., 2011). The advantage of this method is that it is valid for any number of completed items, namely, for the subscores of symptoms and function and for the *Quick*DASH (Table 1). To be comparable to other instruments, for example, the ▶ SF-36 or the CS, the scaling is often reversed (100-original score) to obtain 0 = worst to 100 = best (Angst et al., 2011).

*Quick*DASH

The *Quick*DASH was designed to save time and shorten the burden on the respondent (Kennedy et al., 2011). It should be "as short as possible while retaining the necessary measurement properties," that is, it should be as reliable,

Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH), Table 2 Reliability and precision of measurement of the DASH and the *Quick*DASH

		Median	Range	n (studies)
Internal consistency (CA)	DASH	0.96	0.89–0.98	33
	*Quick*DASH	0.91	0.88–0.94	8
Test-retest reliability (ICC)	DASH	0.91	0.77–0.98	24
	*Quick*DASH	0.92	0.82–0.94	9
Cross-sectional precision (MDC95)	DASH	7.9	3.8–11.2	23
	*Quick*DASH	12.7	9.0–15.0	8
Longitudinal precision (MDC95)	DASH	16.0	3.3–24.8	22
	*Quick*DASH	17.6	12.3–24.7	7
Perceivable difference (MCID)	DASH	15.0	4.6–20.9	5
	*Quick*DASH	8.0	8.0	1

valid, and responsive as the full-length DASH (Kennedy et al., 2011). Following a modern methodological state of the art, the *Quick*DASH has been carefully developed by comparing three concepts. The "concept retention" version has been selected as the best (1). It has 9 items in the domain of function and 2 items on symptoms (or 3: item 29, difficulty to sleep can also be regarded as a symptom), and 11 for the total score (Table 1). The scaling is analogue to that of the DASH (see above). Other short versions of the DASH have been described, for example, the *Quick*DASH-9 (items) and the M^2 DASH, but they have not reached importance and will not be further described in the following (Angst et al., 2011).

Psychometric Properties

Reliability

Internal consistency was very high for the DASH (median CA, 0.96) and high for the *Quick*DASH (0.91) (Table 2) (Angst et al., 2011; Kennedy et al., 2011). Both questionnaires reached very high levels of test-retest reliability (median ICC, 0.91 and 0.92).

Validity

Face and Content Validity High "face and content validity were the focus of the development stage of the DASH during which researchers, clinicians and patients helped in the selection of items and the wording of responses" (Kennedy et al., 2011). The appropriateness of the item content is obvious (Table 1) and meaning is easy to understand. Missing items are rare with the exception of item 21 about sexual activity which is often left out. For the same reason, item 21 was not included in the *Quick*DASH (Angst et al., 2011; Kennedy et al., 2011). However, the relatively strict missing rule of 90 % completed items produces relatively high proportions of ▶ missing data (Angst et al., 2011).

Several studies reported low floor and ceiling effects (Angst et al., 2011; Kennedy et al., 2011). This means that the DASH and *Quick*DASH are able to differentiate well at both ends of the scale, that is, among almost healthy and among very severely affected persons (content, construct). Further, several studies reported normally distributed scores in the patient groups, which allows the use of parametric methods for data analysis and statistical tests for comparisons (Angst et al., 2011; Kennedy et al., 2011).

Criterion Validity There is no gold standard for the assessment of upper limb symptoms and disability (criterion validity). However, "the obvious content validity of the used items and the numerous studies of the DASH give it a certain intrinsic validity" (Angst et al., 2011). There are numerous (plus/minus well) validated instruments that were used for comparison of the content and construct of the DASH and serve as surrogate of the criterion (Table 3). The DASH raised some concerns because items 21 (sexual activity), 26 (tingling; also in the *Quick*DASH),

Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH), Table 3 Cross-sectional validity (median correlations) of the DASH and *Quick*DASH total scores

Level	DASH		DASH		DASH		DASH		*Quick*DASH	
	Mixed	(n = 59)	Shoulder	(n = 54)	Elbow	(n = 23)	Hand	(n = 99)	All/mixed	(n = 37)
0.90			0.90 (n = 1)	SST			0.91 (n = 1)	HAT		
0.89	0.88 (n = 1)	HAQ					0.89 (n = 1)	MHQ		
	0.87 (n = 1)	UEFI			0.87 (n = 1)	PRTEE	0.85 (n = 1)	MASS07	0.86 (n = 1)	SPADI
			0.86 (n = 4)	**WORC**			0.83 (n = 1)	HFS	0.86 (n = 1)	HAQ
	0.85 (n = 1)	AIMS2					0.83 (n = 1)	AUSCAN		
							0.82 (n = 6)	**PRWE**		
0.80					0.80 (n = 1)	VAS function	0.80 (n = 2)	HAQ	0.80 (n = 1)	BSHS-B
0.79	0.79 (n = 2)	VAS function	0.79 (n = 1)	OSS					**0.79 (n = 3)**	**VAS function**
	0.77 (n = 1)	UEFS	0.77 (n = 1)	WOSI					0.78 (n = 1)	PRWE
	0.77 (n = 1)	VAS work	**0.77 (n = 8)**	**SPADI**					0.78 (n = 1)	WLQ-16
			0.76 (n = 5)	**CS**					0.76 (n = 1)	VAS work
			0.76 (n = 1)	VAS function						
			0.75 (n = 1)	EQ-5D						
			0.75 (n = 1)	SF-12 PCS	**0.73 (n = 3)**	**pmASES**				
			0.72 (n = 3)	**SF-36 BP**	0.73 (n = 1)	ROM	0.73 (n = 1)	PEM	0.73 (n = 1)	SF-36 PCS
	0.71 (n = 1)	GDR	**0.72 (n = 3)**	**SF-36 PCS**	0.72 (n = 1)	PRFE	0.73 (n = 1)	GAT		
0.70	**0.70 (n = 7)**	**SF-36 PCS**	0.71 (n = 2)	HAQ			**0.71 (n = 11)**	**BQ**	0.70 (n = 1)	VAS problem
0.69	0.69 (n = 1)	VAS problem			**0.68 (n = 4)**	**PREE**			**0.69 (n = 3)**	**SF-36 PF**
	0.65 (n = 8)	**SF-36 BP**	0.65 (n = 1)	Croft	0.67 (n = 2)	SF-36 PCS			**0.67 (n = 4)**	**VAS pain**
									0.66 (n = 2)	SF-36 BP
	0.64 (n = 3)	**VAS pain**	**0.65 (n = 3)**	**SF-36 PF**	0.65 (n = 1)	VAS pain	0.65 (n = 1)	AJC	0.66 (n = 1)	PREE
0.60	0.62 (n = 1)	SF-12 PCS	**0.62 (n = 3)**	**pASES**	0.65 (n = 2)	Flex/Ext			0.64 (n = 2)	BQ
0.59	**0.59 (n = 9)**	**SF-36 PF**					0.59 (n = 1)	GWS		
							0.59 (n = 1)	MPUT		
			0.58 (n = 1)	HUI3			**0.58 (n = 9)**	**SF-36 PF**	0.58 (n = 1)	Strength
	0.57 (n = 1)	ROM					0.57 (n = 1)	Custom		
	0.55 (n = 1)	Complaints	0.56 (n = 2)	cASES			**0.57 (n = 9)**	**SF-36 BP**		
			0.54 (n = 1)	SFA			**0.56 (n = 4)**	**SF-36 PCS**		

0.50	0.50 (n = 1)	AMAIS	**0.52 (n = 3)**	**VAS pain**	0.50 (n = 1)	SF-36 PF			0.51 (n = 1)	ROM
0.49					0.48 (n = 1)	SF-36 BP	**0.48 (n = 6)**	**Pinch**	0.49 (n = 3)	SF-12 PCS
			0.47 (n = 2)	Rotation			**0.47 (n = 13)**	**Grip**		
							0.47 (n = 1)	Tenderness		
					0.44 (n = 2)	cmASES	0.44 (n = 1)	KFT		
	0.42 (n = 1)	DAS28					**0.43 (n = 7)**	**SF-36 MH**		
0.40	**0.40 (n = 7)**	**SF-36 MCS**					**0.40 (n = 4)**	**VAS pain**	0.40 (n = 1)	Grip
0.39	0.38 (n = 1)	Tenderness					0.39 (n = 2)	Dexterity		
0.30	**0.37 (n = 7)**	**SF-36 MH**			0.35 (n = 1)	SF-36 MH	**0.38 (n = 5)**	**SF-36 MCS**	**0.37 (n = 3)**	**SF-36 MH**
0.29							0.29 (n = 1)	DAS28		
			0.25 (n = 3)	**SF-36 MH**			**0.27 (n = 6)**	**ROM**	0.26 (n = 1)	Pinch
0.20	0.24 (n = 1)	GWDS	0.24 (n = 2)	ROM					0.21 (n = 1)	SF-36 MCS
0.19	0.15 (n = 1)	SF-12 MCS			0.17 (n = 2)	SF-36 MCS	0.17 (n = 1)	GWS	**0.16 (n = 3)**	**SF-12 MCS**
0.10			0.12 (n = 2)	SF-36 MCS						
0.09	0.07 (n = 1)	AJC								
0.00							0.05 (n = 1)	Swelling		

Legend: Mixed: several upper extremity joints/regions. All: all study results. n = number of study results, bold: if n ≥ 3

and 30 (feel less capable) showed misfit to the predicted data by the Rasch model (Angst et al., 2011). The Rasch analysis results of the *Quick*DASH were somewhat better. Furthermore, differentiation between the item levels "mild" versus "moderate" versus "severe difficulty" was not possible for all items (Angst et al., 2011). Finally, the DASH total score was not able to show unidimensionality and may be influenced by conditions of the lower extremity in some settings (Angst et al., 2011). This results in overall moderate criterion validity of the DASH and in a moderate to high one for the *Quick*DASH.

Construct Validity: Correlations to Other Measures Table 3 condenses all the results of the DASH manual (Kennedy et al., 2011), especially all tables and appendices, of the most recent review of shoulder instruments (Angst et al., 2011) and of two responsiveness studies of which the unpublished baseline correlations were calculated from the original data (Angst et al., 2008, 2012). This resulted in a total of $n = 235$ correlation results for the DASH and $n = 37$ for the *Quick*DASH (Angst et al., 2009). From each report, only one set, if possible, the baseline score correlations were taken to avoid publication bias. Given several results (n) for the same score, the median of the correlations was calculated; if n was an even number, the arithmetic mean of the two central figures was determined. Due to the small number of data, the results for the *Quick*DASH were collapsed into one category (last column of Table 3). Correlations based on $n < 3$ studies should be interpreted with caution since dependency on the study setting may play a major role. The results obtained by $n \geq 3$ studies are elaborated in the following (bold in Table 3).

In shoulder, the DASH correlated highest with three joint-specific measures: WORC (0.86), SPADI (0.77), and CS (0.76). The joint-specific pASES was lower (0.62). The physical scales of the generic SF-36 showed correlations of 0.72 (SF-36 BP and PCS) and 0.65 (SF-36 PF). VAS pain correlated at 0.52 and mental health (SF-36 MH) at 0.25. An analogue rank order was found in the "mixed" category and for the elbow; the pmASES (0.73) and the PREE (0.68) are joint specific. The most results are available on hand/wrist conditions ($n = 99$). Highly correlated were the joint-specific PRWE (0.82) and the joint-specific BQ (0.71). The SF-36 physical scales attained 0.56–0.58, mental health 0.43, and the MCS 0.38. Correlation to hand strength was relatively low (pinch, 0.48; grip, 0.47) as well as to hand pain (VAS, 0.40). Low correlation showed mobility (ROM, 0.27).

A correlation of 0.27 means that the DASH total score explains only $0.27^2 = 7.3$ % of the variance of the ROM of the wrist and finger joints – divergent construct validity. The same is observed in mental health scales over all categories (columns of Table 3). Pure assessment of pain (VAS) has relatively low representation in the DASH total score (shoulder, 27.0 %; hand, 16.0 % explained variance). The correlations to SF-36 BP are higher than to VAS pain because the second SF-36 pain item, that is, one of two, asks about interference of pain with function.

For the *Quick*DASH, high correlations were found to VAS function (0.79), moderate to SF-36 PF (0.69), and VAS pain (0.68) reflecting construct convergence. Lower correlations showed up for SF-12 PCS (0.49), SF-36 MH (0.37), and SF-12 MCS (0.16) corresponding to lower convergence and higher divergence.

Construct Validity: Discriminant Validity, Precision of Measurement Discriminant construct validity was examined in various settings (Kennedy et al., 2011). For example, A DASH total score of 5–18 reflected no symptoms and disability/very mild severity, 12–36 mild, 23–44 moderate, 33–55 severe, and 55–60 very severe symptoms and disability depending on the study setting (data from 4 studies; scale; 0 = best, 100 = worst). The intervals overlap which limits the ability to discriminate. The corresponding scores of the *Quick*DASH were 12–19 for mild, 19–28 for moderate, and 33–48 for severe symptoms (only 1 study). Range of DASH scores was 12–27 reported for persons able to work, 36 working with restrictions, and 41–56 unable to work (3 studies). The corresponding figures for the *Quick*DASH were 10–28, 20–33, and 49–53

(2 studies). Normative data from a US population survey (n = 1,706) have been published and allow comparison to patient data stratified by 10-year age group and sex (Kennedy et al., 2011). The normative mean DASH total scores were 7.4 for males and 12.0 for females (0 = best).

Precision of measurement influences discriminant construct validity and was calculated from the data of the original studies that were listed in (1, 2, 5) (Table 2). Cross-sectional precision was higher for the DASH (median MDC95 = 7.9 score points) than for the *Quick*DASH (12.7). This means that, for example, if a person reported a DASH score of 50.0 points, the person's true score lies between 42.1 and 57.9 with 95 % probability (score+/−MDC95). Longitudinal precision was similar for both tools (DASH, median MDC95 = 16.0; *Quick*DASH, 18.2) but showed large variation (DASH). This means that if a person has a DASH score of 50.0 at baseline and 34.0 at follow-up, one can be confident with 95 % probability (error, 5 %) that the improvement is real and not due to measurement error.

The minimal effect perceived by the individual, the MCID, was 15.0 DASH total score points as indicated by the authors of the manual as "the most accurate change when we worked through all the findings" (1). Calculated by the transition method in single studies, this value could be replicated but figures showed large variation (Table 2) (Angst et al., 2011; Kennedy et al., 2011). For the *Quick*DASH, there is only one study that reported an MCID of 8.2 (Angst et al., 2011; Kennedy et al., 2011). However, if the MCID is smaller than the longitudinal MDC95, the MDC95 should be taken as MCID (Angst et al., 2011).

Responsiveness Of the large number of studies reporting longitudinal DASH data, the most relevant are five that compared the DASH to at least three other instruments or scales in Table 4 (Angst et al., 2008, 2009, 2011, 2012; Kennedy et al., 2011). The results of MacDermid 2006 should be interpreted with caution because they are those of patients who improved on all three instruments, but complete, non-stratified data are not available. In all settings, unreported ES were calculated for comparison with other studies.

More responsive than the DASH were joint-specific measures such as the WORC, CS, pASES, SPADI, SST (shoulder), PREE and pmASES (elbow), and PRWE (hand) as well as the clinical scales of the cASES, cmASES, ROM, and even the SF-36 BP (which asks about pain-dependent function in one of the two items). Less responsive were SF-36 PCS (which also depends on the psychosocial SF-36 scales), VAS function and pain, SF-36 PF (which mainly assesses ambulation), SF-36 MH, and SF-36 MCS. Strength of shoulder abduction was less, grip strength more responsive than the DASH. These relationships are consistent for the *Quick*DASH, but data are based on very few comparative studies and not shown in detail (Angst et al., 2011; Kennedy et al., 2011).

Comparison of the DASH and the *Quick*DASH The constructs are very similar, at first sight, especially when looking at the total scores (Angst et al., 2009): Construct convergence between the *Quick*DASH and the DASH was very high by median correlation 0.96 (range 0.92–0.98, n = 4 studies) (Angst et al., 2009; Angst et al., 2011; Kennedy et al., 2011). However, stratified analysis in the domains of symptoms and function revealed that the constructs differed (Angst et al., 2009). Compared to the full-length DASH, the *Quick*DASH underestimates symptoms (reported lower symptom severity) but overestimates disability (reported better function) by statistically significant differences. In the total scores, the sum of symptoms and disability, these effects neutralized each other, a mimicry effect that suggests high construct overlap. The *Quick*DASH showed slightly lower construct convergence to joint-specific measures, especially in shoulder, that is, joint specificity was lower in some examined strata when compared to the DASH (Angst et al., 2009).

Summary and Conclusions The DASH and, to a slightly lesser extent, the *Quick*DASH showed very high reliability, a necessary condition for high validity. High internal consistency points

Disabilities of the Arm, Shoulder and Hand Questionnaire (DASH), Table 4 Responsiveness (ES) of the DASH total score compared to ≥3 other measures

Joint	Shoulder	Shoulder	Shoulder	Elbow	Hand
Author	Angst 2008	MacDermid 2006	Fayad 2008	Angst 2012	MacDermid 2000
Intervention	Total joint arthroplasty	Rotator cuff repair	Proximal humerus fracture, conservative	Total joint arthroplasty	Distal radius facture, conservative
n (patients)	153	86	46	65	59 (month 3 to 6)
WORC		2.31			
CS	2.23				
pASES	2.13				
SPADI	2.10				
cASES	1.87				
SST		1.75			
PREE				1.50	
pmASES				1.32	
Grip					0.94
cmASES				0.86	
ROM	1.85 (cASES)		1.33 (abduction)	0.81 (cmASES)	0.67
PRWE					0.50
SF-36 BP	1.55	1.41		0.58	0.44
DASH	1.19	1.31	1.24	0.56	0.44
SF-36 PCS	0.71	1.23		0.11	0.40
Strength	0.70 (CS: abduction)				
VAS function			0.93		
SF-36 PF	0.32	0.59		0.07	0.14
VAS pain			0.14		
SF-36 MH	−0.04	0.12		0.31	
SF-36 MCS	−0.35	0.14		0.20	

to redundancy of some DASH items, a problem that is not present in the *Quick*DASH. Overall, there is high face and content validity for both instruments. Regarding criterion validity, there are substantial concerns and limitations, especially for the full-length DASH. However, testing by new methods such as item-response theory is ongoing (Angst et al., 2011; Kennedy et al., 2011). The subscores of symptoms and function are not yet completely validated. Their use can be recommended for the DASH but not for the *Quick*DASH (Angst et al., 2009, 2011; Kennedy et al., 2011).

Construct convergence of the DASH is high for joint-specific instruments, especially those that consist of a high number of functional items. This is consistent with the construct of the DASH total score that is dominated by items that ask about function (77 %). Construct convergence to joint-specific scales is especially high on shoulder and hand, whereby elbow symptoms and function seems to be captured less by the DASH. Some construct divergence shows up on the psychosocial scales of the SF-36 but also partly on ROM, VAS pain, and hand strength measures. These characteristics of convergence and divergence are supported by the responsiveness data. Joint-specific measures (WORC, CS, pASES, SPADI, PREE, pmASES, PRWE) are more responsive, whereas the generic "whole body" SF-36 is less responsive than the DASH. Between responsiveness and joint specificity, there was an almost perfect dose–response relationship in studies with multiple comparisons

(Angst et al., 2008, 2009, 2012). Discriminant validity of the DASH is moderate to high, depending on the setting. The DASH measures more precisely than the *Quick*DASH (MDC95). Data on clinically important differences (MCID) are sparse for both tools.

In conclusion, DASH validity has been tested by numerous studies that prove its outstanding qualities and allow comparison across various conditions and cultures and to population norms; 39 adapted language versions are currently available, more are in progress. The DASH is highly reliable, highly valid, and moderately responsive. The DASH is most appropriate for outcome measurement in conditions affecting the upper extremity at several locations such as rheumatoid arthritis, polytrauma, or multiple sclerosis (Angst et al., 2011).

Measures for Comparison

AIMS2 American Impact Measurement Scale, Version 2
AJC Active Joint Count (fingers)
AMAIS American Medical Association Impairment Score
AUSCAN Australian/Canadian Osteoarthritis Hand index
BQ Brigham Questionnaire
BSHS-B Burn-Specific Health Scale-Brief
cASES American Shoulder and Elbow Surgeons questionnaire for the shoulder, clinical part
Croft Croft Index
cmASES modified American Shoulder and Elbow Surgeons questionnaire for the elbow, clinical part
Complaints Severity of complaints
CS Constant Score
Custom Custom function score (examiner-based)
DAS28 Disease Activity Score (28-item version)
Dexterity Dexterity of the hand
EQ-5D European Quality of Life 5 Dimensions
Flex/Ext Flexion/Extension strength (elbow)
GAT Grip Ability Test
GRD Global Disability Rating
Grip Grip strength
GWDS Generalized Work Distress Scale
GWS Gartland and Werley Score
HAQ Health Assessment Questionnaire
HAT Hand Assessment Tool
HFS Hand Function Sort
HUI3 Health Utilities Index 3
KFT Keitel Function Test
MASS07 Modernized Activity Subjective Survey
MHQ Michigan Hand Questionnaire
MPUT Moberg Picking Up Test
OSS Oxford Shoulder Score
PAMTT Performance Accuracy of Manual Tracking Task
pASES American Shoulder and Elbow Surgeons questionnaire for the shoulder, patient part
PEM Patient Evaluation Measure
Pinch Pinch strength
pmASES modified American Shoulder and Elbow Surgeons questionnaire for the elbow, patient part
PREE Patient-Rated Elbow Evaluation questionnaire
PRFE Patient-Rated Forearm Evaluation questionnaire
PRTEE Patient-Rated Tennis Elbow Evaluation questionnaire
PRWE Patient-Rated Wrist Evaluation questionnaire
ROM Range Of Motion
Rotation Rotation strength
SF-12 MCS Short Form 12 Mental Component Summary
SF-12 PCS Short Form 12 Physical Component Summary
SF-36 BP Short Form 36 Bodily Pain
SF-36 MCS Short Form 36 Mental Component Summary
SF-36 MH Short Form 36 Mental Health
SF-36 PCS Short Form 36 Physical Component Summary
SF-36 PF Short Form 36 Physical Functioning
SFA Shoulder Function Assessment
SPADI Shoulder Pain and Disability Index
SST Simple Shoulder Test
Strength Strength of shoulder abduction
Swelling Swelling of joints (finger)
Tenderness Tenderness of joints (finger)
UEFI Upper Extremity Function Index

UEFS Upper Extremity Function Scale
VAS Visual Analogue Scale; work: ability to work
WLQ-16 Work Limitations Questionnaire, physical demands
WORC Western Ontario Rotator Cuff index
WOSI Western Ontario Shoulder Instability index

Psychometric Measurement Parameters

CA Cronbach's Alpha
ES Effect Size
ICC Intraclass Correlation Coefficient
MCID Minimal Clinically Important Difference
MDC95 Minimal Detectable Change with 95% confidence
SRM Standardized Response Mean

Cross-References

- Clinimetrics
- Convergent Validity
- Cross-cultural Adaptation
- Disability Index
- Divergent Validity
- Effect Size
- Health-Related Quality of Life Measures
- Intraclass Correlation Coefficient (ICC)
- Oxford Shoulder Score
- Physical QOL
- Psychometric Analysis
- Quality of Life (QOL)
- Quality of Life Outcomes
- Quality of Life Questionnaire
- Short Form 12 Health Survey (SF-12)
- Standard Error of Measurement
- Transition Questions or Items

References

Angst, F., Goldhahn, J., Drerup, S., Aeschlimann, A., Schwyzer, H. K., & Simmen, B. R. (2008). Responsiveness of six outcome assessment instruments in total shoulder arthroplasty. *Arthritis and Rheumatism, 59*(3), 391–398.

Angst, F., Goldhahn, J., Drerup, S., Flury, M., Schwyzer, H. K., & Simmen, B. R. (2009). How sharp is the short *Quick*DASH? A refined content and validity analysis of the quick disabilities of the shoulder, arm and hand (DASH) questionnaire in the strata of symptoms and function and specific joints. *Quality of Life Research, 18*(8), 1043–1052.

Angst, F., Goldhahn, J., Drerup, S., Kolling, C., Aeschlimann, A., Simmen, B. R., & Schwyzer, H. K. (2012). Responsiveness of five outcome measurement instruments in total elbow arthroplasty. *Arthritis Care & Research (Hoboken), 64*(11), 1749–1755.

Angst, F., Schwyzer, H. K., Aeschlimann, A., Simmen, B. R., Goldhahn, J. (2011). Measures of adult shoulder function: Disabilities of the Arm, Shoulder, and Hand Questionnaire (DASH) and Its Short Version (*Quick*DASH), Shoulder Pain and Disability Index (SPADI), American Shoulder and Elbow Surgeons (ASES) Society Standardized Shoulder Assessment Form, Constant (Murley) Score (CS), Simple Shoulder Test (SST), Oxford Shoulder Score (OSS), Shoulder Disability Questionnaire (SDQ), and Western Ontario Shoulder Instability Index (WOSI). In: Katz PP. Patient outcomes in rheumatology, 2011. A review of measures. *Arthritis Care & Research (Hoboken), 63*(Suppl11), S174–S188.

Fayad, F., Lefevre-Colau, M. M., Gautheron, V., Fermanian, J., Roren A. (2008). Responsiveness of the French version of the Disabilities of the Arm, Shoulder and Hand questionnaire (F-DASH) in patients with orthopedic and medical shoulder disorders. *Joint Bone Spine, 75*(5), 579–584.

Katz, P. P. (2011). Introduction to special issue: Patient outcomes in rheumatology, 2011. *Arthritis Care & Research, 63*(S11), S1–S3.

Kennedy, C. A., Beaton, D. E., Solway, S., McConnell, S., & Bombardier, C. (2011). *The DASH and Quick*DASH *outcome measure user's manual* (3rd Ed.). Toronto, Ontario: Institute for Work & Health. Retrieved from http://www.dash.iwh.on.ca.

MacDermid, J. C., Drosdowech, D., Faber, K. (2006). Responsiveness of self-reported scales in patients recovering from rotator cuff surgery. *Journal of Shoulder & Elbow Surgery, 15*(4), 407–414.

MacDermid, J. C., Richards, R. S., Donner, A., Bellamy, N., Roth, J. H. (2000). Responsiveness of the short form-36, disability of the arm, shoulder, and hand questionnaire, patient-rated wrist evaluation, and physical impairment measurements in evaluating recovery after a distal radius fracture. *Journal of Hand Surgery American, 25*(2), 330–340.

Streiner, D. L., & Norman, G. R. (2008). Reliability, validity, measuring change. In D. L. Streiner, & G. R. Norman (Eds.), *Health measurement scales* (4th ed.) (pp. 167–207, 247–274, 277–295). Oxford, UK: Oxford University Press.

Disability

▶ Critical Disability Theory
▶ Workers' Compensation

Disability and Health

Darshini Ayton[1], Narelle Warren[2] and Lenore Manderson[2]
[1]School of Psychology and Psychiatry, Monash University, Melbourne, VIC, Australia
[2]School of Psychology and Psychiatry, Monash University, Caulfield East, VIC, Australia

Synonyms

Affliction; Ailments; Handicap; Health defects; Impairment; Incapacity; Infirmity and health; Malady; Well-being; Wellness

Definition

▶ Health: "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1948).

▶ Disability is a complex phenomena that results from interactions between health conditions and contextual factors, both external environmental (including, but not limited to, ▶ social norms and expectations, physical or ▶ built environment, and legal and social structures) and internal personal factors (including demographic characteristics, personal experiences, personality and disposition, and individual influences on the perception of disability). Disability involves dysfunction at one or more of three levels – (a) the body or body part, (b) the whole person, and (c) the whole person within social context – in one or more of three ways: impairments (in body structure or function), activity limitations or difficulties, and restricted participation in multiple life spheres (World Health Organization, 2002).

Description

Health

The concept of health has evolved over centuries and is influenced by cultural, social, political, psychological, and economic forces. It extends beyond the presence of biomedical and biological states (illnesses). Health has medical, social, economic, spiritual, and other components, and these are shaped by age, sex, social class, scientific and technological developments, and the environment (Keleher, MacDougall, & Murphy, 2007; Larson, 1999). Over time, many different models of health have been proposed and utilized. These reflect the changing health profiles of populations including the epidemiological transition, in which chronic conditions have become more prevalent (Omran, 1971); evolving characteristics of disease; and different emerging disciplines which have challenged notions of health and its determinants (Van Leeuwen, Waltner-Toews, Abernathy, & Smit, 1999).

The medical model of health, where health is defined as the absence of disease or disability which prevents or hinders an individual from participating in life activities (Crichton, 1990; Larson, 1999), is the most widely acknowledged model. Social models of health, in contrast, recognize social determinants of health and the interplay of the natural and social environments in maintaining good health, exposure to risk factors, disease susceptibility, prognosis, access to treatment, and likelihood of death (CSDH 2008; Solar & Irwin, 2010). Experiences of health or illness are profoundly social, influencing personal and social identities, ▶ social participation, ▶ stigmatization and ▶ social exclusion, capacity to mobilize resources, and access to diagnosis, treatment, support, and care (Allotey, Reidpath, Kouame, & Cummins, 2003; Manderson & Smith-Morris, 2010). These in turn are shaped by available infrastructure and resources.

The social and economic context of health, and the relevance of mental, emotional, spiritual, and social as well as physical factors in determining health status and well-being, is reflected in the definition of health provided by the World Health Organization (WHO) in its earliest documents.

From this foundational idea of health, WHO has attended to the prerequisites for health, factors that encourage a healthy society such as "peace, shelter, ▶ education, social security, social relations, food, income, the ▶ empowerment of women, a stable ecosystem, sustainable resource use, social justice, respect for human rights and equity" (World Health Organization, 1997, para 5). These prerequisites highlight the convergence of biological, psychological, and social factors in shaping the transmission of disease, its treatment and development, and its outcomes (a biopsychosocial model; Engel, 1977).

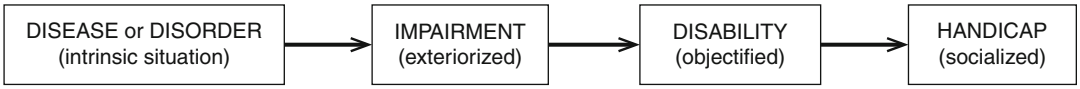
In subsequent work, researchers have illustrated that disease, well-being, and death are both social and biological (CSDH 2008; Solar & Irwin, 2010). Diseases are transmitted through the interactions of people with their environment and changes to the environment, as in the short term occurs with economic development and in the longer term through climate change (World Health Organization, 2012). Interactions between humans, vector, and environment shape local epidemiologies of disease. For example, while schistosomiasis transmission is a water-borne infection of trematode larvae, with snails as the vector, the risk of infection reflects how people use water in their everyday life: for personal hygiene, domestic duties, recreation, agriculture, and animal husbandry (Huang & Manderson, 2005; Watts, Khallaayoune, Bensefia, Laamrani, & Gryseels, 1998). Similarly, influenza, various rotaviruses, and dengue become epidemics across continents, not because of the presence of pathogens alone, but because poor infrastructure, poor governance, and overcrowding create the preconditions for infection, and the pathogens – viruses in two cases, the mosquito vector in the third – are transmitted effectively because of frequent air travel.

Health conditions impact on people's lives across all domains, and ▶ quality of life studies seek to capture this. ▶ Health-related quality of life measures vary, with a wide range of instruments available. These vary in their purpose, with most assessing morbidity and mortality (usually reported in terms of rates); the impact of an illness on behaviors, practices, and activities of daily life; self-perceptions about health status and its effects; the functional impacts of illness (often an objective measure); and/or ▶ satisfaction with life. Such validated measures offer subjective, and to a lesser extent objective, assessments of people's life in the context of health, illness, and the social environment for the purposes of comparing within and between conditions and groups. Condition- and population-specific quality of life instruments allow for targeted investigation into the impacts of particular diseases on a person's life.

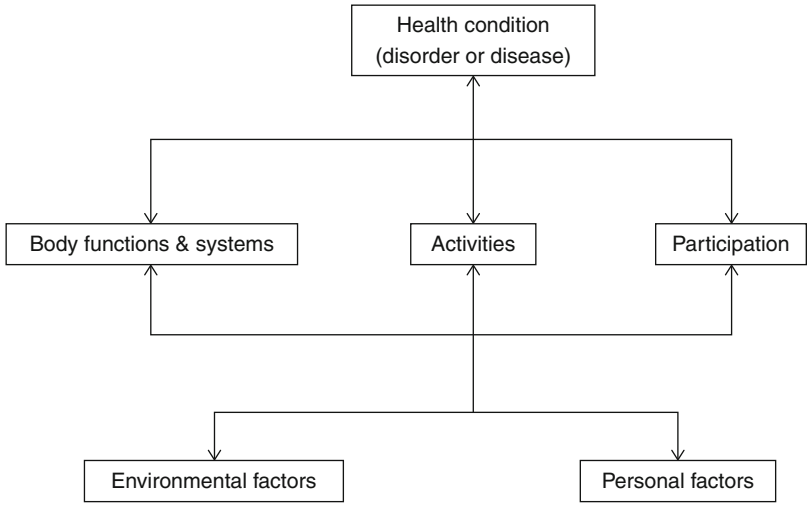
Disability

People with physical or mental disability historically have been seen as functionally atypical and so are also classified as "diseased" in the medical model of health (Amundson, 1992). In this model, disability is understood as due to functional limitations arising from a medical condition, which impact an individual's ability to participate in his or her expected social roles (Leiter, 2007). However, this model does not adequately allow for disability as a consequence of chronic conditions (Gray & Hendershot, 2000), the leading cause of disablement globally (World Health Organization, 2005). As a result, the International Classification of Impairments, Disabilities and Handicaps (ICIDH) was developed in 1980 for trial purposes (Gray & Hendershot, 2000) and, with the International Classification of Disease (ICD), facilitates classification of the full extent of disease and disease consequences, thus assisting in evaluating health care outcomes (Gray & Hendershot, 2000). The constructs of the ICIDH are included below in Fig. 1.

The three central constructs – impairment, disability, and handicap – refer to different experiences of disease consequences (Gray & Hendershot, 2000). "Impairment" encapsulates body abnormalities in organ or system function, "disabilities" highlight the impact of impairment in relation to the individual's ability to function and undertake activities, and "handicap" relates to the resulting disadvantages experienced by an individual (Gray & Hendershot, 2000). Criticism of the ICIDH related to the relative lack of



Disability and Health, Fig. 1 Dimensions of the consequences of disease (ICIDH) (De Kleijn-De Vrankrijker, 2003)



Disability and Health, Fig. 2 Interactions between the components of ICF (De Kleijn-De Vrankrijker, 2003)

attention to the role of society in producing disability led to the development of the International Classification of Functioning, Disability, and Health (ICF); this was endorsed by the World Health Assembly in 2001 (Udea & Okawa, 2003; World Health Organization., 2002). The ICF avoids terms which hold negative connotations, but it also emphasizes the role of environmental factors which impact on the outcomes of impairment and determine the participation of people with various conditions (De Kleijn-De Vrankrijker, 2003). The ICF describes health and health-related states from the perspective of the individual and society in relation to activities and participation (Fig. 2).

Quality of life studies related to disability is an emergent field of research, although questions of accuracy and translation of assessment persist. Measures of health are used to assess burden, extent, and impact of disability, particularly in the context of chronic disease; identify strategic and priority areas; and assess the impact and effectiveness of health interventions. These measures include HRQoL (Health-Related Quality of Life) instruments, DALY (Disability Adjusted Life Years), QALY (Quality Adjusted Life Years), and YLD (Years of Life lost to Disability). However, many of these do not capture the nuances of culture and specifics of setting (Manderson, 2005). Allotey et al. (2003) demonstrated that while measures indicate little differences between countries, the experience of paraplegia in Australia is vastly different to that in Cameroon in terms of independence, ▶ mobility, self-care, and ▶ social participation. A capabilities approach (Nussbaum, 2005; Sen, 1987) offers a way to redress these issues by differentiating between capability and function and by emphasizing ▶ social justice in quality of life assessments. In this, quality of life considers how people live their lives with the resources – economic, financial, socio-cultural, psychological, environmental, and interpersonal – available to them. As a result, research on quality of life in the context of disability can recognize the universality of disability, so ensuring "that every human being can experience a decrement in health and thereby experience some disability" (World Health Organization, 2002:3).

References

Allotey, P., Reidpath, D., Kouame, A., & Cummins R. (2003). The DALY, context and the determinants of the severity of disease: An exploratory comparison of paraplegia in Australia and Cameroon. *Social Science & Medicine, 57*(5), 949–958.

Amundson, R. (1992). Disability, handicap, and the environment. *Journal of Social Philosophy, 23*(1), 105–119.

Crichton, A. (1990). *Slowly taking control? Australian governments and health care provision 1788–1988*. Sydney: Allen & Unwin.

De Kleijn-De Vrankrijker, M. W. (2003). The long way from the international classification of impairments, disabilities and handicaps (ICIDH) to the international classification of functioning, disability and health (ICF). *Disability and Rehabilitation, 25*(11–12), 561–564.

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science, 196*(4286), 129–136.

Gray, D. B., & Hendershot, G. E. (2000). The ICIDH-2: Developments for a new era of outcomes research. *Archives of Physical Medicine and Rehabilitation, 81* (12 Suppl 2), S10–S14.

Huang, Y., & Manderson, L. (2005). The social and economical context and determinants of schistosomiasis japonica. *Acta Tropica, 96*(2–3), 223–231.

Keleher, H. M., MacDougall, C., & Murphy, B. (Eds.). (2007). Approaching health promotion. *Understanding health promotion*. Melbourne: Oxford University Press.

Larson, J. S. (1999). The conceptualization of health. *Medical Care Research and Review, 56*(2), 123–136.

Leiter, V. (2007). "Nobody's just normal, you know": The social creation of developmental disability. *Social Science & Medicine, 65*(8), 1630–1641.

Manderson, L. (Ed.). (2005). *Rethinking wellbeing: Essays on health, disability and disadvantage*. Perth: Curtin University Press for API Network.

Manderson, L., & Smith-Morris, C. (Eds.). (2010). *Chronic conditions, fluid states: Chronicity and the anthropology of illness*. New Brunswick, NJ: Rutgers University Press.

CSDH (2008). Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.

Nussbaum, M. C. (2005). Well-being, contracts and capabilities. In L. Manderson (Ed.), *Rethinking wellbeing* (pp. 27–44). Perth: API Network.

Omran, A. R. (1971). The epidemiologic transition. A theory of the epidemiology of population change. *The Milbank Memorial Fund Quarterly, 49*(4), 509–538.

Sen, A. K. (1987). *The standard of living: The tanner lectures*. Cambridge, NY: Cambridge University Press.

Solar, O. & Irwin, A. (2010). *A conceptual framework for action on the social determinants of health*. Social Determinants of Health Discussion Paper 2 (Policy and Practice). Geneva; World Health Organization.

Udea, S., & Okawa, Y. (2003). The subjective dimension of functioning and disability: What is it and what is it for? *Disability and Rehabilitation, 25*(11–12), 596–601.

Van Leeuwen, J. A., Waltner-Toews, D., Abernathy, T., & Smit, B. (1999). Evolving models of human health toward an ecosystem context. *Ecosystem Health, 5*(3), 204–219.

Watts, S., Khallaayoune, K., Bensefia, R., Laamrani, H., & Gryseels, B. (1998). The study of human behavior and schistosomiasis transmission in an irrigated area in morocco. *Social Science & Medicine, 46*(6), 755–765.

World Health Organization. (1948). *Preamble to the constitution of the World Health Organization as adopted by the International Health Conference*. New York; Official Records of the World Health Organization, no. 2, p. 100.

World Health Organization, (1997). *Jakarta declaration on leading health promotion into the 21st Century*. The Fourth International Conference on Health Promotion: New players for a new era – leading health promotion into the 21st Century. Jakarta: World Health Organization.

World Health Organization. (2002). *Towards a common language for functioning, disability and health – ICF*. Geneva: World Health Organization.

World Health Organization. (2005). *Preventing chronic diseases: A vital investment*. Geneva: World Health Organization.

World Health Organization. (2012). *Accelerating work to overcome the global impact of neglected tropical diseases: A roadmap for implementation. Strategic and technical advisory group for neglected tropical diseases*. Geneva: World Health Organization.

Disability and Work

▶ Work Limitations

Disability Index

Megan Davidson
School of Physiotherapy, La Trobe University, Bundoora, VIC, Australia

Synonyms

Disability outcome measure; Disability questionnaire; Disability scale; Functional index; Functional outcome measure; Functional scale

Definition

A disability index is a scale, instrument, or questionnaire to measure disability.

Description

Feinstein, Josephy, and Wells (1986) used the term "index of functional disability" as an umbrella term for instruments that measure functional status. An index typically refers to an instrument with a number of items that are individually scored, with the sum of the item scores yielding the total index score. An instrument made up of a number of subscales, such as the SF-36, is usually referred to as a profile.

Early disability indexes include the Cornell Medical Index (Brodman, Erdmann, Lorge, & Wolff, 1949), the Pulses Profile (Moskowitz & McCann, 1957), the Karnofsky Performance Index (Karnofsky & Burchenal, 1949), the ▶ Katz Activities of Daily Living Scale (Katz et al., 1963), and the ▶ Barthel Index (Mahony & Barthel, 1965). Garratt, Schmidt, Mackintosh, and Fitzpatrick (2002) mapped the increase in publication of "patient-assessed health outcome measures" from 1990 to 1999 and categorized the measures as:

Disease specific (e.g., Oswestry)
Generic (e.g., ▶ SF-36)
Dimension specific (e.g., a depression scale)
Utility (e.g., EuroQol)

References

Brodman, K., Erdmann, A. J., Lorge, I., & Wolff, H. G. (1949). The Cornell medical index; an adjunct to medical interview. *Journal of the American Medical Association, 140*, 530–534.

Feinstein, A. R., Josephy, B. R., & Wells, C. K. (1986). Scientific and clinical problems in indexes of functional disability. *Annals of Internal Medicine, 105*, 413–420.

Garratt, A., Schmidt, L., Mackintosh, A., & Fitzpatrick, R. (2002). Quality of life measurement: Bibliographic study of patient assessed health outcome measures. *British Medical Journal, 324*, 1417. doi:10.1136/bmj.324.7351.1417.

Karnofsky, D. A., & Burchenal, J. H. (1949). The clinical evaluation of chemotherapeutic agents against cancer. In C. M. McLeod (Ed.), *Evaluation of chemotherapeutic agents*. New York: Columbia University Press.

Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. et al. (1963). Studies of illness in the aged. The index of the ADL: A standardized measure of biological and psychosocial function. *Journal of the American Medical Association, 185*, 914–919.

Mahoney, F. I., & Barthel, D. W. (1965). Functional evaluation: the Barthel Index. *Maryland State Medical Journal, 14*, 61–65.

Moskowitz, E., & McCann, C. B. (1957). Classification of disability in the chronically ill and aging. *Journal of Chronic Disability, 5*, 342–346.

Disability Outcome Measure

▶ Disability Index

Disability Outcomes Measures

▶ Functional Disability Scales

Disability Questionnaire

▶ Disability Index

Disability Scale

▶ Disability Index

Disability-Adjusted Life Years (DALY)

▶ Quality-Adjusted Life Expectancy

Disability-Free Life Expectancy

▶ Healthy Life Expectancy at Birth

Disabled Persons

Jerome Bickenbach and Sara Rubinelli
Schweizer Paraplegiker-Forschung and
University of Lucerne, Nottwil, Switzerland

Synonyms

Handicapped persons; People with impairments

Definition

The modern consensus on the concept of disability has moved away from a purely biomedical characterization to one in which functional problems at body level (or Impairments) in interaction with the physical, human being, social, and attitudinal environment produce disability as an outcome. In this context, quality of life has been seen to yield a paradox in which people with seemingly high levels of disability reported equally high levels of quality of life.

Description

The concept of quality of life applies to persons with disabilities as it does to everyone else, but for a combination of reasons, the application of the notion of quality of life to disability has led to a controversy, often labeled the "disability paradox" (Albrecht 1994; Albrecht & Devlieger, 1999). The alleged paradox involves a body of evidence in which "people with serious and persistent disabilities report that they experience a good or excellent quality of life when to most external observers these people seem to live an undesirable daily existence" (Amundson, 2010). The response to this apparent anomaly has been diverse but has clustered around two positions: one grounded in disability analysis in which the anomaly is explained away in terms of social preconceptions about the "burden" of disability and the other arguing that these results involve a subjective "error" that needs correction.

The purported paradox turns on the assumption that inasmuch as the underlying health condition and impairment are objectively "bad," the quality of the lived experience of disability must reflect this negative value. The disability analysis argues that the a priori "badness" of impairments, even severe impairments, is nothing more than stereotypical and potentially discriminatory preconceptions that people without disabilities (and in particular health-care providers) firmly hold. Self-reported quality of life reflects, on this view, the influence of psychological processes such as coping and ▶ adaptation (Amundson, 2010; Menzel, Dolan, Richardson, & Olsen, 2002). By contrast, the "error" analysis has tended to focus on the theory of ▶ response shift to account for the measurement error (Schwartz, Andresen, Nosek, & Krahn, 2007).

Recent studies have seemed to favor the disability and adaptation analysis. For example, while the early clinical literature on spinal cord injury had emphasized the catastrophic impact that the injury has on the victim's life, Clayton and Shubon (1994), Fuhrer, Rintala, Hart, Clearman, and Young, (1992), Gerhart et al. (1994), more recent studies offer evidence of a post-injury trajectory that results in a return to pre-injury, or higher, quality of life levels because of psychological adaptation (van Leeuwen, Kraaijeveld, Lindeman, & Post, 2011). Information such as this has led some to argue that the response shift analysis, at least as it applied to disability, should be viewed with caution: "If people thrive in the face of adversity by changing their goals in life, this should not be seen as a threat to the validity of quality of life measurement, nor as "untrue" change. Instead, it should be understood as a mechanism by which people experience high quality of life in the face of adversity" (Ubel, Peeters, & Smith, 2010a, b).

Assumptions about the quality of life of people with disabilities as "defective individuals" (Silvers, 1994) have also generated a substantial literature in bioethics and political theory. If impairments intrinsically lower quality of life, as some insist (McKie, Richardson, Singer, & Kuhse, 1998; Harris, 1987), then, e.g., rationing of scarce medical resources based on

► cost-benefit analysis – or formalized by summary measures such as QALY or DALY (Nord, 2005; Murray, 1996) – will argue for allocation decisions against persons with disabilities, whose quality of life is already compromised by the impairment (Brock, 2000; Bowling, 1996).

Similar debates over the role of the quality of life of persons with disabilities have arisen in a variety of health-care contexts and practices: the application of quality of life to determine "medical futility" in medical decision-making (Truog, Brett, & Frader, 1992), organ transplantation decisions (Brock, 1988), physician-assisted suicide and euthanasia (Bickenbach, 1998; Dresser & Robertson, 1989), health-care priority setting (Nord, 1993; Hadorn, 1992; Ubel, 2000), and potentially discriminatory practices in health-care allocation in general (Brock, 1988, 1993). But the quality of life debate has most profoundly affected beginning of life issues, such as the application of genetic prescreening for selective abortion of impaired infants (Asch, 1987, 2000; Parens & Asch, 1999, 2000; Wasserman, Bickenbach, & Wachbroit, 2005), or, more extremely, to justify infanticide of infants with impairment (Kuhse & Singer, 1985).

Because research into disability and the socio-political aspects of living with a disability have been addressed by authors from many disciplines, from medical and rehabilitation services to sociology, political theory and law, it is understandable that the literature linking quality of life with disability is complex and often inconsistent in approach and conclusion. Initially, disability scholars treated "quality of life" as just another medical notion that misunderstood the person-environment interactive nature of disability (Asch, 2001). More recently, though, disability advocates have seen the value of using established quality of life measures as indicators that can further the human rights agenda (Karr, 2011).

Cross-References

► Adaptation
► Cost-Benefit Analysis
► Disability-Adjusted Life Years (DALY)
► Impairment
► Quality Adjusted Life Years (QALY)
► Quality of Life
► Response Shift

References

Albrecht, G. L. (1994). Subjective health assessment. In C. Jenkinson (Ed.), *Measuring health and medical outcomes* (pp. 7–26). London: UCL Press.

Albrecht, G. L., & Devlieger, P. J. (1999). The disability paradox: high quality of life against all odds. *Social Science and Medicine, 48*, 977–988.

Amundson, R. (2010). Quality of life, disability, and hedonic psychology. *Journal for the Theory of Social Behaviour, 40*, 374–392.jts.

Asch, A. (1987). The treatment of 'handicapped newborns': A question with no simple answers. *Disability Studies Quarterly, 7*, 14–23.

Asch, A. (2000). Why I haven't changed my mind about prenatal diagnosis: Reflections and refinements. In E. Parens & A. Asch (Eds.), *Prenatal testing and disability rights* (pp. 234–236). Washington, DC: Georgetown University Press.

Asch, A. (2001). Disability, bioethics and human rights. In G. L. Albrech, K. Seelman, & M. Bury (Eds.), *Handbook of disability studies* (pp. 297–327). Thousand Oaks, CA: Sage Publications.

Bickenbach, J. E. (1998). Disability and life-ending decisions. In M. P. Battin, R. Rhodes, & A. Silvers (Eds.), *Physician assisted suicide: Expanding the debate* (pp. 123–132). New York: Routledge.

Bowling, A. (1996). Health care rationing: The public's debate. *British Medical Journal, 312*, 670–674.

Brock, D. W. (1988). Ethical issues in recipient selection for organ transplantation. In D. Mathieu (Ed.), *Organ substitution technology: Ethical, legal and public policy issues* (pp. 86–99). Boulder, CO/London: Westview Press.

Brock, D. (1993). Quality of life measures in health care and medical ethics. In A. Sen & M. C. Nussbaum (Eds.), *Quality of life* (pp. 95–132). New York: Oxford University Press.

Brock, D. (2000). Health care resource prioritization and discrimination against persons with disabilities. In L. Francis & A. Silvers (Eds.), *Americans with disabilities: Implications for individuals and institutions* (pp. 223–235). New York: Routledge.

Clayton, K. S., & Shubon, R. A. (1994). Factors associated with the quality of life of long term spinal cord injured persons. *Archives of Physical Medicine and Rehabilitation, 75*, 633–638.

Dresser, R. S., & Robertson, J. A. (1989). Quality of life and non-treatment decisions for incompetent patients. *Law, Medicine and Health Care, 17*, 234–244.

Fuhrer, M. J., Rintala, D. H., Hart, K. A., Clearman, R., & Young, M. E. (1992). Relationship of life satisfaction to impairment, disability, and handicap among persons with spinal cord injury living in the community. *Archives of Physical Medicine and Rehabilitation, 73*, 552–557.

Gerhart, K. A., Koziol-McLain, J., Lowenstein, S. R., & Whiteneck, G. G. (1994). Quality of life following spinal cord injury: Knowledge and attitudes of emergency care providers. *Annals of Emergency Medicine, 23*, 807–812.

Hadorn, D. (1992). The problem of discrimination in health care priority setting. *Journal of the American Medical Association, 368*, 1454–1459.

Harris, J. (1987). QALYfying the value of life. *Journal of Medical Ethics, 13*, 117–123.

Karr, V. (2011). A life of quality: Informing the UN convention on the rights of persons with disabilities. *Journal of Disability Policy Studies, 22*, 67–82.

Kuhse, H., & Singer, P. (1985). *Should the baby live? The problem of handicapped infants*. New York: Oxford University Press.

McKie, J., Richardson, J., Singer, P., & Kuhse, H. (1998). *The allocation of health care resources*. Dartmouth: Aldershot, Ashgate.

Menzel, P., Dolan, P., Richardson, J., & Olsen, J. A. (2002). The role of adaptation to disability and disease in health state valuation: A preliminary normative analysis. *Social Science and Medicine, 55*, 2149–2158.

Murray, C. J. L. (1996). Rethinking DALYs. In C. J. L. Murray & A. D. Lopez (Eds.), *The global burden of disease* (pp. 1–98). Cambridge, MA/Geneva: Harvard School of Public Health and World Health Organization.

Nord, E. (1993). Unjustified use of the quality of well-being scale in priority setting in Oregon. *Health Policy, 24*, 227–238.

Nord, E. (2005). Values for health states in QALYs and DALYs: Desirability versus well-being and worth. In D. Wasserman, J. Bickenbach, & R. Wachbroit (Eds.), *Quality of life and human difference* (pp. 125–142). Cambridge, MA: Cambridge University Press.

Parens, E., & Asch, A. (1999). The disability rights critique of prenatal genetic testing: Reflections and recommendations. *Hastings Center Report, 29*, S1–S22.

Parens, E., & Asch, A. (Eds.). (2000). *Prenatal testing and disability rights*. Washington, DC: Georgetown University Press.

Schwartz, C. E., Andresen, E. M., Nosek, M. A., & Krahn, G. L. (2007). Response shift theory: Important implications for measuring quality of life in people with disability. *Archive of Physical Medicine and Rehabilitation, 88*, 529–536.

Silvers, A. (1994). Defective agents: Equality, difference and the tyranny of the normal. *Journal of Social Philosophy, 25*, 154–175.

Truog, R. D., Brett, A. S., & Frader, J. (1992). The problem with futility. *New England Journal of Medicine, 326*, 1560–1564.

Ubel, P. A. (2000). *Pricing life: Why its time for health care rationing*. Cambridge, MA: The MIT Press.

Ubel, P. A., & Smith, D. M. (2010). Why should changing the bathwater have to harm the baby? *Quality of Life Research, 19*, 481–482.

Ubel, P. A., Peeters, Y., & Smith, D. (2010). Abandoning the language of "response shift": A plea for conceptual clarity in distinguishing scale recalibration from true changes in quality of life. *Quality of Life Research, 19*, 465–471.

van Leeuwen, C. M. C., Kraaijeveld, S., Lindeman, E., & Post, M. W. M. (2011). Associations between psychological factors and quality of life ratings in persons with spinal cord injury: A systematic review. *Spinal Cord*. doi:10.1038/sc.2011.120.

Wasserman, D., Bickenbach, J., & Wachbroit, R. (Eds.). (2005). *Quality of life and human difference*. New York: Cambridge University Press.

Disadvantaged Populations

Richard J. Estes
School of Social Policy & Practice (SP2),
University of Pennsylvania, Narberth, PA, USA

Synonyms

Heterosexism; Ostracism; Parity of populations groups; Racism; Sexism; Social caste; Social class; Social stigma; Social vulnerability

Definition

Structural inequalities between members of more advantaged and more disadvantaged population groups are a central feature of all societies. These inequalities are deeply rooted in the past and have been carried forward into the present. Their persistence severely undermines local, national, and global efforts to promote advances in the ▶ quality of life and well-being of people at all levels of social, political, and economic organization. They also are among the root causes of many of the civil wars and recurrent intraregional conflicts that interfere with national and international social progress.

Description

The terms "**historically disadvantaged population groups**" and "**disadvantaged populations**" were coined by the United Nations in 1948 to describe the status of population groups that were prevented from participating in some or all aspects of the collective life of individual societies (United Nations, 1948). The majority of the persons included in this concept then, as now, are **children**, the **elderly**, and **persons with severe physical or emotional disabilities** who, due to age or infirmity, cannot reasonably be expected to participate fully in the social, political, or economic systems of their societies. In time, the concept also embraced the **poor**, **women**, "first" or **indigenous** peoples, persons living under **slave-like conditions**, and other groups of people who become the targets of discrimination on the basis of **race**, **religion**, **ethnicity**, **language**, **physical appearance**, **sexual orientation**, **social class**, or **caste**. The concept also includes **economic migrants**, **political refugees** as well as persons with untreatable **infectious diseases**, such as HIV/AIDS. All of the preceding groups have become targets of social **stigma** and **social exclusion** (Galanter, 1984; Havenaar, Geerlings, Vivian, Collinson, & Robertson, 2008; Horowitz, 1985; Isaac & Maloughney, 1991; Stewart, 2008; Vannhanen, 1999). Though very large as a percent share of each country's population, each of these groups is regarded as **disadvantaged** populations and, as such, has received considerable attention in the international quality of life, well-being, and **level of living** literatures.

Given the combined numbers of disadvantaged people found in most societies, the only consistently *advantaged* population group is men between the ages of 25 and 50 years. Historically, men have been given access to a wide range of **civil and political** freedoms, ▶ human rights, and **economic opportunities** that have been denied to other population groups. Thus, the major goal of most efforts focused on advancing the status of disadvantaged populations has been to gain for them **parity** with the privileges already granted to men in the same society. The efforts required to achieve this goal are complex, multifaceted, and, typically, require decades, sometimes centuries, to be accomplished, e.g., the granting of freedom and, in time, voting rights to **slaves** and other **indentured** populations in the United States, the elimination of the highly oppressive **Apartheid** system in South Africa, and the granting of voting rights to women.

The promotion of increasing levels of quality of life, well-being, and basic **human** dignity for disadvantaged populations has been a central goal of development practitioners and scholars. Indeed, the vast majority of the earliest quality of life articles, monographs, and books identified elsewhere in this *Encyclopedia* focus centrally on national and global efforts directed at improving the **living conditions** of disadvantaged populations. Even today, this goal remains a central concern of empirical studies published in ▶ Social Indicators Research (SIR), the ▶ Journal of Happiness Studies (JHS), ▶ Child Indicators Research (CIR), ▶ Quality of Life Research (QOLR), and those published in the more recently established ▶ Applied Research in Quality of Life (ARQOL). The compendium of development-focused scholarly works published by this author in 1998 identified several thousand reports of research published over a 50-year time period that focused centrally on national and global efforts directed at improving the status of disadvantaged populations (Estes, 1998). Were such an effort undertaken today, the number of references included in such a listing likely would be twice as large as those identified in the earlier report.

The major efforts taken by the world community in addressing issues of social justice and parity between advantaged and disadvantaged population groups can be divided into four broad categories: (1) initiatives taken at the *individual* level; (2) initiatives undertaken at the ***intergroup*** level; (3) the adoption of public policies and other legal protections established at the *societal* or *national* levels; and, (4) large scale anti-discriminatory efforts initiated by the member states of the **United Nations** and major **international nongovernmental organizations** at the *global* level.

1. At the *individual level*, preferential treatment is assigned to individual members of disadvantaged population groups in gaining access to at least the same quality of education, ▶ health care, employment opportunities, housing, credit, and other resources granted to members of more advantaged populations. Collectively, these practices often are referred to as "**affirmative action**" which, with all other factors being equal, requires public officials, and decision-makers in those organizations that are dependent on public sources for their support, to make decisions that favor less advantaged population groups (Goga, 2007; Wikipedia, 2013a). These practices are highly controversial, however, especially in societies that have attached numerical **quotas** to their implementation.
2. A second set of approaches for dealing with inequalities brought about as a result of discriminatory practices toward disadvantaged populations occur at the ***intergroup*** *level*. These approaches, typically practiced by police authorities or nongovernmental entities working in the private sector, seek to promote voluntary interaction between members of different advantaged groups engaged in conflict with one another. Such interventions typically arise in the course of active intergroup conflicts and, thus, the role of the intermediaries is both to reduce the intensity of the conflict and promote increased **mutual understanding** and **tolerance** between the groups (e.g., between sexual majority and minority populations or between members of racial or ethnic groups in conflict with one another). The goal in each of these situations is to reduce the frequency of future **diversity-related** intergroup conflicts through improved communication, the promotion of mutual understanding, and, over time, building more harmonious intergroup interactions. The empirical foundations for these approaches are well established (Smith & Mackie, 2007).
3. At the *societal (and national) level*, efforts to advance the status of disadvantaged populations typically have included the passage (and subsequent enforcement) of laws, public policies, and regulations that specifically prohibit **discriminatory behavior** of the part of more advantaged population groups (e.g., the denial of credit on the basis of race, ethnicity, immigrant status, and so on). Most common in this category of nationally initiated efforts to achieve increased parity between advantaged and disadvantaged populations are laws that have as their central goal: (a) the promotion of economic opportunities that favor disadvantaged populations; (b) the elimination of "**separate but equal**" practices that deny disadvantaged populations from access to quality services available to more advantaged populations; and (c) laws and regulatory practices that advance the favorable treatment of disadvantaged populations in a broad spectrum of public services, e.g., in gaining access to higher education and public sector employment, the awarding of public sector contracts to minority-owned businesses, among many other initiatives that are under the direct control of governments.
4. At the *international level*, a vast array of initiatives have been undertaken to promote parity between the social "haves" and the social "have-nots." Central to these activities has been the promulgation by various intergovernmental bodies of "**declarations**," "**conventions**," and other agreements that either promote or prohibit certain types of societal behavior toward particular disadvantaged population groups. Such decrees from the United Nations have been numerous and all are based on the seminal ***Universal Declaration of Human Rights*** that was adopted by the world body in 1948 to redress intergroup social inequalities that contributed to local conflicts and international wars.

The following is a partial list of some of the most important declarations, conventions, and agreements on disadvantaged populations adopted by the United Nations since its creation following the end of the Second World War (United Nations, 1997; Wikipedia, 2013b). Though not all of these documents have been signed or adopted into law by all member states

of the United Nations, each one does, nonetheless, have a foundation in national and international law. Taken together, they also serve as the moral foundation on which the United Nations, national governments, and major international nongovernmental organizations advocate on behalf of disadvantaged populations throughout the world.

Declaration on Human Rights (1948)
Convention on the Prevention and Punishment of the Crime of Genocide (1951)
Supplementary Convention on the Abolition of Slavery (1958)
International Convention on the Elimination of All Forms of Racial Discrimination (1965)
International Covenant on Civil and Political Rights (1966)
International Covenant on Economic, Social and Cultural Rights (1966)
International Convention on the Elimination of All Forms of Racial Discrimination (1969)
Convention on the Elimination of all Forms of Discrimination Against Women (1979)
United Nations Covenant Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1984)
Declaration on the Right to Development (1986)
Declaration on the Rights of the Child (1989)
Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (1990)
Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities (1992)
Declaration on the Protection of All Persons from Enforced Disappearance (1992)
Declaration on the Rights of Indigenous People (2012)

Though quite different in each of the world's major geopolitical regions, the universal quest for increasing **equity** between the world's advantaged and disadvantaged populations remains a major topic on the social agendas of most countries and international associations, e.g., the **Organization of Asia-Pacific Cooperation** (APEC), the **Association of Southeast Asian Nations** (ASEAN), the **European Union** (EU), the Organization for Economic Cooperation and Development (OECD), etc. The quest is especially intense among the war-ridden nations of Africa and the Middle East but, in more quiet ways, exist for all countries that are seeking to find peaceful means for resolving the complex interplay of social, political, and economic factors that impede the realization of equality for all members of their societies. In the main, the global interest is in reducing diversity-related social conflicts that remain high and will likely remain so for the foreseeable future.

Cross-References

- Equity
- Social Change
- Social Exclusion
- Social Progress
- Vulnerable Populations

References

Estes, R. J. (1998). *Resources for social and economic development: A guide to the scholarly literature*. Philadelphia: University of Pennsylvania School of Social Work. The volume may be downloaded without cost from: http://www.sp2.upenn.edu/restes/Estes%20Papers/Resources%20for%20Social%20&%20Economic%20Development_1998.pdf.

Galanter, M. (1984). *Competing equalities: Law and the backward classes in India*. New Delhi: Oxford University Press.

Goga, F. (2007). A critique of affirmative action: The concept. Retrieved February 12, 2013, from http://ccms.ukzn.ac.za/index.php?option=com_content&task=view&id=683&Itemid=86.

Havenaar, J., Geerlings, M., Vivian, L., Collinson, M., & Robertson, B. (2008). Common mental health problems in historically disadvantaged urban and rural communities in South Africa: prevalence and risk factors. *Social Psychiatry and Psychiatric Epidemiology, 43*, 209–215.

Horowitz, D. (1985). *Ethnic groups in conflict*. Los Angeles: University of California Press.

Isaac, T., & Maloughney, M. S. (1991). Dually disadvantaged and historically forgotten: Aboriginal women and the inherent right of aboriginal self-government. *Hein-on-line*. Retrieved February 12, 2013, from http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/manitob21&div=29&id=&page=line.

Smith, E. R., & Mackie, D. M. (2007). *Social psychology* (3rd ed.). London & New York: Psychology Press and Routledge.
Stewart, F. (Ed.). (2008). *Horizontal inequalities and conflict: understanding group violence in multiethnic societies*. Hampshire: Macmillan.
United Nations. (1948). *The universal declaration of human rights*. Retrieved February 13, 2013, from http://www.un.org/en/documents/udhr/index.shtml.
United Nations. (1997). *A summary of United Nations agreements on human rights*. Retrieved February 13, 2013, from http://www.hrweb.org/legal/undocs.html.
Vannhanen, T. (1999). Domestic ethnic conflict and ethnic nepotism: A comparative analysis. *Journal of Peace Research, 36*, 55–73.
Wikipedia. (2013a). *Affirmative action*. Retrieved February 13, 2013, from http://en.wikipedia.org/wiki/Affirmative_action.
Wikipedia. (2013b). *The United Nations and human rights*. Retrieved February 12, 2013, from http://www.un.org/rights/dpi1774e.htm.

Disasters

▶ Earthquakes

Disciplinary Matrix

▶ Dominant Social Paradigm

Discourse Analysis

Brendan K. O'Rourke
School of Marketing, Dublin Institute of Technology, Dublin, Ireland

Synonyms

Discourse studies

Definition

Discourse analysis is a name covering a large variety of approaches toward analyzing various texts or other systems of signs.

Description

Discourse analysis (DA) draws from a diverse range of intellectual sources including classical studies of rhetoric, post-structuralism, ▶ ethnomethodology, speech-act philosophy, social psychology, and linguistics. However, a central identifying feature of DA is that it concentrates on the way discourse acts on and creates our reality. In contrast, many non-DA approaches assume a reference theory of language where words or symbols are seen as labels for separately knowable objects or concepts and that if appropriately used, the words or symbols of language serve only as transparent descriptors of reality. There are a great variety of approaches within DA, and a useful way to break them down is to consider how they use the terms "discourse" and "analysis." While such an approach can do some injustice to the way in which what is considered "discourse" may influence "analysis", and vice versa, it nonetheless provides a handle on the different DA approaches.

For linguistics, "discourse," simply means any piece of language greater than a sentence (Yule, 2006, p. 124). Conversation analysis (CA) concentrates on the detail of language used in "naturally occurring" audio-recorded interactions such as telephone conversations (Sacks, 1995). Foucault (1972) takes a very broad view of what he counts as discourse, often incorporating not only text but also other material practices than can be viewed as semiotic systems. For Foucault (1972) a discourse can constitute a whole historical way of knowing that defines, for that period, what can be known about a topic. Discourse has meant for a variety of researchers a host of sign systems from dance (Nilges, 2000) to architecture (O'Toole, 2004) to newspaper design (Kress & van Leeuwen, 1999).

There is also a variety of ways discourse analysts engage in analysis. Harré and Gillet (1994, p. 79) attempt to relate rules of discourse to a model of brain activity. In contrast Foucault's analysis is much more related to analysis of societies and uses his methods of "archaeology" – the examination

of the historical conditions that make discourses possible (Foucault, 1966, p. 31) – and "genealogy," the tracing of the contingencies by which the particular discourse emerges historically (Foucault, 2006, p. 236). Lakoff and Johnson (1980) stress the centrality of metaphor in human thinking and talking. Some discourse analysts analyze the use of metaphor using the tools of corpus linguistics (e.g., Koller, 2005). Oswick, Kennoy, and Grant (2002) argue that analyzing discourse using tropes of difference, for example, paradox and irony, rather than those based on similarity, such as metaphor, may be a more creative approach. Billig et al. (1988) analyze discourse in terms of dilemmas by borrowing from the study of rhetoric and ▶ ideology. For others, ▶ storytelling is the fundamental way that human thought is organized; the narrative approach to analyzing discourse is promoted by many, including Propp (1984), Fisher (1985), and Gergen (2001). With an attention to the details of language use similar to linguists, conversation analysts come from an ethnomethodological perspective to analyze language in interaction with regard to their theories of "the generic organizations for conversation" (Schegloff, 1999, p. 412). Tannen (1984) analyzes similar kinds of interaction but seeks to identify different conversational styles of the participants. Potter and Wetherell's (1987) discursive psychological approach identifies interpretative repertoires – particular ways of speaking that, as they are creatively deployed, produce accounts, thus moving beyond the need for psychology to investigate "attitude" whose mysterious substance was thought to lie behind particular behaviors. Some combine insights from psychological and sociological perspectives into a highly theorized frame for the analysis of discourse. In the case of Laclau and Mouffe (1985), this involves weaving together concepts from the psychoanalyst Lacan and the political scientist Gramsci. Wodak and Meyer (2009) provide an insight into a range of different approaches including Wodak's own Discourse-Historical Approach and Fairclough's (2010) Critical Discourse Analysis, all of which take a "critical" perspective that focuses explicitly on discourse and problems of power through taking a variety of interdisciplinary approaches.

Discourse analysis offers a critique of many research methods and measures of QOL (▶ quality of life). DA points out that measures of QOL whether structured or ▶ unstructured interviews (Antaki & Rapley, 1996; O'Rourke & Pitt, 2007), ▶ structured questionnaires (Houtkoop-Steenstra, 2000), or ▶ focus groups (Puchta & Potter, 2004) are all discursive events where activities of participants should not be regarded as an activity that transparently transfers information to the researcher. Labels such as "subject" and "informant" can often serve to hide the active nature of what people are doing when they cooperate in research projects (this point is also made by labeling theory). DA's critique does not necessarily mean abandonment of such research methods but does mean developing a more sophisticated understanding of what is going on.

The various ways of talking about, discussing, and debating QOL are, of course, themselves discourse. This makes QOL amenable to discourse analysis. Indeed "subjective" aspects of QOL (see ▶ subjective indicators of well-being) often depend on the construction of a specific conception of "self" and "subjectivity" that has been a major obsession in DA. In particular, Rapley (2003) has taken a Foucauldian approach to analyze QOL discourse historically, arguing that QOL is bound up with the currently powerful discourses of corporatism. Rapley sees QOL discourses, from its policy papers to questionnaires, as positioning persons as enterprising selves with the power and responsibility to "improve" themselves in a manner appropriate to the demands of contemporary society. McCann (2004) has critiqued how "best places to live" rankings in the media (see the Best City to raise a family – Readers Digest- and Places Rated Almanac for discussions of ranking places) have constructed particular discourses of QOL. It is important to note that for discourse analysts, showing the power and constructive effects of a discourse does not condemn such a discourse. If a DA critique of a discourse meant its use had

to be rejected, discourse analysts would have to reject everything knowable including their own work. Rather, when we subject any discourse to analysis, we hopefully reveal more about that discourse and allow greater appreciation of its effects, good and bad. Though Rapley (2003, p. 223) judges that "in the case of using QoL as a formally operationalized and measurable construct, it seems clear that the problems involved outweigh the putative benefits." There is no reason in principle that other discourse analysts might not come to a different judgment. Indeed Rapley (2003) himself sees benefits in using QOL discourse as a sensitizing concept.

References

Antaki, C., & Rapley, M. (1996). "Quality of Life" talk: The liberal paradox of psychological testing. *Discourse & Society, 7*(3), 293–316.

Billig, M., Condor, S., Edwards, D., Gane, M., Middleton, D. J., & Radley, A. R. (1988). *Ideological dilemmas: A social psychology of everyday thinking*. London: Sage.

Fairclough, N. (2010). *Critical discourse analysis: The critical study of language* (2nd ed.). London: Longman.

Fisher, W. R. (1985). The narrative paradigm: In the beginning. *Journal of Communication, 35*(4), 74–89.

Foucault, M. (1966). *The order of things*. London: Routledge.

Foucault, M. (1972). *The archaeology of knowledge*. (A. M. Sheridan Smith, Trans.). London: Tavistock.

Foucault, M. (2006). *History of madness* (J. Murphy & J. Khalfa, Trans.). Abingdon: Routledge.

Gergen, K. (2001). Self-narration in social life. In M. Wetherell, S. Taylor, & S. Yates (Eds.), *Discourse theory and practice: A reader* (pp. 247–260). London: Sage.

Harré, R., & Gillet, G. (1994). *The discursive mind*. Thousand Oaks: Sage.

Houtkoop-Steenstra, H. (2000). *Interaction and the standardized survey interview: The living questionnaire*. Cambridge: Cambridge University Press.

Koller, V. (2005). Critical discourse analysis and social cognition: Evidence from business media discourse. *Discourse & Society, 16*(2), 199–224.

Kress, G., & van Leeuwen, T. (1999). Front pages: Analysis of newspaper layout. In A. Bell & P. Garret (Eds.), *Approaches to media discourse* (pp. 186–218). Oxford: Blackwell.

Laclau, E., & Mouffe, C. (1985). *Hegemony and socialist strategy: Towards a radical democratic politics* (W. Moore & P. Cammack, Trans.). London: Verso.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago.

McCann, E. J. (2004). 'Best places': Interurban competition, quality of life and popular media discourse. *Urban Studies, 41*(10), 1909–1929.

Nilges, L. M. (2000). A nonverbal discourse analysis of gender in undergraduate educational gymnastics sequences using Laban effort analysis. *Journal of Teaching in Physical Education, 19*(3), 287–310.

O'Rourke, B. K., & Pitt, M. (2007). *Using the technology of the confessional as an analytical resource: Four analytical stances towards research interviews in discourse analysis* (58 paragraphs). Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 8(2), Art. 3. Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/244

O'Toole, M. (2004). Opera ludentes: The Sydney Opera House at work and play. In K. O'Halloran (Ed.), *Multimodal discourse analysis* (pp. 11–27). London: Continuum.

Oswick, C., Keenoy, T., & Grant, D. (2002). Metaphor and analogical reasoning in organization theory: Beyond orthodoxy. *Academy of Management Review, 27*(2), 294–303.

Potter, J., & Wetherell, M. (1987). *Discourse and social psychology: Beyond attitudes and behaviour*. London: Sage.

Propp, V. (1984). *Theory and history of folklore* (A. Y. Martin & M. R. P., Trans.). Manchester: Manchester University Press.

Puchta, C., & Potter, J. (2004). *Focus group practice*. London: Sage.

Rapley, M. (2003). *Quality of life research: A critical introduction*. London: Sage.

Sacks, H. (1995). *Lectures on conversation* (Vol. I & II). Oxford: Basil Blackwell.

Schegloff, E. A. (1999). Discourse, pragmatics, conversation analysis. *Discourse Studies, 1*(4), 405–435.

Tannen, D. (1984). *Conversational style: Analyzing talk among friends*. Norwood, NJ: Ablex Publishing Corporation.

Wodak, R., & Meyer, M. (Eds.). (2009). *Methods of critical discourse analysis* (2nd ed.). London: Sage.

Yule, G. (2006). *The study of language* (3rd ed.). Cambridge: Cambridge University Press.

Discourse Studies

► Discourse Analysis

Discrete Choice Analysis

Oscar Marcenaro-Gutierrez
Departamento de Economía Aplicada (Estadística y Econometría), Universidad de Málaga and Fundación Centro de Estudios Andaluces, Málaga, Spain

Synonyms

DCA

Definition

In general, DCA is a statistical technique aimed to modeling people – firms or any other decision maker – preferences among a set (two or more) of finite – exhaustive and mutually exclusive – discrete alternatives available to them and to find out which variables affect these choices.

Description

The theoretical basis for DCA was developed by (McFadden, 1974) – who received the Nobel Prize for this development – as a mean to provide a better understanding of human ▶ choice behavior. The main advantage of DCA over other techniques to model people choices (e.g., Conjoint Analysis) is that alternatives do not need to be characterized by the same attributes.

Recent work in DCA theory and methods relies heavily on the random utility – probabilistic choice – theory (RUT). Specifically this theory proposes that a person has a "utility" for each choice alternative that is unobservable ("latent") by the researcher (U_{ij}, utility that individual "i" associates with alternative "j"), which comes out from the sum of a nonstochastic – systematic – component (V_{ij}, representing "tastes of the population," observable) and a random component (ε_{ij}, catching unidentified factors that impact choices, independent of V_{ij}). Formally, $U_{ij} = V_{ij} + \varepsilon_{ij}$, which can be reformulated: $U_{ij} = Z_{ij}\beta + \varepsilon_{ij}$, where Z_{ij} is a vector of observed characteristics (depending on attributes of the person, s_i, and of the alternative, x_{ij}) and β a vector of coefficients quantifying the impact of changes of the attributes.

If we assume that humans are rational decision makers, the person choice will be the alternative which maximizes their utility function (although modelers only can observe noisy estimates of that utility). Then we can write the following:

$$Y_{ij} = 1 \text{ if } U_{ij} = Z_{ij}\beta + \varepsilon_{ij} > 0$$
$$Y_{1i} = 0 \text{ if } U_{ij} = Z_{ij}\beta + \varepsilon_{ij} <= 0$$

Thus, the individual "i" will choose the alternative "j" ($Y_{ij} = 1$) if the unobservable utility (latent) is positive and will choose a different alternative otherwise. In other words, between two alternatives (j, k), the probability that any random individual will choose alternative "j" has the functional form:

$$\begin{aligned} P(Y_{ij} = 1) &= H(x_{ij}, x_{ij}, s_i, \beta) = P(U_{ij} > U_{ik}) \\ &= P(Z_{ij}\beta + \varepsilon_{ij} > Z_{ik}\beta + \varepsilon_{ik}) \\ &= P(\varepsilon_{ik} - \varepsilon_{ij} > Z_{ij}\beta - Z_{ik}\beta) \text{ for all } j \neq k \end{aligned}$$

Consequently different distributions of ε_i for all "j" generate different specifications of "H," i.e., functional forms, and, hence, different discrete choice models (depending on the behavioral context). In particular if a logistic distribution is assumed for the random term (ε_i), we face a logit model:

$$P(Y_{ij} = 1) = 1/\left[1 + e^{(-\beta(z_{ij} - z_{ik}))}\right]$$

However, if the random component of the individual's utility function is assumed to be distributed as a standard normal, we are specifying a discrete choice probit model:

$$P(Y_{ij} = 1) = \Phi(\beta(Z_{ij} - Z_{ik}))$$

Models for binary outcomes are the foundation from which more complex models (ordinal and

nominal) can be derived, as the latest are equivalent to the simultaneous estimation of a series of binary outcomes. These are nonlinear models; thus, the change in the outcome probability that is associated with a given change in one of the independent variables depends on the level of all the independent variables (as opposed to standard ▶ Linear Regression Models).

As a natural extension of the binary logit model, we find the multinomial logit (MNL), which models the case when we have more than two alternatives in our discrete choice problem.

Aside from the above-mentioned models, within the discrete choice family of analysis, we complementary find a wide set of models, e.g., mixed multinomial logit models, conditional logit, exploded logit, mixed logit, and generalized extreme value (GEV) models (which include nested logit – NL – paired combinatorial logit – PCL – generalized nested logit – GNL – and heteroskedastic logit – HL).

The standard logit model is a particular case of a more general model: the generalized extreme value models. Specifically the logit model has the independence of irrelevant alternatives (IIA) property, which means that ratio of probabilities of any two alternatives is necessarily the same regardless of what other alternatives are in the choice set or what the characteristics of the other alternatives are (i.e., proportional substitution across alternatives); however, as noted by (Green & Srinivasan, 1990), this property "may not be a realistic assumption in many consumer behavior contexts," as it implies that the model captures each and every source of correlation over alternatives into representative utility. To overcome this when the IIA does not hold, we may use GEV models (based on a more sophisticated form of the RUT), which implies that the unobserved portions of utility for all alternatives are jointly distributed as a generalized extreme value (Train, 2009), i.e., allowing for correlation among the error terms of the alternatives. The most popular, among researchers, GEV model is the nested logit (see, e.g., Lee, 1999), as it grants a wide set of possible substitution patterns over alternatives.

As highlighted by (Train, 2009), only a few types of GEV models have been implemented; thus, future research is needed to fully exploit the potentiality of this family of models within the discrete choice analysis area.

Most of the DCA have been implemented, built upon design of experiments or formal ▶ data collection methods, to estimate, e.g., the conditional probability of participating in ▶ higher education (Fuller, Manski, & Wise, 1982; Marcenaro, Galindo, & Vignoles, 2007), choosing between different modes of transport (Ben-Akiva & Lerman, 1985), or to determine which socioeconomic factors may have larger effects on people's life – ▶ happiness – or working satisfaction (Ferrer-i-Carbonell & Frijters, 2004).

Cross-References

- ▶ Choice
- ▶ Data Collection Methods
- ▶ Decision Making
- ▶ Happiness
- ▶ Higher Education
- ▶ Linear Regression Model

References

Ben-Akiva, M., & Lerman, S. (1985). *Discrete choice analysis: Theory and application to travel demand*. Cambridge, MA: The MIT Press.

Ferrer-i-Carbonell, A., & Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness? *The Economic Journal, 114*, 641–659.

Fuller, W. C., Manski, C., & Wise, D. (1982). New evidence on the economic determinants of post-secondary schooling choices. *Journal of Human Resources, 17*(4), 477–498.

Green, P., & Srinivasan, V. (1990). Conjoint analysis in marketing: New developments with implications for research and practice. *Journal of Marketing, 54*(4), 3–19.

Lee, B. (1999). Calling patterns and usage of residential toll service under self-selecting tariffs. *Journal of Regulatory Economics, 16*, 45–81.

Marcenaro, O., Galindo, F., & Vignoles, A. (2007). Who actually goes to university? *Empirical Economics, 32*, 333–357.

McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior. In P. Zarembka (Ed.), *Frontiers in econometrics*. New York: Academic.
Train, K. E. (2009). *Discrete choice methods with simulation*. Cambridge, MA: Cambridge University Press.

Discretionary Time

▶ Spare Time

Discretionary Time Indicators

▶ Time Poverty Thresholds in the USA

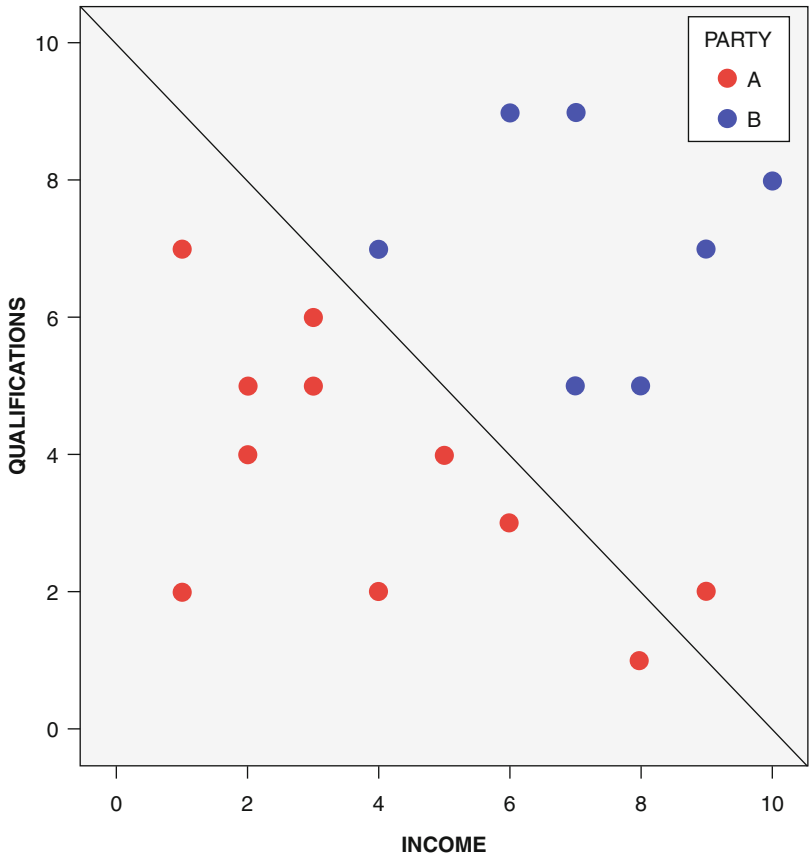
Discriminant Analysis

Ron Johnston
School of Geographical Sciences, University of Bristol, Bristol, UK

Definition

Discriminant analysis is a form of multivariate prediction of group membership (similar to multinomial logistic regression analysis), using latent variables.

In Graph 1, individuals are characterized on two variables – income (the *x* variable, in £000s per month) and their educational qualifications (the *y* variable – the higher the value, the better their qualifications). The goal is to predict



Discriminant Analysis, Graph 1 An example of a simple discriminant analysis predicting how individuals vote by their income and qualifications (both on ten-point scales). The diagonal line shows the discriminant function, the best linear equation separating the two groups of voters

whether they supported party *A* or *B* at a recent election.

The prediction method involves fitting a linear equation that discriminates between membership of the two parties as well as possible. In this case an equation of the form,

$$y = 10 - (1.0^{*}x)$$

correctly classifies all but one of the individuals (in the bottom right of the graph). In general, those with poor qualifications and low incomes tend to support party *A* whereas those with higher incomes and/or better qualifications tend to support party *B*.

In this example, the two variables *x* and *y* are given. In other examples, however, a substantial number of variables might be used. The goal then is to find latent variables – as in factor and principal components analysis – that are combinations of the original variables to take the place of the original variables as the discriminators. The output of a discriminant analysis thus comprises:

- The latent variables, with their loadings;
- The scores of the individual observations on those loadings (which can be graphed if only two latent variables are extracted, as in Graph 1);
- The discriminant functions (the equations that estimate the probability of each observation being in each of the groups – there is one less function than the number of groups, so with only two groups, there is just one function);
- The centroids (average locations) of each group's members on the latent variables; and

The predicted group membership for each individual observation, from which can be derived the number of correct and incorrect classifications. (For each observation, the probability of it being in each group is provided).

References

Klecka, W. R. (1980). *Discriminant analysis*. Beverly Hills, CA: Sage.

Discriminant Validity

Anita M. Hubley
Measurement, Evaluation, & Research Methodology (MERM), Adult Development and Psychometrics Lab, The University of British Columbia, Vancouver, BC, Canada

Synonyms

Divergent validity

Definition

Discriminant validity is demonstrated by evidence that measures of constructs that theoretically should not be highly related to each other are, in fact, not found to be highly correlated to each other. Practically speaking, discriminant validity coefficients should be noticeably smaller in magnitude than convergent validity coefficients.

Description

Evidence for discriminant validity is provided when measures of constructs that theoretically should not be highly related to each other are, in fact, not found to be related to each other. The term "discriminant validity" stems from theoretical approaches in validity that focus on the construct (e.g., Cronbach & Meehl, 1955). In the trinitarian approach to validity, convergent and discriminant validities form the evidence for ▶ construct validity (Hubley & Zumbo, 1996). The goal of discriminant validity evidence is to be able to discriminate between measures of dissimilar constructs. The term "▶ divergent validity" is sometimes used as a synonym for discriminant validity and has even been used by some well-known writers in the measurement field (e.g., Nunnally & Bernstein, 1994) although it is not the commonly accepted term.

While it is often suggested in textbooks that discriminant validity coefficients be low or near

zero in magnitude, it is more important that correlations with scores on discriminant measures be noticeably lower than correlations with scores on convergent measures. The sign of the correlation (i.e., negative or positive) simply indicates the relationship between the scores on the two measures. For example, a negative correlation would be obtained between two depression measures in which high scores on one measure mean greater severity of depression but high scores on the other measure mean lower severity of depression. It is not the case that high negative correlations between scores on measures provide evidence for discriminant validity (e.g., Kalfoss, Low, & Molzahn, 2008).

Interpretation of discriminant validity coefficients is best made in the presence of convergent validity coefficients obtained from the same sample. It is useful to think of convergent and discriminant measures as being on a continuum (Hubley & Zumbo, 2013). One can then say that correlations between theoretically similar measures (i.e., convergent validity) should be "relatively high," while correlations between theoretically dissimilar measures (i.e., discriminant validity) should be "relatively low."

Being able to label a measure as convergent or discriminant may be important in some cases (e.g., when examining whether scores on a depression measure are more highly related to measures of anxiety or to other measures of depression), and sometimes it is not (e.g., when the general pattern of relationships among a variety of measures is more important than the specific label of convergent or discriminant) (Hubley & Zumbo, 2013). Moreover, in some contexts, the same measure can be presented as either a convergent measure or a discriminant measure. For example, in the case of depression and anxiety, the two syndromes share a number of symptoms, and so relatively high correlations may be expected between scores on measures of these two constructs. Thus, if researchers are examining the validity of inferences made from a measure of depression, they may choose an anxiety measure to provide convergent validity evidence because, theoretically, we expect relatively high correlations between scores on the two measures. Alternatively, researchers may choose an anxiety measure to provide discriminant validity evidence because it is important to show that correlations are higher between scores on the depression measure and another depression measure than with scores on an anxiety measure.

In the multitrait-multimethod (MTMM) matrix (Campbell & Fiske, 1959) approach, there is one set of correlations that provide convergent evidence and two sets of correlations that provide discriminant validity evidence. Convergent evidence is only provided by monotrait-heteromethod correlations between the same constructs measured using different methods (e.g., a correlation between a self-report measure of depression and an observational measure of depression). Correlations among the same or similar constructs measured using the same method (i.e., monotrait-monomethod correlations such as between two self-report measures of depression) are not acceptable in this approach as evidence of convergent validity. Discriminant validity is provided by both heterotrait-heteromethod correlations and heterotrait-monomethod correlations. Heterotrait-heteromethod correlations differ in both construct and method (e.g., a correlation between an observational measure of anxiety and a self-report measure of depression) and theoretically would be expected to be the lowest correlations because they share neither trait nor method. Heterotrait-monomethod correlations differ in construct but share the same method (e.g., a correlation between self-report measures of depression and anxiety). What these correlations share is method, not construct. Discriminant validity evidence is obtained if these correlations are considerably lower than those provided in the convergent validity correlations. Among the discriminant validity coefficients, if the heterotrait-monomethod correlations are relatively higher than the heterotrait-heteromethod coefficients, it suggests that measuring different constructs with the same method inflates the size of the correlations and represents a strong "methods" factor.

When conducting a study using discriminant measures, it is important to (a) include convergent measures for comparison and (b) specify in

advance the expected relative magnitude of coefficients from, or the rank order of, each of the convergent and discriminant measures, so one is better able to interpret the obtained validity coefficients. It is not appropriate to present a table of validity coefficients and subsequently label measures as convergent or discriminant based simply on the magnitude of the obtained coefficients. Researchers should know exactly why they are selecting specific convergent and discriminant measures. Then, to properly evaluate the obtained validity evidence, researchers need to be able to specify, in advance, the evidence they would expect to find to support validity claims. Researchers should also be aware of construct-irrelevant variance (e.g., due to reading level, IQ, personality, social desirability) that might influence scores on a measure, reduce reliability, and potentially lower correlations between measures and make discriminant validity evidence appear stronger than it is.

The *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999) describes five sources of validation evidence. Discriminant validity evidence has been included under the source titled "relations with other variables." By avoiding the terms "convergent" and "discriminant," the *Standards* has removed the emphasis on these terms and the need to identify any specific measure or coefficient using these terms.

Finally, it is noteworthy that the vast majority of ▶ quality of life studies that claim to examine discriminant validity actually provide "▶ known-groups validity" evidence instead (see, e.g., Arabiat, Elliott, Draper, & Jabery, 2011; Beiske, Baumstarck, Nilsen, & Simeoni, 2012; Mezzich, Cohen, Ruiperez, Banzato, & Zapata-Vega, 2011; Riedel, Spellmann, Schennach-Wolff, Obermeier, & Musil, 2011; Skevington & McCrate, 2012). Known-groups validity evidence, which is also included under the evidence source titled "relations with other variables" in the *Standards* (AERA et al., 1999), involves comparing scores on a measure by groups known theoretically or empirically to differ on the construct of interest (Cronbach & Meehl, 1955). Interestingly, quality of life studies that claim to examine divergent validity tend to examine discriminant validity as it is described here, even if they do not always present the results clearly or completely (see, e.g., Álvarez, Bados, & Peró, 2010; Byock & Merriman, 1998; Kalfoss et al., 2008; Lo et al., 2001; Sharp et al., 1999).

Cross-References

- ▶ Construct Validity
- ▶ Convergent Validity
- ▶ Correlation Coefficient
- ▶ Divergent Validity
- ▶ Known-Groups Validity
- ▶ Method Effects
- ▶ Multitrait-Multimethod Analysis
- ▶ Quality of Life (QOL)
- ▶ Reliability

References

Álvarez, I., Bados, A., & Peró, M. (2010). Factorial structure and validity of the Multicultural Quality of Life Index. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 19*(2), 225–229.

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, DC: American Psychological Association.

Arabiat, D., Elliott, B., Draper, P., & Jabery, M. A. (2011). Cross-cultural validation of the Pediatric Quality of Life Inventory™ 4.0 (PedsQL™) generic core scale into Arabic language. *Scandinavian Journal of Caring Sciences, 25*(4), 828–833.

Beiske, A. G., Baumstarck, K., Nilsen, R. M., & Simeoni, M.-C. (2012). Validation of the Multiple Sclerosis International Quality of Life (MUSQoL) questionnaire in Norwegian patients. *Acta Neurologica Scandinavica, 125*(3), 171–179.

Byock, I. R., & Merriman, M. P. (1998). Measuring quality of life for patients with terminal illness: The Missoula-VITAS® Quality of Life index. *Palliative Medicine, 12*(4), 231–244.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56*, 81–105.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*, 281–302.
Hubley, A. M., & Zumbo, B. D. (1996). A dialectic on validity: Where we have been and where we are going. *The Journal of General Psychology, 123*(3), 207–215.
Hubley, A. M., & Zumbo, B. D. (2013). Psychometric characteristics of assessment procedures: An overview. K. F. Geisinger (Ed.), *APA handbook of testing and assessment in psychology* (Vol. 1). Washington, DC: American Psychological Association Press.
Kalfoss, M. H., Low, G., & Molzahn, A. E. (2008). The suitability of the WHOQOL-BREF for Canadian and Norwegian older adults. *European Journal of Ageing, 5*(1), 77–89.
Lo, R. S. K., Woo, J., Zhoc, K. C. H., Li, C. Y. P., Yeo, W., Johnson, P., Mak, Y., & Lee, J. (2001). Cross-cultural validations of the McGill Quality of Life questionnaire in Hong Kong Chinese. *Palliative Medicine, 15*(5), 387–397.
Mezzich, J. E., Cohen, N. L., Ruiperez, M. A., Banzato, C. E. M., & Zapata-Vega, M. I. (2011). The multicultural quality of life index: Presentation and validation. *Journal of Evaluation in Clinical Practice, 17*(2), 357–364.
Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
Riedel, M., Spellmann, I., Schennach-Wolff, R., Obermeier, M.,& Musil, R. (2011). The RSM-scale: A pilot study on a new specific scale for self- and observer-rated quality of life in patients with schizophrenia. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 20*(2), 263–272.
Sharp, L. K., Knight, S. J., Nadler, R., Albers, M., Moran, E., Kuzel, T., Sharifi, R., & Bennett, C. (1999). Quality of life in low-income patients with metastatic prostate cancer: Divergent and convergent validity of three instruments. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 8*(5), 461–470.
Skevington, S. M., & McCrate, F. M. (2012). Expecting a good quality of life in health: Assessing people with diverse diseases and conditions using the WHOQOL-BREF. *Health Expectations: An International Journal of Public Participation in Health Care & Health Policy, 15*(1), 49–62.

Disease-Specific Measure

► Condition-Specific Measure
► Disease-Specific Questionnaire

Disease-Specific Questionnaire

Michele Peters and Helen Crocker
Department of Public Health, University of Oxford, Oxford, UK

Synonyms

Condition-specific measure; Condition-specific questionnaire; Disease-specific measure; Patient-reported outcome measure

Definition

Disease-specific questionnaires can either be clinical measures or experiential measures. They are designed for specific diagnostic groups or patient populations, and therefore, their advantage is that they measure aspects that are particularly salient to a specific disease or patient group. Clinical measures assess signs, symptoms, and tests, whereas experiential measures are a type of ► patient-reported outcome measure that assess a range of dimensions of ► health-related quality of life such as physical functioning, mental functioning, and social functioning.

See also ► condition-specific measure.

Description

Disease-specific questionnaires exist for an increasingly large variety of diseases. They include two types: (1) clinical measures which primarily assess signs, symptoms, and tests and (2) experiential measures, which capture the impact of a condition on the person affected by the disease (Atherly, 2006). The measures can either be completed by clinicians who rate patients' outcome or health status, or by patients themselves. The measures described in this entry are self-completed experiential measures, i.e., patient-reported outcome measures (PROMs).

They are patient-completed instruments in the form of short questionnaires that typically assess disease-specific health status or quality of life. Examples of disease-specific questionnaires are the ▶ Asthma Quality of Life Questionnaire (AQLQ) and the ▶ Parkinson's Disease Questionnaire (PDQ).

The term "disease-specific questionnaire" tends to be used interchangeably with the term "condition-specific measure." Patrick and Deyo (1989) make a distinction between "condition" and "disease" specific, as not all conditions are considered diseases. However, all diseases can be referred to as a "condition." Following this distinction, back pain would be classed as a condition but not a disease, whereas Parkinson's disease can be considered either as a condition or as a disease. This means that the features of condition-specific and disease-specific measures are broadly the same and the details of advantages of disease-specific measures, questionnaire content, development, psychometrics, and their uses can be referred to in the entry on condition-specific measures.

Cross-References

- ▶ Asthma Quality of Life Questionnaire
- ▶ Condition-Specific Measure
- ▶ Disease-Specific Measure
- ▶ Health-Related Quality of Life
- ▶ National Eye Institute Visual Function Questionnaire
- ▶ Parkinson's Disease Questionnaire (PDQ-39)
- ▶ Patient-Reported Outcome Measure

References

Atherly, A. (2006). Condition-specific measures. In R. L. Kane (Ed.), *Understanding health care outcomes research* (2nd ed., pp. 165–183). London: Jones and Bartlett.

Patrick, D. L., & Deyo, R. A. (1989). Generic and disease-specific measures in assessing health status and quality of life. *Medical Care, 27*(3), S217–S232.

Disengagement

▶ Social Exclusion

Disengagement Theory of Successful Aging

▶ Multidimensional Model of Successful Aging

Dismantling Institutional Care

▶ Deinstitutionalisation Process of Arduin, Quality of Life as Leading Principle

Disparities in Quality of Life of Foreign-Born Older People in Australia

▶ Well-Being Disparities of Immigrant Aged in Australia

Disparity

▶ Dispersion

Dispersion

Wim Kalmijn
Erasmus Happiness Research Organization
EHERO, Erasmus University Rotterdam,
Rotterdam, The Netherlands

Synonyms

Disparity; Inequality

Definition

In the context of subjective well-being, dispersion is the extent to which the self-perceived quality of life of individuals is different from that of others who belong to the same collectivity of the study.

Description

Assessment of Subjective Well-Being

Much of the research on quality of life deals with subjective well-being, which is often assessed using surveys. One of the aspects of subjective well-being is happiness. The most frequently applied method to measure happiness in cross-national surveys is simply to ask respondents to report their self-perceived happiness. We will describe and illustrate this measurement procedure as it is applied to happiness. This is done for readability reasons only; the considerations discussed in this lemma are equally applicable to the measurement of life satisfaction or any other indicator of quality of life measured in a similar manner to that of happiness.

Distribution of Happiness in Collectivities

Whenever the focus of happiness research is placed on the happiness of collectivities such as nations, rather than of individuals, happiness can be described only in terms of its statistical distribution. Such a distribution is characterized by (1) the values the variable, i.c., happiness, can adopt, (2) its type, and (3) its parameters.

In most happiness studies, only two characteristics are considered to be of interest. One is some central value around which the individual ratings are scattered. The other one quantifies the *dispersion, disparity*, or *inequality*, which three terms are considered to be synonymous in the context of quality of life research. It is a measure of the extent to which the individual ratings mutually deviate. The focus of this lemma is this second characteristic.

Happiness Distribution in a Sample and in a Population

Although each researcher in this area is interested in the happiness distribution of the population investigated, information on this can be obtained only by measuring happiness in a sample from this population at the individual level. One might be inclined to generalize the happiness distribution within the sample by simply declaring that it also applies to the population, but making a clear distinction between the known distribution of happiness in the sample and the unknown one within the population is essential.

Happiness Distribution in a Sample

In practice happiness is usually measured as a discrete variable, which can adopt only a rather small number of possible values. This number of ratings is chosen by the investigator and more than 12 ratings are rarely seen. This type of distribution is known as "polytomous."If and only if the scale of measurement can be assumed to be metric, if necessary by transforming the ratings (▶ rescaling), the average happiness can be computed as a measure of the central value of the distribution. This is obtained as the weighted average of the different ratings, each with the corresponding observed frequency as its weight.

Various statistics that can be used to characterize the dispersion in the sample distribution are evaluated by Kalmijn and Veenhoven in (Kalmijn, 2010, pp. 75–99; Kalmijn & Veenhoven, 2005). Some of these candidates appeared to be inadequate, including the ▶ Gini coefficient and other statistics that have been developed to quantify income inequality. The main reason is that happiness and income are variables with strongly different properties (Kalmijn, 2010, pp. 43–47, pp. 97–99).

Adequate dispersion statistics for happiness do not only include the "classical" standard deviation, but also the more obsolete mean pair distance, the mean absolute deviation, and the interquartile range as alternatives. The recommended statistic for the inequality of a happiness distribution in a sample is the *standard deviation s*, to be calculated as follows:

$$s = \sqrt{\sum_{j=1}^{k} f_j (r_j - m)^2}$$

where:
k = number of different ratings
f_j = observed relative frequency of the j-th rating r_j
m = average happiness rating.

Happiness Distribution in the Corresponding Population

It is essential to distinguish between a happiness distribution as it is measured in a sample and its unknown counterpart in the population. With respect to the latter, two different views are applied in happiness studies.

In the first one, happiness in the population and that in the sample are considered to be two variables with basically identical distribution models: the population is the largest possible sample. Both distributions are discrete and polytomous, including the same ratings. The other parameters of the population, the probabilities $\{\pi_j;\ j = 1(1)k\}$ of the various ratings, are unknown but can be estimated as the corresponding observed relative frequencies $\{f_j\}$ in the sample.

In this approach the sample average value m is an unbiased estimator of the population mean happiness value, and the sample standard deviation s is an estimator of the population standard deviation σ with a bias that can be neglected, at least for sample sizes > 100. This standard deviation has a double function: (1) it quantifies the inequality within the distribution and (2) it acts as a basis for the precision of the estimation of the population mean happiness value as it is one of the factors of the standard error of the mean.

The second approach is based on the view that happiness in the sample and that in the population are two variables with essentially different distribution models. Generally speaking, in this approach happiness in a population is considered to be a latent continuous variable with a continuous cumulative distribution function: ▶ latent happiness variable. Any investigation into the relationship between happiness and, e.g., time or some other correlate should be based on the estimated values of parameters of the latent population variable, happiness population distribution parameters estimation, rather than on those of the sample distribution.

The distributions of both happiness variables are linked by a suitable measurement model, which forms the basis for the conversion of the observational data into estimates of the parameters of the population happiness distribution. The model of the latter has to be specified by the investigator and each model has its own parameters. The mean value and the standard deviation of the population distribution can be estimated on the basis of the sample data, but there is not necessarily a simple unique relationship between the corresponding parameters of both distributions. The reason for this is that the mean value and the standard deviation of a variable do not exist as such but are defined only within the framework of a specified distribution model of the relevant variable.

Cross-References

- ▶ Gini Coefficient
- ▶ Happiness Population Distribution Parameter Estimates
- ▶ Latent Happiness Variable
- ▶ Rescaling

References

Kalmijn, W. M. (2010). *Quantification of happiness inequality*, PhD dissertation Erasmus University Rotterdam (NL). Available at http://repub.eur.nl/resource/pub_21777/index.html

Kalmijn, W. M., & Veenhoven, R. (2005). Measuring inequality of happiness in nations. In search for proper statistics. *Journal of Happiness Studies*, *6*, 357–396. ISSN 1389–4978 (Print) 1573–7780 (Online). doi 10.1007/s10902-005-8855-7.

Displaced Persons

- ▶ Refugees, Quality of Life

Dispositions

► Habitus

Disquiet

► Anxiety

Distress

Maria José Chambel
Department of Social and Organizational Psychology, University of Lisbon, Lisbon, Portugal

Definition

Distress can be defined as the negative experience of stress (Lazarus, 1974).

Description

We can consider this a problematic term in stress literature because it has been heterogeneously defined and imprecisely utilized as being confounded with stress. However, Lazarus's Cognitive Transactional Model of Stress (Lazarus, 1974; Lazarus & Folkman, 1984), which included the appraisal of the individual to understand the experience of stress, was distinguished distress. With regard to this model, the process of stress only begins if the individual appraises episodes or conditions in the environment, commonly referred to as either stressors or demands, as both relevant and stressful for his/her personal well-being. When these stressors are perceived by the individual to be either harmful or threatening, they are commonly termed distress. In harm appraisals, some loss and damage to the person has already occurred. Threat involves harm or losses that have not yet occurred but are anticipated. This cognitive appraisal has been reported to affect the way people cope and also their psychological well-being. In fact, this negative experience is related to adverse health outcomes and is consequently negative and dysfunctional (i.e., bad stress). However, the model assumes that coping mediates the relationship between the individual's distress experience and psychological well-being. Whether a threat or harm has initially been appraised, in order to reduce the demand, some form of coping action is taken. The model differentiates between problem-focused and emotion-focused forms of coping. Problem-focused coping includes problem-solving behaviors that aim directly to change the stressor, other aspects of the environment, or one's own behavior. Emotion-focused coping refers to attempts to manage cognitions or emotions directly. Coping responses are influenced by initial appraisals, and threat or harm appraisals are linked to more emotion-focused coping (McCrae, 1984). While some coping research has linked emotion-focused coping with a decrease in health and well-being, the effectiveness of any particular coping strategy depends on its appropriateness (Lazarus & Folkman, 1984).

Past research has predominantly focused on this negative experience of stress. Consequently, we are very well documented about its antecedents, consequences, and actions to prevent, control, or reduce distress. Although the contextual conditions will not be salient for some individuals, yet may produce significant responses in others, the literature has underlined different distressors taking the form of physical conditions (e.g., noise, vibrations, poor ergonomic conditions), task conditions (e.g., workload, monotonous work), role conditions (e.g., ambiguity, role conflict), interpersonal conditions (e.g., poor relationship with peer, supervisor, or clients), work schedules (e.g.. shift work, working long hours), career conditions (e.g., insecurity and poor promotion opportunities), traumatic events (e.g., exposures to disasters), and organizational change (e.g., downsizing, acquisitions) (Sonnentag & Frese, 2003).

When an individual perceives distressors as a threat to his or her well-being, he/she experiences a negative emotional response with physiological,

behavioral, and psychological changes that, in turn, may result in negative health consequences (Spector & Goh, 2001). In fact, literature has shown physiological responses (e.g., heart rate, the excretion of hormones), cognitive responses (e.g., attention, information processing), affective (e.g., motivation, mood), and behavioral (e.g., withdrawal, absence) in response to distressors (Kahn & Byosiere, 1991). Furthermore, the health consequences are well established. Physical strains result from distress, with heart attack, stroke, cancer, peptic ulcer, asthma, diabetes, hypertension, headache, back pain, and arthritis among the many diseases and symptoms that have been found to be caused by distress. Mental health can also suffer because distress work situations are associated with an increased level of depressive symptoms, psychosomatic complaints, and burnout (Sonnentag & Frese, 2003).

These consequences for health and well-being have direct and indirect costs for organizations (Quick, Quick, Nelson, & Hurrell, 1997). The direct costs include participation and membership, such as absenteeism and turnover; performance in the job, such as accidents and poor-quality productivity; health-care costs, such as insurance rates; and compensation awards, such as court awards for sexual harassment. The indirect costs include loss of vitality, communication breakdowns, faulty decision-making, and quality of work relations.

The preventive stress management approach is markedly predominated by the prevention and resolution of distress and advocates a three-tiered stress prevention model: primary prevention, which is intended to reduce, change, or eliminate stressors; secondary prevention, which is focused on modifying the individual's response to stressors; and tertiary prevention, which attempts to heal individual or symptoms of distress (Quick et al., 1997). Primary prevention would encompass a change in job characteristics like job redesign efforts (e.g., decrease the job demands, redistributing tasks among peers). Also included are changes in individuals, improving their strategies for dealing with stressors (e.g., development of time management competences) or promoting a cognitive restructuring attempt to influence individuals to interpret a situation not as being stressful but as a challenge. Secondary prevention efforts target the individual's response to stress. Exercise, meditation, and other forms of relaxation and nutrition would all fall under the heading of secondary prevention. Actions to teach a person to improve his/her coping strategies are also included. These techniques focus on lowering the risk of disease. Employee assistance programs are tertiary prevention interventions. It consists of getting professional help – counseling, physical therapy, and medical treatment – for symptoms of distress.

Discussion

The focus of appraisal to explain distress has been the target of important criticism. First, different authors consider that different work and employment conditions affect the health and well-being of most workers and researchers have the social responsibility to identify and design strategies with the goal to prevent, control, or alleviate them (Brief & George, 1991). In fact, in literature, the predominant idea is that there is a simple relationship between certain characteristics, stressors or distressors, and the stressful outcomes. Theoretical models and empirical studies frequently consider that exposure to different psychosocial characteristics or to a combination of them entails negative consequences for the individual's health and well-being. Future research needs to consider whether the distress is a result of the stressor or of the individual's appraisal of this stressor (Dewe, 2001).

Secondly, the way individual appraisal stressors influence his/her emotional experiences, which, in turn, influence his or her appraisal (McGowan, Gardner, & Fletcher, 2006). Future research needs to consider distress as a dynamic process that involves not only causal effects between stressors, distress, and health and well-being but also reversed effects (Zapf, Dormann, & Frese, 1996).

Finally, the characteristics of organizations – structure, culture, and procedures – influence the thinking and actions of individuals and consequently influence their appraisals of stressors (Harris, 1991). Furthermore, there are multilevel

relationships between distress and its consequences, as well as contextual influences on the emergence and development of collective distress shared by individuals in the same context (Bliese & Jex, 1999). Thus, there is a need to develop research to clarify the influence of contextual factors on the process of appraisal and the possibility that a certain context produces uniform appraisals and/or consequences (Dewe, 2001).

Cross-References

- ▶ Anger
- ▶ Anxiety
- ▶ Burnout
- ▶ Eustress
- ▶ Health
- ▶ Negative Affect
- ▶ Stress
- ▶ Stress Reactivity
- ▶ Well-being at Work
- ▶ Work Stress
- ▶ Workaholism

References

Bliese, P. D., & Jex, S. M. (1999). Incorporating multiple levels of analysis into occupational stress research. *Work and Stress, 13*, 1–6.

Brief, A. P., & George, J. M. (1991). Psychological stress and the workplace: A brief commentary on Lazarus' outlook. In P. L. Perrewe (Ed.), *Handbook on job stress (Special Issue), Journal of Social Behavior and Personality*, *6*, 15–20.

Dewe, P. J. (2001). Work stress, coping, and well-being: Implementing strategies to better understand the relationship. In P. L. Perrewé & D. C. Ganster (Eds.), *Research in occupational stress and well-being: Vol. 1. Exploring theoretical mechanisms and perspectives* (pp. 63–95). Oxford, UK: Elsevier Science.

Harris, J. R. (1991). The utility of the transactional approach for occupational stress research. In P. L. Perrewe (Ed.), *Handbook on job stress (Special Issue), Journal of Social Behavior and Personality*, *6*, 21–29.

Kahn, R. L., & Byosiere, P. H. (1991). Stress in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 571–650). Palo Alto, CA: Consulting Psychologist Press.

Lazarus, R. S. (1974). Psychological stress and coping in adaptation and illness. *International Journal of Psychiatry in Medicine, 5*, 321–333.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

McCrae, R. (1984). Situational determinants of coping responses: Loss, threat and challenge. *Journal of Personality and Social Psychology, 46*, 919–928.

McGowan, J., Gardner, D., & Fletcher, R. (2006). Positive and negative affective outcomes of occupational stress. *New Zeeland Journal of Psychology, 35*, 92–98.

Quick, J. C., Quick, J. D., Nelson, D. L., & Hurrell, J. J. (1997). *Preventive stress management in organizations*. Washington, DC: American Psychological Association.

Sonnentag, S., & Frese, M. (2003). Stress in organizations. In W. C. Borman, D. R. Ilgen, R. J. Klimoski (Eds.) and I. B. Weiner (Ed. In Chief), *Handbook of psychology: Vol. 12. Industrial and organizational psychology* (pp. 453–491). New Jersey: Wiley.

Spector, P. E., & Goh, A. (2001). The role of emotions in the occupational stress process. In P. L. Perrewé, & D. C. Ganster (Eds.), *Research in occupational stress and well-being: Vol. 1. Exploring theoretical mechanisms and perspectives* (pp. 195–232). Oxford, UK: Elsevier Science.

Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress research: A review of the literature with reference to methodological issues. *Journal of Occupational Health Psychology, 1*, 145–169.

Distress, Sexual

- ▶ Sexual Satisfaction and Gender Differences
- ▶ Sexual Satisfaction and Sexual Costs in Women

Distribution-Sensitive Human Development Index

- ▶ Human Development Inequality

Distributive Justice

- ▶ Progressive Taxation

Disturbance Terms

Melanie Revilla
Political and Social Sciences, Universitat Pompeu Fabra RECSM, Barcelona, Spain

Synonyms

Error terms; Noise

Definition

The disturbance term is an unobserved random variable that adds noise to the relationship between the dependent and independent variables.

Description

Regression analyses (Montgomery, Peck, & Vining, 2001) are used to study the relationship between a dependent (or endogenous) variable usually denoted by Y and one or more independent (or exogenous) variables usually denoted by X_i $i = 1, \ldots, n$.

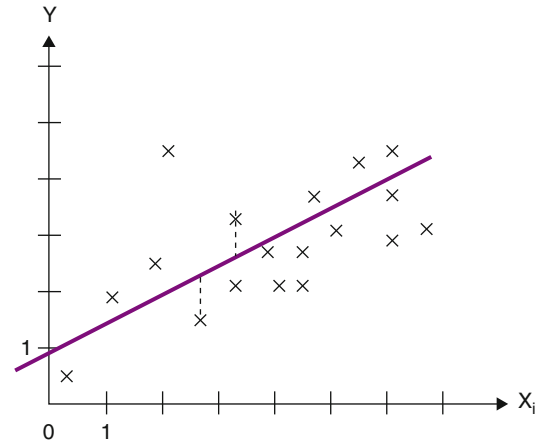
Assuming linearity and additivity, the relationship between the dependent variable Y and the *n* independent variables used to explain it can be described by the following equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + \zeta \quad (1)$$

where α is the intercept, β_i is the ▶ slope of the ith independent variable, and ζ is the disturbance term.

The disturbance term is an unobserved random variable that adds noise to the linear relationship between the dependent and independent variables. It is added to the regression equation to account, as the name indicates, for all kinds of potential disturbances that may affect the relationship between the dependent and independent variables.

In Fig. 1, the line of equation $Y = \alpha + \beta X$ is represented (straight line), as well as the values



Disturbance Terms, Fig. 1 Regression line and data points

that different units take for the variables X,Y together. These points are not exactly on the line: some are a bit under and some are a bit above. The difference between the point and the line is what the disturbance terms account for.

Basically, the disturbance term captures several elements.

First, it captures *variables* that have been *omitted* from the model. These variables may have been omitted for different reasons, in particular:

- Because the researcher did not think about including them: inadvertence, unforeseen events that affect Y, etc. No matter how many efforts are made to specify well the model, there are always unpredictable effects of some sort that will affect it. The disturbance term accounts for them.
- Because the researcher, even if he/she thought about including them, could not get a measure of them: not measured or not measurable variables.
- Because the researcher considered that the impact of these variables should be so small that it was not worth it to include them in the model.

Then, it includes measurement errors. Even if a lot of efforts are made to collect a high-quality data, there are always at least some random errors in the data collected. People are making mistakes. Machines used for measuring are not precise enough. Some errors are always made.

Sometimes, systematic errors in the measurement are present too. These measurement errors are included in the disturbance term: indeed, they disturb the relationship between the dependent and independent variables.

Finally, it may also capture the *nonlinearities* when a linear model is used, but the true relationship is not linear.

In summary, the disturbance term's role in the regression equation is to account for the inability of the researcher to capture all the elements that may determine Y in the real world. It includes all other factors that influence Y other than the Xi specified in the model.

The disturbance terms have some properties. The assumptions that the researcher makes about them are crucial steps in the formulation of the model. Indeed, the method to be used for the estimation depends on these assumptions. In turn, the estimation procedure chosen determines for a big part how good the results will be.

Most commonly, the different assumptions made about the disturbance terms are the following:

- The disturbance term is normally distributed with an expected value of 0 and a common variance of σ^2 : $E[\zeta_i] = 0$ and Var $[\zeta_i] = \sigma^2$

  The fact that the expected value of the disturbance term is 0 means that on average, the errors balance out.

  The fact that the variance is equal across all the units of the data is called ▶ homoscedasticity.
- The disturbance term is not correlated with the independent variables: Cov $[X_i, \zeta_i] = 0$
- The disturbance terms for all observations are not correlated with each other: Cov $[\zeta_i, \zeta_j] = E[\zeta_i, \zeta_j] = 0$ for all i,j

However, these assumptions do not always hold in practice. For instance, if they are measurement error, the expected value of the disturbance terms may be different from 0. In that case, the intercept estimate is going to be biased. Therefore, it is sometimes necessary to release one (or more) of them. Different procedures have been developed to deal with these situations.

For example, if the assumption of homoscedasticity is violated, meaning that the disturbance terms do not have a constant variance across units, it is said that there is ▶ heteroscedasticity. Some linear regression estimation methods including the ordinary least square do not work properly when there is substantial heteroscedasticity: they lead to imprecise estimates and misleading standard errors. In this situation, the researcher should use the generalized least squares estimators. The same arise if the disturbance terms are correlated with each other.

If the disturbance terms are correlated with the dependent variables, it is said that there is a problem of simultaneous bias. Then the researcher should use an instrumental variable approach or simultaneous equation estimators (e.g., two-stage or three-stage least squares).

Cross-References

- ▶ Heteroscedasticity
- ▶ Homoscedasticity
- ▶ Intercept, Slope in Regression
- ▶ Measurement Error
- ▶ Ordinary Least-Squares (OLS) Model

References

Montgomery, D. C., Peck, E. A., & Vining, G. G. (2001). *Introduction to linear regression analysis*. Hoboken: Wiley.

Divergent Validity

Anita M. Hubley
Measurement, Evaluation, & Research Methodology (MERM), Adult Development and Psychometrics Lab, The University of British Columbia, Vancouver, BC, Canada

Synonyms

Discriminant validity

Definition

Divergent validity is a less commonly used term to describe evidence that measures of constructs that theoretically should not be highly related to each other are, in fact, not found to be highly correlated to each other. Practically speaking, divergent validity coefficients should be noticeably smaller in magnitude than convergent validity coefficients.

Description

See ▶ Discriminant validity

Cross-References

▶ Discriminant Validity

Diverse Cultural Differences Effects at Work

▶ Occupational Stress in a Multicultural Workplace

Divisions of Household Labor

▶ Sharing of Household Responsibilities

Divorce and Suicide in Norway

▶ Social Integration and Suicide in Norway

Divorce, an Overview

Craig McKie
Chilliwack, BC, Canada

Synonyms

Divorcement

Definition

[Noun] legal termination of a marriage

[Verb] to obtain a legal termination of a marriage

Description

The volume of dissolution of marital unions by legal divorce is often taken as an indicator of social disorganization and lack of ▶ social cohesion which affect the ▶ quality of life in a society. Internationally, Sweden, Finland, and Belarus usually finish at the top of the table with annual totals of divorces granted often exceeding 50 % of the total of marriages in the same year. Finishing at the bottom of the table are India and Sri Lanka where the comparable figure is less than 2 %. Similar results are obtained with an alternative measure, the rate of divorces per hundred thousand population, and a more complex measure which expresses the likelihood of a marriage ever ending in divorce in a given jurisdiction. All of these measures tend to be quickly out of date and appear well after the year in question has expired. Often, the most up-to-date figures can be found on the United Nations reference site (http://unstats.un.org/unsd/demographic/sconcerns/mar/mar2.htm in Table 25).

But much care is necessary in coming to any conclusion drawn from this type of data since family breakdown and divorce are separate processes. Although many countries publish divorce statistics, estimates of how many marriages end in divorce, and of the number of children so affected, these statistical series can present a misleading picture in that they do not cover all couples who are separating because many such couples have never entered into a formal marriage.

Among the most important drivers behind rates of family breakdown and divorce is the demographic transition. Lives are growing much longer in contrast to those of our ancestors just a century or two ago. There are many reasons why ▶ life expectancy has increased so greatly

across the globe. Early childhood vaccination and clean drinking water alone account for a sizeable proportion for instance. But one of the consequences of longer lives is that the lifetime of marital relationships has also been greatly extended as a by-production of general societal aging. Where marriages in the Middle Ages lasted perhaps 15–20 years on average before the death of a spouse, now married partners might expect to spend 50 or 60 years together. In other words, the time at risk has greatly increased.

The history of legal divorce is replete with examples of strained logic and the twisting of facts to fit stated requirements. Perhaps the most famous of these was the divorce of King Henry VIII of England (1491–1547 AD) in a sequential serial search for a wife who would bear him an heir. The refusal of the Catholic Church in Rome to provide him a divorce on his request for these dynastic extension purposes led him to sever ties between England and the Catholic Church. The Catholic Church contended then and continues to maintain now that marriage is a sacrament which was indissoluble and that the two individuals become one in a marriage as it were. Henry was consequently moved to establish a new Church of England with himself at its head which would in due course accede to his wishes for a divorce. The notion of absolute marital indissolubility came to the fore in northern Europe during this era, now known as the Protestant Reformation, when Martin Luther (1483–1546 AD) asserted that marriage was not a sacrament and could therefore be dissolved by civil legal process. This dispute still simmers in the twenty-first century as one issue among several in which contending claims are made by civil and religious authorities. It might well be argued that the ascendancy of civil authority (and of written law) over traditional cultural authority is itself an indicator of development in a given society. As a matter of long-term trend in Western countries, divorce has become increasingly easily available with the passage of time. In decline is the once widespread practice of manufacturing evidence of sexual infidelity to demonstrate clear grounds for a legal divorce in jurisdictions which had only one ground available, adultery (an at-fault marital offense and violation of the underlying contract) and the inclusion of money damages to the parents in the claim. The current norm is the "no-fault" divorce in which marital offenses are deemed nonmaterial or irrelevant.

Divorce is the legal dissolution of a marriage contract whether based on a civil marriage, a religious or cultural marriage, or some civil contractual arrangement of rough equivalency. A divorce decree is itself also a contract which redefines the continuing obligations of the previous partners to each other and to any children they may have had together. But in Western societies, a progressively smaller proportion of all couples has such a marriage contract or written arrangement or indeed has participated in a ritual marriage event of any description. When a separation occurs for such unmarried couples, a divorce is unnecessary because no contract has been undertaken though there may well be other legal processes which must be gone through to determine support obligations. But in many cases now, the end of an unofficial marital union simply leaves no legal or statistical trace at all, either in a marriage registry, a divorce registry, or even in the birth certification of any children born of the union.

A second reason to be wary of comparisons in interpreting divorce statistics is that the legal, civil, and cultural bases of marriage and divorce differ widely from country to country, even region to region within countries, and greatly from culture to culture. Most, if not all, societies have rules governing mating, but these rules are based on widely differing concepts of the nature of marital unions. In some, marriage is an indissoluble confessional act and thus no divorce is possible or available. In others, dissolution may simply be a matter of individual and/or consensual choice. In some, only a civil legal process is involved, while in others, a religious tribunal must also adjudicate in some fashion to the point of issuing a second and parallel divorce decree. And in a few societies, divorce is only available to males upon their request. Most of

these differences originated in the long past history of contract law and convention. A marriage in early medieval times (and probably in the millennia which preceded it) was a contract between fathers for the exchange of a woman for marriage in return for valuable goods and services. Should such a contract break down, the situation was somewhat analogous to the contemporary winding up of a corporation in bankruptcy. The assets and liabilities had to be assessed and sorted out and damages levied. The right to subsequently remarry was not guaranteed either.

In order to gain insight on the rates of dissolution of marriages and marriage-like unions today, it is necessary to collect data on relationships based on individual life histories, an expensive and difficult task particularly given the sensitivity of the subject matter, privacy legislation, and so on. Realistically then, accurate data on individual relationship histories can only be collected by governments using compulsory compliance mechanisms, and this seldom now occurs. Another aspect of divorce which has recently come to the fore as a research question is now the much more frequent situation in which the two members of divorcing couples live in different countries. Claiming jurisdiction and asserting the supremacy of one country's laws over another's is usually problematic and a violation of the legal norm of comity in international matters. The European Union is currently considering a standardization of family law to attempt to deal with this type of situation though it is hard to foresee what common system could be imposed on member countries given the large differences in legal standards and practices in use today in the many EU countries.

As far as generalizations about those divorcing can be advanced, it seems to be generally the case that family breakdown has a range of unfavorable consequences for the previously married and their children. These circumstantial disadvantages can be made worse by serious legal disputation over the terms of their divorce if one is required. Separating couples typically often suffer a substantial and persistent decline in their standard of living for instance, and there is a widespread view that effects extend to the subsequent marital experiences of the children of family breakdown.

Cross-References

- ▶ Life Expectancy
- ▶ Quality of life
- ▶ Social Cohesion

Further Readings

Dave, I., Muller, M., & Rees Jones, S. (2003). *Love, marriage, and family ties in the later middle ages*. Turnhout, Belgium: Brepols Publishers N.V.

Gaffal, M. (2010). *Psychosocial and legal perspectives of marital breakdown: With special emphasis on Spain*. Heidelberg, Germany: Springer.

Gauthier, A. H. (1999). *The state and the family: A comparative analysis of family policies in industrialized countries*. New York: Oxford University Press.

Grubbs, J. E. (2002). *Women and the law in the Roman Empire: A sourcebook on marriage, divorce and widowhood*. Oxford, UK: Routledge.

Holden, L. (2008). *Hindu divorce: A legal anthropology*. London: Ashgate Publishing.

Maclean, M. (2005). *Family law and family values*. Oxford, UK: Hart Publishing.

O'shaughnessy, K. (2009). *Gender, state and social power in contemporary Indonesia: Divorce and marriage law*. Oxford, UK: Routledge.

Divorcement

- ▶ Divorce, an Overview

Dizygotic Twin

- ▶ Twinship

Doctor-Patient Communication

- ▶ Patient-Physician Communication

Document Literacy

▶ International Literacy Assessments

Domain Satisfaction

Jan Delhey
School of Humanities and Social Sciences, Jacobs University, Bremen, Germany

Synonyms

Life facet satisfaction

Definition

A domain satisfaction can be defined as an enduring appreciation of a particular life aspect. Like life satisfaction (▶ happiness), domain satisfactions indicate the subjective ▶ quality of life as experienced by a given set of individuals. Yet, whereas the former denotes a lasting satisfaction with one's life as a whole, domain satisfactions are evaluations of *specific life facets* (domains), such as family life, health, and standard of living. Following ▶ multiple discrepancies theory (Michalos, 1985), a domain satisfaction reflects the extent to which objective conditions in a particular area of life match people's respective needs or aspirations. The life domains most often studied are ▶ job satisfaction, health satisfaction, and ▶ marital satisfaction. Like overall happiness, domain satisfaction can hardly be inferred from behavior; hence, researchers rely on self-reports, typically by using rating scales. Domain satisfaction research emerged in the 1940s in the United States (Ferriss, 2004).

Description

Life Domains

As Mariano Rojas (2007, p. 470) put it, the "enumeration and demarcation of the domains of life is arbitrary … and depends on the researcher's objective." This pragmatism is a problem shared with quality of life research in general (cf. Rapley, 2003, ch. 2). In a review of articles that specify domains of life, seven were identified as core (i.e., used most frequently): material well-being, health, productivity, intimacy, safety, community, and emotional well-being (Cummins, 1996). In practice, most tried-and-tested instruments include these domain satisfactions in one form or another. Some surveys additionally touch upon public life domains. The Australian Unity Well-being Index, for example, includes satisfaction with the national economic situation, the state of the environment, social conditions, wealth distribution, health services, and family support (Cummins, Eckersley, Pallant, van Vugt, & Misajon, 2003).

Although there is no theory readily available for deducing life domains, the ones that typically are selected by researchers resonate quite well with results from exploratory survey research in which factor analysis techniques are employed in grouping detailed life concerns into broader domains (Flanagan, 1978; Rojas, 2007). A bottom-up study from the United States sorted statements of 6,500 critical incidents from an open-ended survey into 15 domains which were presented under five broad headings: physical and material well-being; relations with other people; social, community, and civic activities; personal development and fulfillment; and recreation (Flanagan, 1978).

In Which Domains Are People Most Satisfied?

Three key findings emerge from research (cf. Böhnke, 2005; Delhey, 2004). First, people are not equally happy with each area of life; hence, they have different experiences within distinct realms of life. With respect to private life domains, people tend to be most satisfied with the very personal realms such as their home, their family life, and their neighborhood and least satisfied with their financial situation. Second, people are usually less content with public domains than with private ones, which supports the idea that people are happier with those areas of life that they can control

(Headey & Wearing, 1992). Alternatively, ▶ self-esteem might cause people to evaluate the domains close to oneself more positively (Cummins, 2003). Third, there are considerable differences between countries in domain satisfactions, largely similar to those found for overall happiness. For example, on average western Europeans are more satisfied and happy with their lives than are eastern Europeans, and this gap is reproduced for any life domain (Delhey, 2004). This result may be because national living conditions are consistently good or bad (the "state" explanation) or because domain satisfactions are an expression of a more general public mood (the "trait" explanation).

The Fit Between Life Satisfaction and Domain Satisfactions

Theoretically, it is perfectly possible "to have a happy marriage but still be dissatisfied with life-as-a-whole, or to be satisfied with life-as-a-whole in spite of an unhappy marriage" (Veenhoven, 2007, p. 237). In practice, however, the summation of an individual's satisfaction scores over various life domains should approximate his or her global life happiness. The variance in happiness explained by domain satisfactions ranges between 25 % and 55 %, depending on the sample and the life domains available. A Swedish study (Fugl-Meyer, Bränholm, & Fugl-Meyer, 1991) classified adults as "happy" or "not happy" on the basis of domain satisfactions for three important life facets. A comparison of this classification with people's self-reported overall happiness showed that 86 % of "happy" respondents and 71 % of "not happy" respondents were classified correctly. Further evidence for a good fit comes from the United States, where Richard Easterlin and Onnicha Sawangfa (2007) analyzed the variation of overall happiness with socioeconomic status, the stability of happiness over time, the U-bend over the life cycle, and differences between cohorts. When reported satisfaction in four domains – finances, family life, work, and health – was used instead of overall happiness, these general patterns were closely predicted by the domain satisfactions.

To Weight or Not to Weight?

The fit with life satisfaction is good, but not perfect. One reason might be that life domains are of differential importance for well-being, which would suggest that weighting them properly would improve the fit with overall life satisfaction. Empirical results are mixed. Angus Campbell, Converse, and Rodgers (1976) and Mariano Rojas (2007) found no advantage in using importance ratings as weighting variables in comparison to the simple additive model in which each domain satisfaction carries the same weight. In contrast, Chang-ming Hsieh (2003) suggests that domain *rankings* do the trick, yet the improvement achieved is modest at best. In short, the magic formula for weighting domains properly has not yet been found, and the majority of studies still use a simple additive index. Others claim that overall life satisfaction is influenced not only by a combination of domain satisfactions but by a general positivity disposition as well (Diener, Christine, Scollon, Dzokoto, & Suh, 2000, p. 169). Using student samples from 41 countries, Ed Diener et al. were able to isolate this positivity disposition. At the national level, average positivity predicted life satisfaction better than a sum score of domain satisfactions did; at the individual level, the domain index was the better predictor, but individual positivity had a significant impact on happiness as well. In a nutshell, the whole (overall life satisfaction) seems indeed to be more than the sum of its parts.

Bottom-Up or Top-Down?

Implicitly or explicitly, the weighting discussion assumes that domain satisfactions contribute bottom-up to how much we appreciate life as a whole. Others claim that the causal direction actually flows in the opposite direction, top-down from general life satisfaction to domain satisfactions. The rationale for top-down processes comes from research on dispositional and genetic determinants of attitudes, and on the strong role that personality traits such as positive and negative affectivity or extroversion and neuroticism play in ▶ subjective well-being (cf. Lance, Mallard, & Michalos, 1995). A third possibility is that life satisfaction and domain satisfactions

influence each other in a bidirectional process. It also has been suggested that the correlations between life facets and overall happiness are simply spurious due to the effect of personality characteristics.

The findings pertaining to this controversy are diverse, to put it mildly. Australian panel data (Headey, Veenhoven, & Wearing, 1991) suggest that the main direction of influence is top-down: three domains (job, standard of living, and leisure) were found to have a top-down relation, whereas a reciprocal relation was established for one domain (marriage) and a spurious correlation for two domains (friendship and health). In contrast, another study found a bottom-up effect for marriage, a top-down effect for friendship, and a bidirectional relationship for work (Lance, Lautenschlager, Sloan, & Varca, 1989). Both studies conclude that most likely there is no general pattern, only domain-specific links. Adding even more complexity, it has been suggested that the causal direction may vary not only by domain but also by ethnic group (Möller & Saris, 2001) and by country (Saris, 2001). Recently, there is growing support for the bidirectional model. Lance, Mallard, and Michalos (1995) found bidirectional causation for 8 of 11 domains studied. Moreover, all of these bidirectional cases are asymmetric, with the effect of life satisfaction on domain satisfactions being roughly twice as strong as the reverse effect. Likewise, a review of more than 30 studies on the link between job satisfaction and overall life satisfaction concluded that the majority of studies support the bidirectional model (Rain, Lane, & Steiner, 1991).

One common problem is that these studies are very much data driven: there is no theory available to explain why domain A is linked bottom-up to life satisfaction whereas domain B is linked top-down. A further problem is the lack of robust results, even when studying the same population (Scherpenzeel & Saris, 1996). Some read this circumstance as evidence that one or more underlying factors determine both overall happiness and domain satisfactions, thus causing spurious relationships between the two. This "underlying factor" could be general positivity (Diener et al., 2000) or neuroticism and extroversion (Heller, Watson, & Ilies, 2004). Daniel Heller, David Watson, and Remus Ilies propose a more complicated "integrative model" which allows personality characteristics to influence both domain satisfactions and life satisfaction, with domain satisfactions having a bottom-up impact on life satisfaction. The bottom line: despite a growing body of research there is no convergence toward one of the models; results remain diverse and contradictory.

Which Life Domains Matter Most?

Which life facets are actually most important for humans? The so-called *testimony approach* uses self-reports and lets respondents either rate or rank how important domains are for them personally. In the classic study *The Quality of American Life* (Campbell et al., 1976), 91 % of US Americans rated health as very important or important, followed by intimacy (89 %), material well-being (73 %), and productivity (70 %). This finding has been replicated many times.

A typical ranking approach is to let respondents choose from a longer list those domains which contribute most to their quality of life. Across 28 European countries (Delhey, 2004), "being in good health" is picked by a large majority everywhere as one of the three most important contributors, followed by "sufficient income to meet my needs" and "having family members who are there when I need them." This ranking demonstrates that no single domain is the key to happiness. When asked in a further question which factor would improve their current quality of life, "having a higher income" was selected most often in the plurality of European countries.

The use of advanced statistics (the *correlation/regression approach*) is an alternative strategy. In this approach, the most salient areas of life are discovered indirectly by the researcher. It is inferred that domains which are highly correlated with life satisfaction matter a great deal to people and that domains which have a weak correlation do not matter much. In a Mexican sample, five domains strongly correlate with life happiness: health, economic situation, job, family, and personal fulfillment, the latter representing a mix

of education and leisure (Rojas, 2007). For Germany, financial situation and health have been found to be most important (Van Praag, Frijters, & Ferrer-I-Carbonell, 2003), though the study in question did not include any domain related to family or social connectedness. In another German study which did, satisfaction with family life is strongly correlated with life satisfaction and to the same extent as satisfaction with household income and with standard of living (Bulmahn, 1996). In France, love life and family life were the strongest predictors (Salvatore & Munoz Sastre, 2001).

A more recent branch of comparative research tries to understand whether there are systematic cross-national differences in domain importance. Theoretical guidance comes from Abraham Maslow's hierarchy of needs as well as from Ronald Inglehart's value change theory (Inglehart, 1997). The latter predicts a greater weight of nonmaterial concerns, relative to that of materialist concerns, in affluent countries. Indeed, there is evidence to support this hypothesis, both from Europe and worldwide. Financial satisfaction has a stronger impact on life happiness in less wealthy east-central Europe, whereas in Western Europe satisfactions with family life, social life, and health are usually more salient (Böhnke & Kohler, 2008; Delhey, 2004). Internationally, across 50 countries worldwide there is a fairly consistent trend toward post-materialist happiness as one moves from poor to rich societies (Delhey, 2010). However, a study on China reminds us that economic institutions also play a role. China's transition to a capitalist economy has paved the way for a "monetarization of happiness" (Brockmann, Delhey, Welzel, & Yuan, 2009, p. 403) – a skyrocketing influence of financial satisfaction on general life satisfaction, particularly among urban Chinese.

Conclusion

Domain satisfactions have a lot to offer for better understanding overall happiness, in particular from a comparative perspective. One reason this potential has not been fully unleashed is the lack of an agreed-upon set of important life domains. It is therefore important that quality of life researchers standardize their research instruments in order to strengthen the impact of their future research.

Cross-References

- ▶ Bottom-Up Versus Top-Down Theories of Life Satisfaction
- ▶ Household Income, Satisfaction with
- ▶ Job Satisfaction
- ▶ Life Satisfaction, Concept of
- ▶ Multiple Discrepancies Theory (MDT)
- ▶ Satisfaction with Family Relationships
- ▶ Subjective Indicators of Well-being
- ▶ Subjective Well-being (SWB)

References

Böhnke, P. (2005). Happy, satisfied, belonging – subjective well-being and its determinants in Europe. Report for the *European Foundation for the Improvement of Living and Working Conditions*. Dublin.

Böhnke, P., & Kohler, U. (2008). Well-being and inequality. In S. Immerfall & G. Therborn (Eds.), *Handbook of European societies. Social transformations in the 21st century* (pp. 629–666). New York: Springer.

Brockmann, H., Delhey, J., Welzel, C., & Yuan, H. (2009). The China puzzle: Falling happiness in a booming economy. *Journal of Happiness Studies, 10*, 387–405.

Bulmahn, T. (1996). Determinanten des subjektiven Wohlbefindens. In W. Zapf & R. Habich (Eds.), *Wohlfahrtsentwicklung im vereinten Deutschland. Sozialstruktur, sozialer Wandel und Lebensqualität* (pp. 79–96). Berlin: Edition Sigma.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life. Perceptions, evaluations, and satisfactions*. New York: Russel Sage Foundation.

Cummins, R. A. (1996). The domains of life satisfaction: An attempt to order chaos. *Social Indicators Research, 38*, 303–328.

Cummins, R. A. (2003). Normative life satisfaction: Measurement issues and a homeostatic model. *Social Indicators Research, 64*, 225–256.

Cummins, R. A., Eckersley, R., Pallant, J., van Vugt, J., & Misajon, R. (2003). Developing a national index of subjective wellbeing: The Australian unity wellbeing index. *Social Indicators Research, 64*, 159–190.

Delhey, J. (2004). Life satisfaction in an enlarged Europe. Report for the *European Foundation for the Improvement of Living and Working Conditions*, Dublin.

Delhey, J. (2010). From materialist to post-materialist happiness? National affluence and determinants of life satisfaction in cross-national perspective. *Social Indicators Research, 97*, 65–84.
Diener, E., Christine, K. N., Scollon, S. O., Dzokoto, V., & Suh, E. M. (2000). Positivity and the construction of life satisfaction judgements: Global happiness is not the sum of its parts. *Journal of Happiness Studies, 1*, 159–176.
Easterlin, R. A., & Sawangfa, O. (2007). Happiness and domain satisfaction: Theory and evidence. In Law and economics. Working Paper Series. University of Southern California Law School.
Ferriss, A. L. (2004). The quality of life concept in sociology. *The American Sociologist, 35*, 37–51.
Flanagan, J. C. (1978). A research approach to improving our quality of life. *American Psychologist, 33*, 138–147.
Fugl-Meyer, A. R., Bränholm, I.-B., & Fugl-Meyer, K. S. (1991). Happiness and domain-specific life satisfaction in adult northern Swedes. *Clinical Rehabilitation, 5*, 25–33.
Headey, B., & Wearing, A. (1992). *Understanding happiness. A theory of subjective well-being*. Melbourne: Longman Cheshire.
Headey, B., Veenhoven, R., & Wearing, A. (1991). Top-down versus bottom-up theories of subjective well-being. *Social Indicators Research, 24*, 81–100.
Heller, D., Watson, D., & Ilies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin, 130*, 574–600.
Hsieh, C. (2003). Counting importance: The case of life satisfaction and relative domain importance. *Social Indicators Research, 61*, 227–240.
Inglehart, R. (1997). *Modernization and postmodernization. Cultural, economic, and political change in 43 societies*. Princeton: Princeton University Press.
Lance, C. E., Lautenschlager, G. J., Sloan, C. E., & Varca, P. E. (1989). A comparison between bottom-up and top-down, and bidirectional models of relationships between global and life facet satisfaction. *Journal of Personality, 57*, 601–624.
Lance, C. E., Mallard, A. G., & Michalos, A. C. (1995). Tests of the causal directions of global-life facet satisfaction relationships. *Social Indicators Research, 34*(1), 69–92.
Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research, 16*, 347–413.
Möller, V., & Saris, W. E. (2001). The relationship between subjective well-being and domain satisfaction in South Africa. *Social Indicators Research, 55*, 97–114.
Rain, J. S., Lane, I. M., & Steiner, D. D. (1991). A current look at the job satisfaction/life satisfaction relationship: Review and future considerations. *Human Relations, 44*, 287–307.
Rapley, M. (2003). *Quality of life. A critical introduction*. London/New Delhi: Sage/Thousand Oaks.
Rojas, M. (2007). Life satisfaction and satisfaction in domains of life: Is it a simple or a simplified relationship? *Journal of Happiness Studies, 7*, 467–497.
Salvatore, N., & Munoz Sastre, M. T. (2001). Life appraisal: "Area" versus "dimension" conceptualizations. *Social Indicators Research, 53*, 229–255.
Saris, W. E. (2001). What influences subjective well-being in Russia? *Journal of Happiness Studies, 2*, 137–146.
Scherpenzeel, A., & Saris, W. E. (1996). Causal direction in a model of life satisfaction: The top-down/bottom-up controversy. *Social Indicators Research, 38*, 161–180.
Van Praag, B., Frijters, P., & Ferrer-I-Carbonell, A. (2003). The anatomy of subjective well-being. *Journal of Economic Behavior & Organization, 51*, 29–49.
Veenhoven, R. (2007). Measures of gross national happiness. In OECD (Ed.), *Measuring and fostering the progress of societies*, (pp. 232–253). Paris: OECD Publishing.

Domain Satisfaction in Romanian-Hungarian Cross-Border Region

▶ Romanian-Hungarian Cross-Border Region, Personal Well-Being Index

Domains of Qol in Older Adults

▶ Facets of Quality of Life of Older Adults, International View

Domestic Chores

▶ Housework Participation Measurement

Domestic Establishment

▶ Household Composition

Domestic Labor

▶ Housework Participation Measurement

Domestic Labor over a Decade

► Women's Housework over a Decade

Domestic Violence

Jane Ursel
Department of Sociology, University of Manitoba, MB, Canada

Synonyms

Family violence; Intimate partner violence; Spouse abuse

Definition

Domestic violence is defined as acts of physical, emotional, financial, and sexual abuse and neglect that occur in relationships of intimacy, kinship, dependency, or trust among adults. Such acts directed toward children would be defined as child abuse (► Child Maltreatment: Sexual Abuse; see also ► Dating Violence) and typically fall outside of the concept of domestic violence. Critics have observed that such a generic definition tends to de-gender a crime that is more often perpetrated upon women by men; for a discussion of this debate, see the entry "► Violence Against Women" below. The purpose of a broader definition allows inclusion of intimate partner relationships among same-sex couples (► Same-Sex Partner Violence) and includes those less frequent incidents of men abused by their intimate female partner.

Description

Until the mid-1980s, wife abuse was perceived in most English-speaking countries (North America, Australia, New Zealand, and the United Kingdom) as a personal tragedy rather than a serious crime (MacLeod, 1980). The redefinition of wife abuse from personal tragedy to social problem has its origins in the feminist movement in the late 1960s and early 1970s. The feminist movement's rallying cry "the personal is political" opened all forms of women's subjugation to social and political analysis to reveal gender inequalities and demand reform. ► Violence against women emerged as a central concern in the early 1970s when grassroots women's organizations were the first to establish emergency shelters for abused women in all of the above English-speaking countries (these countries were selected for a variety of reasons including the fact that they all have a background in British common law).

Because the issue of domestic violence emerged from the women's movement, initially it focused exclusively on women who were victimized by their male partner. However, by the 1980s, same-sexed couples were identifying the same dynamics of power, control, and abuse occurring in some of their relationships. They demanded inclusion in the language and the design of services for victims of abuse. In the 1990s, the issue of male abuse by female partners arose, and men who were victimized made similar demands. While the prevalence and the severity of abuse of men by female partners may be significantly different (Tutty, 1999), neither policy makers, service providers, nor affected families would benefit from denying its existence. Thus, in many program and policy contexts, the more generic term "domestic violence" is used.

By the 1980s, society was beginning to acknowledge that domestic violence (DV) was a serious social issue, and some specialized programs, such as shelters and transition houses, started to receive government funding. In the last 25 years, societies' responses to DV followed a number of trajectories: (a) primary and secondary prevention, (b) intervention, and (c) domestic violence death review committees. The category of primary prevention includes public education initiatives and school programs that typically provide two messages: first that interpersonal violence is damaging to all members of the

family and secondly that it is a crime which will have serious consequences. Secondary prevention typically includes both residential (shelters) and nonresidential counseling programs to assist individuals who have been victimized to avoid future victimization. These programs often include legal advice, safety planning, and peer support groups.

Intervention initiatives involve both legal and social service programs. Crises social services, such as shelters and mobile crisis units, are designed to intervene on behalf of the victim at the time of the crisis, offering a range of services from safe transportation, safe housing, to crisis counseling. Legal interventions typically involve criminal justice interventions, including arresting and charging the accused assailant and prosecuting their cases in a criminal court. Since the early 1990s, many jurisdictions in North America, Australia, and the United Kingdom have introduced specialized domestic violence courts (Holder & Caruana, 2006; Stewart, 2005; Ursel, 2000; Worden, 2000). In the United States, there are now over 400 DV courts in operation, and in Canada six of the ten provinces and one of the three territories have such courts (Holder & Caruana, 2006; Kelly et al., 2008; Ursel, Tutty, & LeMaistre, 2008). These specialized courts typically hear all matters in designated courtrooms, often with specialized judges or magistrates, and they include specialized prosecutors and specialized victim service workers. The introduction of specialized courts is often associated with an expansion in treatment programs for offenders, either within the correctional system itself or through increased funding to nongovernmental agencies providing offender treatment programs (Gondolf, 2002). A second form of legal intervention occurs in the civil justice system and takes the form of "Protection Orders." Many jurisdictions in North America, Australia, and the United Kingdom have passed civil legislation allowing individuals who are fearful for their own safety and the safety of their children to apply to have an order of no contact and no communication issued to the person they fear (Alexander, 2002; Burton, 2006). In most of these jurisdictions, if the respondent violates the order, they can be prosecuted in a criminal court because they have violated a court order.

Despite the expansion of social services and justice interventions, all of the jurisdictions cited above have experienced domestic homicides, often homicide-suicide events (Stark, 2007). This was brought dramatically to our attention in North America by the journalist Brian Vallee who calculated that in the United States, twice as many women were killed by their partner than all police officers and soldiers who died in action for the period 2000–2006. In Canada, in the same time period, the ratio was five to one; for every police officer and soldier killed, five women were murdered by their partners (Vallee, 2008). Thus, the final responses we are seeing that emerge in jurisdictions around the English-speaking world are domestic violence death review committees. These committees typically are formed under the auspices of the coroner or medical examiner or the justice department, and they are often but not always legislatively mandated. The committee membership typically includes key actors in the intervention process, such as police officers, prosecutors, victim service workers, and representatives from nongovernmental agencies that provide services to victims. The purpose of these committees is to examine all of the conditions surrounding a domestic homicide to learn how they could have been prevented, in the hope that future DV homicides can be prevented.

Given this broad range of institutional responses, one might expect that the rate of reported domestic violence would decrease; however, this is not yet the case. While this is the long-term goal, it may take us a generation or more to see the result of these institutional changes. We are clearly seeing changes in people's behavior as a result of growing awareness of the destructiveness of domestic violence and the availability of support services. However, the form this often takes is to see a rise in calls to the police, a rise in arrests, and an increase in court cases, as well as an increase in shelter utilization and attendance in counseling programs. We can best appreciate this pattern by considering how long families have been

living with DV in silence, how endemic it is in most societies, and how, now for the first time, when people call for help, they have a reasonable expectation of a more sympathetic and more effective response. Thus, for a generation of individuals who grew up in homes habituated by violence that was endured in silence, if not condoned, their willingness to call for help and seek solutions for their partners and themselves should be seen as a major breakthrough.

Increasing calls for help to the police, to shelters, to friends, and to relatives is, in fact, the pattern we are witnessing today. Seeking an exit from interpersonal violence and its damaging intergenerational impact is a critical first step in social change. Thus, it has been the experience of most jurisdictions that as new programs and policies are introduced, greater reporting occurs, more arrests happen, and the volume of court cases increases. There are a number of interacting factors that appear to propel this dynamic. First, as new programs are introduced and publicized, people's awareness increases and they are more likely to seek help. For example, almost all jurisdictions that introduced specialized DV courts report an increase in arrests of twofold or more. This results from an interaction effect between the public that call the police and police policy and behavior. Typically, when a specialized court is introduced, police officials are consulted, and often police policy will be revised to ensure that when there are "reasonable and probable grounds" that a crime occurred, officers will charge and/or arrest the accused (Ursel, 2000). Thus, changes in one level of the justice system will provoke changes in other levels. This dynamic is reinforced by increased publicity about the specialized courts and/or rising arrest rates, resulting in more calls to the police.

Discussion

Within one generation there has been a massive change in social services, justice programs, and public attitudes in the countries included in this review, so it is not surprising that these changes occurred amidst much controversy. There has been much debate in the past among feminist groups about what will happen to their services and their service philosophy if they become dependent on government funding. However, in this current period of recession, there is greater concern about maintaining the government support their agencies currently have.

Another ongoing debate among feminists and criminologists is whether engagement of the criminal justice system in domestic violence cases will do more harm than good (Snider, 1991). Critics of the criminal justice system point out that it is the poor and the racially marginalized who are more likely to be arrested and prosecuted for domestic violence offenses. Justice reformers and social service providers counter that it is precisely these populations in which victims have few if any sources of help other than the formal justice and social service system. In Canada, for example, numerous victim surveys conducted by government and Aboriginal organizations alike all demonstrate that Aboriginal women are three times more likely to be victimized than non-Aboriginal women (Amnesty International, 2004). In Canadian cities with a high population of people of Aboriginal origin, the research reveals that Aboriginals accused are overrepresented by a factor of 3 in the specialized DV courts (Ursel, 2006). In addition there are debates about whether government should be spending scarce resources on treatment programs for offenders. Are they effective? Does this funding divert funding from victims program?

While the controversies will undoubtedly continue, these debates are pushing reformers and critics alike to design better responses and improve justice and social service policies (Payne, 2006). The one area of consensus today is that DV is a social not just a personal problem, and we need the resources of society and the political will of our leaders to prioritize this issue for the health and benefit of all future generations. Thus, while the road ahead is difficult and we have many challenges, individuals and legislators acknowledge that the problem exists. We all share in the responsibility to ensure the most fundamental human right: the right of all individuals to security in their own home.

Cross-References

- ▶ Partner Violence
- ▶ Violence Against Women

References

Alexander, R. (2002). *Domestic violence in Australia, the legal response* (3rd ed.). Sydney, Australia: The Federation Press.

Amnesty International. (2004). *Stolen sisters*. Available online at www.amnesty.ca/resource_centre/reports/view.php/load=archview&article=1895&c=Resource+Centre+Reports

Burton, M. (2006). Judicial monitoring of compliance: Introducing 'problem solving' approaches to domestic violence courts in England & Wales. *International Journal of Law Policy & the Family, 20*(3), 366–378.

Gondolf, E. W. (2002). *Batterer intervention systems: Issues, outcomes, and recommendations*. Thousand Oaks, CA: Sage.

Holder, R., & Caruana, J. (2006). *Criminal justice intervention in family violence in the ACT*. Report of the Victims of Crime Coordinator, Canberra, Australia. https://www.zotero.org/joycekwc/items/itemKey/JFGTZC69/tag/Family%20Violence%20Intervention%20Program%20%28A.C.T.%29. Accessed April 2013

Kelly, L., Westermarland, N., & Regan, L. (2008). *Measure for measure: What success might look like in relation to criminal justice responses to domestic violence*. Report to the London Criminal Justice Board, London.

MacLeod, L. (1980). *Wife battering in Canada: The vicious circle*. Ottawa, ON: Canadian Advisory Council on the Status of Women.

Payne, J. (2006). *Speciality courts: Current issues and future prospects* (Trends and Issues). Canberra, Australia: Australian Institute of Criminology.

Snider, L. (1991). The potential of the criminal justice system to promote feminist concerns. In E. Comack & S. Brickey (Eds.), *The social basis of law* (pp. 238–260). Halifax: Garamond Press.

Stark, E. (2007). *Coercive control: How men entrap women in personal life*. New York: Oxford University Press.

Stewart, J. (2005). *Specialist domestic/family violence courts within the Australian context* (Australian Domestic and Family Violence Clearing House, Issues Paper 10). Retrieved December, 2010, from http://www.austdvclearinghouse.unsw.edu.au/PDF%20files/Issuespaper_10.pdf

Tutty, L. (1999). *Husband Abuse: An overview of research and perspectives*. Family violence prevention unit, Health Canada, Ottawa, Canada. www.hc.gc.ca/nc-cn. Accessed April 2013.

Ursel, J. (2000). Winnipeg family violence court report. In *Family violence in Canada: A statistical profile 2000*. Ottawa, ON: Canadian Centre for Justice Statistics/Statistics Canada.

Ursel, J. (2006). "Over policed and under protected": A question of justice for Aboriginal women. In M. R. Hampton & N. Gerrard (Eds.), *Intimate partner violence: Reflections on experience, theory, and policy* (pp. 80–99). Toronto, ON: Cormorant Books.

Ursel, J., Tutty, L., & LeMaistre, J. (Eds.). (2008). *What's law got to do with it: The law, specialized courts and domestic violence in Canada*. Toronto, ON: Cormorant Press.

Vallee, B. (2008). *War on women*. Toronto, ON: Key Porter Books.

Worden, A. P. (2000). The changing boundaries of the criminal justice system: Redefining the problem and the response in domestic violence. *Criminal Justice, 2000*(2), 215–266.

Domestic Work over a Decade

- ▶ Women's Housework over a Decade

Dominant Current of Opinion

- ▶ Climate of Opinion

Dominant Social Paradigm

William Kilbourne
Department of Marketing, Clemson University, Clemson, SC, USA

Synonyms

Disciplinary matrix; Ideology; Institutions; Worldview

Definition

The term paradigm was first developed to explain the development of science over the centuries. It was later adapted to explain aspects of society and how they work to maintain beliefs across time. The term was changed to dominant social paradigm, and, in this sense, it can be viewed as ideology or cultural institutions.

Description

The term dominant social paradigm (DSP) was first used by (Pirages & Ehrlich, 1974) who described it as the "collection of norms, beliefs, values, habits, and so on that form the world view most commonly held within a culture." (Milbrath, 1984) expands this slightly to include the social lens through which individuals and groups interpret their social world. (Cotgrove, 1984), however, includes a political perspective when he argues that it is not necessarily the majority of individuals within a society who maintain beliefs within the paradigm that makes it dominant. Rather, it is held by dominant groups in society whose interest is best served by maintenance of the DSP. This makes the DSP political ideology in that it is used to legitimate and justify prevailing institutions that serve the interests of the dominant groups. This also serves to justify social and political action for the dominant groups. Any actions carried on within the DSP are accepted as legitimate and supported by the members of society at large, and they require no further examination or critique. Thus, the DSP also functions as ideology. (Kuhn, 1996), who popularized the term paradigm, later preferred the term "disciplinary matrix" as the original use of "paradigm" was too ambiguous. Others later criticized the concept of a paradigm arguing that it contained too many contradictions. These criticisms notwithstanding, the DSP serves as a convenient way to frame discussions of quality of life (QOL) and other domains such as values, the environment, and globalization as well.

(Kilbourne & Beckmann, 2002) argue that the DSP consists of three socioeconomic dimensions. These are the political, economic, and technological and, within Western industrial societies, the DSP has been in development since the Enlightenment. It is within this framework that QOL can be examined. How one defines QOL depends, to a large extent, on the DSP in which they live and function on a day-to-day basis. The DSP serves as the background within which the "good life" is defined. While QOL is itself ambiguous, some of its dimensions include economic (role of wealth), work (technology), and freedom (political). What one expects of these QOL dimensions becomes a function of expectations created by the dimension of the DSP within a particular culture. That is, QOL has a context in which it must be examined, and it would be fallacious to define an abstract QOL without context. As a simple example, the role of material possessions in QOL would vary dramatically between the USA and virtually any Middle Eastern country as would the role of religion generally. Without context, QOL can be completely ambiguous, and the DSP helps to provide that context.

Cross-References

- ▶ Consumption
- ▶ Institutions
- ▶ Subjective Well-being
- ▶ Values

References

Cotgrove, S. (1984). *Catastrophe or cornucopia: The environment, politics, and the future*. New York: Wiley.

Kilbourne, W., & Beckmann, S. (2002). Rationality and the reconciliation of the DSP with the NEP. In S. Beckmann & E. Madsen (Eds.), *Environmental regulation and rationality: Multidisciplinary perspectives*. Aarhus, Denmark: Aarhus University Press.

Kuhn, T. (1996). *The structure of scientific revolutions*. Chicago: Chicago University Press.

Milbrath, L. (1984). *Environmentalists: Vanguards for a new society*. Albany: State University of New York Press.

Pirages, D., & Ehrlich, P. (1974). *Ark II: Social response to environmental imperatives*. San Francisco: Freeman.

Donation

- ▶ Prosocial Behavior

Dordrecht

- ▶ Drechtsteden

Double-Blind Design

Petros Skapinakis
Department of Psychiatry, University of Ioannina School of Medicine, Ioannina, Greece

Synonyms

Double-masked design

Definition

In experimental studies, subjects are assigned to two or more groups (e.g., the intervention and ► control groups). The term double blind implies that both the subjects and the observers do not know the group the subjects are assigned to and therefore whether subjects have received the intervention or not.

Description

A double-blind design is often used in clinical trials, especially randomized controlled trials. The aim of this experimental design is to evaluate the effectiveness of a new treatment compared to the standard treatment, usual care, or no treatment at all (e.g., a placebo pill). Eligible subjects who agree to participate are randomly allocated to two or more groups, one of which is the control group. Subjects are then followed up for a specified period of time, and then the outcome is compared between groups.

One of the main aims of blinding is to reduce measurement (or information) bias. This is a type of systematic error that can alter the results of a trial. For example, researchers who think that the new treatment is better than the standard treatment may overestimate the effect of the new treatment or underestimate the effect of the standard treatment. In addition, when subjectively measured outcomes are used (e.g., health-related quality of life), the subjects may be influenced in their judgments according to their beliefs or expectations about treatments. Blinding, that is, keeping all those involved in the trial unaware of the assigned treatment, minimizes the risk of information bias. For example, in a meta-analysis of trials that compared a statin drug (used to lower cholesterol levels) to other statin drugs, the investigators reported that trials with inadequate blinding were more likely to overestimate the results, thus favoring the test drug (Bero, Oostvogel, Bacchetti, & Lee, 2007).

There are other advantages of blinding. In the case of double blinding, these include (Schulz & Grimes, 2002):

(a) For the participants: less prone to self-suggestion, more likely to comply with treatments, less likely to take adjunct treatments, and more likely to complete the trial
(b) For the trial investigators: less likely to differentially adjust (e.g., increase) the dose, less likely to withdraw patients from the trial for noneffectiveness or side effects, and less likely to differentially administer additional treatments

It is generally accepted that double blinding is more important in trials that use subjective outcomes as their primary outcome. Such trials are commonly carried out in the fields of psychiatry, pain medicine, and quality of life research.

It is possible to assess whether blinding has been successful after the completion of the trial by asking both investigators and participants to guess the intervention used. It has been shown that sometimes it is easy to guess the intervention if, for example, there is a specific pattern of side effects, for example, sleepiness or fatigue, associated with only one drug.

Although it is desirable that all trials should be blinded, there are interventions that cannot be double blinded (e.g., surgical trials) or even single blinded (e.g., psychotherapy trials).

Cross-References

► Control Groups

References

Bero, L., Oostvogel, F., Bacchetti, P., & Lee, K. (2007). Factors associated with findings of published trials of drug-drug comparisons: Why some statins appear more efficacious than others. *PLoS Medicine, 4*(6), e184.

Schulz, K. F., & Grimes, D. A. (2002). Blinding in randomised trials: Hiding who got what. *Lancet, 359*, 696–700.

Double-Masked Design

▶ Double-Blind Design

Doubt

▶ Anxiety

Down Syndrome

Cliff Cunningham[1] and Roy I. Brown[2,3,4,5]
[1]Liverpool, Merseyside, UK
[2]University of Calgary, Calgary, AB, Canada
[3]Flinders University, Bedford Park, SA, Australia
[4]University of New England, Madgwick, NSW, Australia
[5]School of Child and Youth Care, University of Victoria, Victoria, BC, Canada

Synonyms

Down Syndrome: Developmental disability, Intellectual disability; Quality of Life: Life satisfaction, Well-being

Definition

Down Syndrome

Down syndrome (trisomy 21) results from an extra (or part of) chromosome 21. Over 90 % of individuals have the extra chromosome in all body cells attached to group 21; in some, it is translocated to another chromosome group and parents can be carriers; and in others, it exists in the mosaic form with an extra chromosome in some cells/systems and in varying amounts. It occurs equally in all races, socioeconomic groups, and both genders. Risk increases with maternal age, and the reports of incidence vary between 1 in 600 and 1 in 1,100 births, depending on social factors, for example, birth control, mothers delaying starting a family, and prenatal care and screening.

The common characteristics are intellectual disability (ID) and learning difficulties, physical differences, increased health risks and medical problems (e.g., heart, hearing, vision, thyroid and metabolism, immune deficiency), early aging, and Alzheimer's disease. Some children have dual diagnoses such as autism or attention deficit and hyperactive disorder. Around a quarter of adults have mental health problems (e.g., McGuire & Chicoine, 2006), the most common being depression and/or challenging behavior which is correlated with lower levels of functioning and psychopathology in childhood (McCarthy, 2008).

However, not all people with DS have medical and health problems or major learning difficulties. There is an enormous range of individual differences in cognitive, social, personality, and physical attributes. For example, both measured intelligence and height, while on average lower than the typical population the distribution is very wide; some individuals struggle to establish a simple vocabulary, while others pass school examinations and attend advanced courses; many lack initiative and have limitations in incidental learning, while others demonstrate exceptional creative skills in art, music, and drama and are socially adept and independent; some struggle with physical coordination, and others become athletes (Cunningham, 2006). Thus, establishing representative samples and data is difficult, and the literature abounds with questionable generalizations about the syndrome.

Quality of Life

Quality of life is a multifaceted and sensitizing concept inclusive of all life's domains – material

well-being, health, productivity, community living, family interaction, emotional well-being – and a wide range of other factors such as intimacy, safety, and human rights (e.g., Goode, 1994; Parmenter, 1992; Schalock et al., 2002). People experience a better QoL when their basic needs are met, and they have opportunities to pursue and achieve goals in major life settings (Brown & Brown, 2003), which themselves are dependent not only on economic factors but on the perspectives of DS in local communities and the larger society. The principles and concepts of QoL have been the basis of several tools, now available, which can be used for assessing need and changes and, therefore, setting and auditing policy and improving QoL for individuals (Australian Centre on Quality of Life, 2013; Thompson et al., 2004).

Description

The DS population offers the largest numbers of a specific chromosomal disorder with a wide range of variability resulting from the interaction between typical genetic factors, the additional chromosomal material, and the environment. This makes it particularly advantageous for systematic QoL assessment procedures (qualitative and quantitative). Furthermore, the pertinence of current models of QoL, even in poorly resourced countries, is illustrated in the changes in lifestyle for people with Down syndrome and their families.

QoL for individuals with Down syndrome has improved in line with improvements in the general standard of living and health care in many countries. In addition, increasing focus on syndrome-specific issues associated with health and medical needs, education, and family support from the first days of life through the lifespan has had a major impact. Life expectancy has also increased averaging around 20 or so years behind typical survival rates, and with it challenges for the QoL of individuals and their families, especially parents who are themselves aging (Janicki, Zendell, & DeHaven, 2010; Jokinen & Brown, 2010) .

Improvements typically followed a radical shift away from a dominant medical perspective to a more pervasive social perspective emphasizing equal rights and inclusion, the range of individual differences, positive expectations and aspirations, and ensuring opportunities for individual development. This shift was part of general changes in democratic processes empowering parents and families to effect societal attitudes and beliefs, and government policies through DS Associations and positive media reporting. Such changes and attitudes are well documented in research and testimony, often starting, for example, with parents taking their children with Down syndrome out and about and fighting for inclusion (e.g., Gaad, 2006) – actions that involve little cost. As for typical individuals, those with Down syndrome benefit from being members of caring and supportive families in environments that provide opportunities to learn and engage with others. The majority reside in the family home well into adulthood.

Despite advances, individual and family QoL remains lower on average than for typical families (Brown, MacAdam-Crisp, Wang et al., 2006), although generally higher than those with major behavior challenges such as autism (Myrbaleck & Von Tetzenner, 2008). Even in countries where early support and inclusion is provided for children, aspects of quality of life do not carry forward into services for many adults who frequently experience a narrow range of leisure and employment opportunities and a continuing dependence on family caregivers (e.g., Bertoli, Biasini, Calignano et al., 2011; Thompson, Ward, & Wisehart, 1995) – a disappointing outcome after years of improved education that reflects a lack of planning for the future and lifespan policies. Furthermore, children and adults with DS living in socially deprived areas generally do not show the advances seen in well-resourced families and those with duel diagnoses, and challenging behavior often remain unsupported with a lack of appropriate intervention. For many years, reports describe significant numbers of parents not engaging with or dropping out of service support (e.g., early intervention) and parent associations and groups (e.g.. Barlow & Stewart-Brown, 2001), highlighting the need for family-focused

intervention and QoL (e.g., Turnbull, Brown, & Turnbull, 2004). The most consistent demand over the years by families has been for respite care (e.g., Wang & Brown, 2009).

From late childhood, more and more individuals with DS become isolated from peers; friendships falter, and by adulthood, a majority reside at home with aging parents and depend on their family for a social life. Friendship and relationships are critical for QoL and present major challenges for people with ID and their carers (e.g., McVilly, Stancliffe, Parmenter, & Burton-Smith, 2006). Exceptionally, some people with DS do form partnerships and marry (Brown, 1996), and, as for most people, friendship and partnerships, occupation, and independence promote self-image and feelings of self-worth. Overall, policy and structures providing opportunities for leisure, meeting others, employment, and choice of residence are still a major challenge for most societies.

Carr (2008) concluded from a 40-year follow-up of her London cohort that parents and siblings generally experienced a reasonable level of adjustment and well-being similar to families whose adult children had no disabilities. However, given the rapid changes in economic and social factors within communities, constant audit of family QoL is needed. Recent changes in the need for parents to work and the generally busier lifestyle impact on well-being. When offspring require high levels of care and supervision carers are at risk for psychological well-being particularly when they also support a disabled child (e.g., Bourke et al., 2008).

The few studies that have examined self-worth and satisfaction generally report that most young adults with DS are content and feel valued (e.g., Glenn & Cunningham, 2001). The young people who fall in the upper half of the intellectual ability levels of the DS population usually become aware of DS, and that they have DS, and about half of these have greater risk for experiencing stigma and mental difficulties. The challenges for QoL involve changes in society and opportunities for learning personal skills to deal with such issues (Cunningham & Glenn, 2004).

Discussion

Accepting a QoL focus implies that governments and statutory and voluntary services lay out policies in line with the concepts and principles involved (see Schalock et al. (2002). To audit effectiveness and develop policies, measurable outcomes and tools are required. These tools must enable individuals and family members to express their needs and satisfactions, and make choices, which can then be explored and supported, in a structured fashion. As noted above, several tools are available for measuring QoL. Also, person-centered planning (PCP) (Cambridge & Carnaby, 2005) provides ways of managing individual needs and meeting aspirations. Research is supporting the effectiveness of the approach (e.g., Claes, Van Hove, Vandevelde, Loon, & Scalock, 2010; Emerson, Malam, Davies, & Spencer, 2005) and has been adopted in many countries in line with valuing people policies and evidence-based planning. Like the principles of the QoL work, the primary philosophy behind PCP is that systems should be responsive to individual needs and not prescriptive.

Cross-References

- ▶ Intellectual Disability (ID)
- ▶ Satisfaction
- ▶ Self-esteem
- ▶ Well-Being

References

Australian Centre on Quality of Life, http://www.deakin.edu.au/research/acqol/instruments/instrument.php. Accessed 30 March 2013.

Barlow, J., & Stewart-Brown, S. (2001). Understanding parenting programmes – parent views. *Primary Health Care Research and Development, 2*, 117–1302.

Bertoli, M., Biasini, G., Calignano, M. T., Celani, G., De Grossi, G., Digilio, M. C., Fermariello, C. C., Loffredo, G., Luchino, F., Marchese, A., Mazotti, S., Menghi, B., Razzano, C., Tiano, C., Zambon Hobart, A., Zampino, G., & Zuccalà, G. (2011). Needs and challenges of daily life for people with Down syndrome residing in the city of Rome. *Journal of Intellectual Disability Research, 55*(8), 802–820.

Bourke, J., Ricciardo, B., Bebbingtom, A., Alberti, K., Jacoby, P., Dyke, P., et al. (2008). Physical and mental health in mothers of children with Down syndrome. *The Journal of Pediatrics, 153*, 320–326.

Brown, I., & Brown, R. I. (2003). *Quality of life and disability: An approach for community practitioners*. London: Jessica Kingsley Publishers.

Brown, R. I. (1996). Partnership and marriage in Down syndrome. *Down Syndrome Research and Practice, 4*(3), 96–99.

Brown, R. I., MacAdam-Crisp, J., Wang, M., & Iarocci, G. (2006). Family quality of life when there is a child with a developmental disability. *Journal of Policy and Practice in Intellectual Disabilities, 3*(4), 238–246.

Cambridge, P., & Carnaby, S. (2005). *Person centred planning and care management with people with learning disability*. London: Jessica Kingsly Publishing.

Carr, J. (2008). Families of 40 year olds with Down syndrome. *Journal of Developmental Disabilities, 14*(2), 35–43.

Claes, C., Van Hove, G., Vandevelde, S. N., Loon, J., & Scalock, R. (2010). Person-centered planning: Analysis of research effectiveness. *Intellectual and Developmental Disabilities, 48*(6), 432–453.

Cunningham, C. C. (2006). *Down syndrome: An introduction for parents and carers*. London: Souvenir Press.

Cunningham, C. C., & Glenn, S. (2004). Self awareness in young adults with Down syndrome. *International Journal of Disabilities, Development and Education, 51*(4), 335–361.

Gaad, E. (2006). The social and educational impacts of the first national Down syndrome group in UAE. *Journal of Research in Special Educational Needs., 6*, 134–142.

Glenn, S., & Cunningham, C. C. (2001). Evaluation of self by young people with Down syndrome. *International Journal of Disability, Development and Education, 48*, 163–177.

Goode, D. A. (Ed.). (1994). *Quality of life for persons with disabilities: International perspectives and issues*. Cambridge, MA: Brookline.

Janicki, M. P., Zendell, A., & DeHaven, K. (2010). Coping with dementia and older families of adults with Down syndrome. *Dementia, 9*(3), 391–407.

Jokinen, N., & Brown, R. I. (2010). Family quality of life and older-aged families of adults with an intellectual disability. In R. Kober (Ed.), *Enhancing the quality of life of people with intellectual disabilities: From theory to practice* (pp. 279–304). London: Springer.

McCarthy, J. (2008). Behaviour problems and adults with Down syndrome: Childhood risk factors. *Journal of Intellectual Disability Research, 52*, 877–882.

McGuire, D., & Chicoine, B. (2006). *Mental wellness in adults with down syndrome: A guide to emotional and behavioural strengths and challenges*. Bethesda, USA: Woodbine House.

McVilly, K. R., Stancliffe, R. J., Parmenter, T. R., & Burton-Smith, R. M. (2006). 'I Get by with a little help from my friends': Adults with intellectual disability discuss loneliness. *Journal of Applied Research in Intellectual Disabilities, 19*, 191–203.

Myrbaleck, E., & Von Tetzenner, S. (2008). The prevalence of behaviour problems among people with intellectual disability living in community settings. *Journal of Mental Health Research in Intellectual Disabilities, 1*(13), 205–222.

Parmenter, T. R. (1992). Quality of life of people with developmental disabilities. In N. W. Bray (Ed.), *International review of research in mental retardation* (Vol. 18, pp. 247–287). New York: Academic Press.

Schalock, R. L., Brown, I., Brown, R. I., Cummins, R. A., Felce, D., Matika, L., et al. (2002). Conceptualization, measurement and application of quality of life for persons with intellectual disabilities: Report of an international panel of experts. *Mental Retardation, 40*(6), 457–470. Based on a report for and recognized by the World Health Organization.

Thompson, J. R., Bryant, B. R., Campbell, E. M., Craig, E. M., Hughes, C. M., Rotholz, D. A., et al. (2004). *Supports Intensity Scale*.. Washington, DC: American Association on Mental Retardation.

Thompson, K., Ward, K., & Wisehart, J. (1995). The transistion to adulthood for children with Down syndrome. *Disability & Society., 10*, 325–340.

Turnbull, A. P., Brown, I., & Turnbull, H. R. (2004). *Family quality of life*. Washington, DC: American Association of mental retardation.

Wang, M., & Brown, R. I. (2009). Family quality of life: A framework for policy and social service provisions to support families of children with disabilities. *Journal of Family Social Work, 12*(2), 144–167.

Further Reading

Brown, I., & Brown, R. I. (2009). Choice as an aspect of quality of life for people with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities., 6*(1), 11–18.

Brown, R. I. (1994). Down syndrome and quality of life: Some challenges for future practice. *Down's Syndrome Research and Practice, 2*(1), 19–30.

Brown, R. I. (1998). The effects of quality of life models on the development of research and practice in the field of Down Syndrome. *Down Syndrome Research and Practice*, 5, 39–42.
Brown, R. I. (Ed.). (2004–2008). *Adults with Down syndrome series*. Portsmouth, UK: Down syndrome Educational Trust.
Brown, R. I. (2009). *Friendship for people with Down syndrome (parts 1 & 2)*. Burnaby, BC: Hand in Hand. Down Syndrome Research Foundation, Summer 1–3, Fall, 1–3.
Carr, J. (1995). *Down's Syndrome: Children Growing Up*. Cambridge: Cambridge University Press.
Down Syndrome Education International. http://www.dseinternational.org
Emerson, E., Malam, S., Davies, I., & Spencer, K. (2005). *Adults with learning difficulties in England 2003/2004*. Leeds, UK: UK National Statistics; Health and Social Care Information Centre.
Hassold, T. J., & Patterson, D. (1999). *Down syndrome: A promising future together*. Chichester, UK: Wiley-Liss.
Matthews, B., Brown, R. I., & Taylor, J. (1999). Quality of life - ageing and Down syndrome. *DownSyndrome: Research and Practice, 6*(3), 111–118.
National Down Syndrome Society. http://www.ndss.org/index.php?option=com_content&view=article&id=240:recreation-and-friendship-resource-list&catid=75:recreation-a-friendship
Parmenter, T. R. (1996). The utility of quality of life as a construct for social and health policy development. In R. Renwick, I. Brown, & M. Nagler (Eds.), *Quality of life in health promotion and rehabilitation* (pp. 89–103). New York: Sage.
Parmenter, T. R. (2004). Family quality of life: Implications for policy. In A. Turnbull, R. Turnbull, & I. Brown (Eds.), *Disability and the family: An international perspective on family quality of life* (pp. 263–296). Washington, DC: American Association on Mental Retardation.
Pueschell, S. M. (2006). *Adults with Down syndrome*. Baltimore: Brookes.

Down Under

► Australia, Quality of Life

Downward and Upward Mobility

► Occupational Mobility

Downward Comparison Theory

► Relative Deprivation Theory
► Social Comparison Theory

DPRS

► Derogatis Psychiatric Rating Scale (DPRS)

DQoL

► Dementia Quality of Life Instrument

Drainage Area

► Watershed(s)

Drainage Basin

► Watershed(s)

Drama

► Arts and Quality of Life

Drawing

► Arts and Quality of Life

Dread

► Anxiety

Drechtsteden

Jeroen Boelhouwer
The Netherlands Institute for Social Research| SCP, The Hague, The Netherlands

Synonyms

Dordrecht

Definition

Dordrecht is a city in the Dutch province South Holland and is located about 65 km south of Amsterdam, the capital city of the Netherlands. Dordrecht is part of the conurbation "Drechtsteden."

Description

Dordrecht has 118.906 inhabitants (1 April 2011) and is part of the conurbation "Drechtsteden" which has about 280,000 inhabitants (if counted together, this would be the 9th largest city of the Netherlands).

In 2009 Dordrecht published a social report called "The State of the Drechtsteden 2008" (Onderzoekscentrum Drechtsteden, 2009). This report was an "outcome monitor" which was intended to give policymakers and others insight in how much of the policy efforts resulted in the desired outcomes. In that way, the monitor gave important input for the evaluation of government policy and, if necessary, adjusting it.

In the report, a number of important life domains are covered: demography, economy and employment, accessibility, living environment, youth, and education.

The average, standardized, household income is 23,000 euros, and 9 % of the households have an income below the social minimum income. The income distribution of Drechtsteden is the same as the income distribution in the Netherlands. There are a bit less unemployed people in Drechtsteden.

About 25 % of the inhabitants are not older than 23 years old, 56 % are between 23 and 65 years old, and 16 % are 65 or older. These figures are more or less the same as the average Netherlands figures.

About one third of the households are two-xperson households without children, 30 % are couples with children, and about 30 % are single-person households. In Drechtsteden the two-person households are a little overrepresented.

About 80 % of the inhabitants are indigenous, 12 % are non-Western immigrants, and 8 % are Western immigrants. This also is about the Dutch average.

The previous social report was published in 2005 and was called "Factsheet Social State of Dordrecht 2005." The factsheet gave insight in the participation and life situation of inhabitants of Dordrecht.

The majority of Dordrecht's inhabitants are participating in one way or another and have adequate social contacts. The percentages that do volunteer work (more than 40 %) are the same as in the Netherlands as a whole.

A small percentage has inadequate social contacts – among whom relatively more ethnic minorities, elderly, one-person households, and people with a low socioeconomic status.

The life situation of Dordrecht is looked at by means of the life situation index of the Netherlands Institute for Social Research | SCP. This index integrates eight important life domains: health, housing, participation in sports, social participation, sociocultural leisure activities, ownership of durable consumer goods, holidays, and mobility (see ▶ life situation index and Boelhouwer, 2010).

Dordrecht's life situation is better than the Dutch average (see the table below).

Between 2003 and 2005 the life situation of Dordrecht remained more or less the same, though for some groups the situation improved (Table 1). This was especially true for the disadvantaged groups. The life situation in Dordrecht was in 2005 a bit better than the Dutch average (104 versus 102).

There are no more recent figures than 2005.

Since 2008, there have been no comprehensive social monitors, but reports, for instance, on core indicators, on integration, and on participation.

Drechtsteden, Table 1 Life situation index scores for Dordrecht and the Netherlands

	Dordrecht 2003	Dordrecht 2005	The Netherlands 2002	The Netherlands 2004
Men	104	104	103	102
Women	101	104	101	101
18–24 years old	104	106	107	105
25–34 years old	104	104	105	106
35–44 years old	106	109	106	106
45–54 years old	104	106	105	105
55–64 years old	101	105	101	102
65–74 years old	94	99	94	96
75 years or older	88	89	77	79
One-person household	93	94	90	93
Couple without child (ren)	102	105	102	103
Couple with child(ren)	108	107	107	106
Single parent	95	100	97	98
Lower education	85	89	87	84
Lower secondary school	93	96	97	97
Secondary school	100	101	104	100
Higher secondary school	104	105	105	104
Higher education	110	110	109	110
Has a paid job	106	108	107	107
Has no paid job	96	98	93	94
Average overall	103	104	102	102

Source: Factsheet Social State Dordrecht, 2005

References

Boelhouwer, J. (2010). *Wellbeing in the Netherlands. The SCP life situation index from 1974*. The Netherlands: The Hague – SCP Publication 2010–17.

Factsheet Social State Dordrecht 2005. (2006). Sociaal Geografisch Bureau. Gemeente Dordrecht: Jade Schiff and Marga Weide.

Onderzoekscentrum Drechtsteden. (2009). 'The State of the Drechtsteden 2008'

Drinking Water

Megan Kot
Dalhousie University, Halifax, NS, Canada

Synonyms

Potable water

Definition

Drinking water is freshwater intended for human consumption through activities such as drinking, cooking, or bathing. Water is considered to be safe for consumption when there is a low risk of immediate or long-term harm as a result of its use. Drinking water is critical to the assurance of human health and well-being. Without access to safe drinking water, life itself cannot exist.

Description

To survive, the average human living in typical temperate climates requires three liters of water per day for basic fluid replacement. As temperature or level of activity increases, so too does the volume of water one requires (Gleick, 1996). However, no amount of water is adequate for human survival if that water is not safe.

Thus, drinking water is water of a certain quality, one that is capable of preventing the spread of waterborne illness among human populations.

Water and Health

The importance of safe drinking water to quality of life cannot be underestimated. Globally, waterborne disease is a major cause of illness and mortality. Diarrhea is the leading cause of illness and death worldwide, and 88 % of diarrheal deaths are attributable to a lack of access to adequate and safe drinking water and sanitation facilities (Joint Monitoring Program [JMP], 2012). Although largely regarded as an issue for the developing countries, developed nations too experience the consequences of waterborne disease. This is despite the presence of increasingly stringent regulations (Hrudey, Hrudey, & Pollard, 2006; Levin et al., 2002; Roberson, 2011). For example, in the United States and in Canada, it is estimated that one-third of illnesses resulting in diarrhea may be attributed to drinking water and that this can occur even when a drinking water utility is in compliance with applicable water quality regulations (Younes & Bartram, 2001).

The role of drinking water in the transmission of disease has not always been understood. A defining moment in water research occurred in 1854 with an outbreak of cholera in London, England. Here, a young physician by the name of John Snow was able to determine that the majority of deaths from cholera were attributable to water being drawn from a pump located on Broad Street. The pump was decommissioned, and deaths in the area sharply decreased. Later investigation would show the pump had been drawing water from a section of the Thames River located adjacent to an old, leaking cesspool (Paneth, Vinten-Johansen, Brody, & Rip, 1998). The approach used by Dr. Snow to investigate the dispersion of cholera around the Broad Street pump area would give rise to the fields of medical geography and epidemiology (Koch, 2004; McLeod, 2000).

Research on how water resources become contaminated and how such contamination can be safety and cost-effectively removed is ongoing. In many cases the source of pollution is non-point, making it difficult to locate and as a result often costly to address (Meays et al., 2004). In other instances, technological barriers (including cost, or availability of certain technologies) may prohibit the identification and removal of particular contaminants (Shannon et al., 2008). While not always the case, contamination of water resources may result in an outbreak of waterborne illness among human populations. These can have a significant impact on quality of life due to associated human and financial costs (Risebro et al., 2007). Interestingly, outbreaks are rarely unique in their causes and often occur for very simple and similar reasons. Complacency (Woo & Vicente, 2003; Summerill, Pollard, & Smith, 2010), a lack of hindsight (Hrudey, 2011), and the absence of foresight have left many systems unable to adapt and to implement lessons learned from past outbreaks (Craun, Craun, Calderon, & Beach, 2006; Hrudey, Payment, Huck, Gillham, & Hrudey, 2003; Logsdon, Schneider, & Budd, 2004).

Water Treatment

The process by which water is altered so that it can be considered safe for human consumption is called water treatment. The World Health Organization (WHO) regularly publishes guidance documents on water contamination, human health, and water treatment processes and is recognized as a leading authority on water quality issues (WHO, 2010). Although the recommendations within these guidance documents are nonenforceable, they highlight important trends and emerging concerns related to water quality which regulators can then incorporate into their own management framework. Broadly, the WHO identifies microbiological contamination, disinfection, chemical, physical, and aesthetic aspects the most important areas of concern for ensuring the safety of any drinking water supply (WHO, 2010).

Addressing Major Challenges

It is recognized that smaller communities face some of the greatest challenges in achieving safe drinking water (Brown, 2004; Huck & Coffey, 2004) and that globally this presents

a significant problem. Small communities lack economies of scale, experience a reduction in population size due to outmigration, and are often remotely situated. These factors render small communities less capable of supplying safe drinking water than larger centers (Jocoy 2001). To resolve this gap, small communities require cost-effective solutions to address a range of water treatment and delivery challenges (Jayanty, Ziegler, & Ernest, 2008). Regulators must also be aware of the challenges stringent regulatory requirements pose within resource-constrained communities and provide suitable alternatives or assistance so as to avoid unintended and often undesirable consequences (Levin et al., 2002; Riley, Gerba, & Elimelech, 2011; Kot et al., 2011).

While all drinking water supply systems vary, there are a number of similarities. Typically a system consists of a catchment or source area, a method of treatment, a distribution system, and an end point (the consumer). When source water is of a high quality, it is less costly to treat as fewer contaminants must be removed. As such, source water protection (i.e., preventing contamination from entering the supply) is viewed as the best method for maintaining water quality and ensuring human health (Sylvestre & Rodriguez, 2008; Timmer, de Loë, & Kreutzwiser, 2007). Because not all source waters can be protected (i.e., if the source is a river) and because the potential for contamination exists throughout a drinking water supply, a multiple barrier approach is increasingly recognized as the best management approach for water systems of all sizes (Sinclair and Rizak 2004; Bartram et al., 2009; Plummer et al., 2010). A multiple barrier approach to safe drinking water is comprehensive, considers risks posed to water supplies from source to consumer, accounts for present and potential threats to quality, establishes multiple barriers as monitoring points throughout a system, and requires training and certification of drinking water operators, among other factors (IWGDW, 2005; Rizak et al., 2003). Development and maintenance of such an approach, often referred to as a water safety plan, requires considerable coordination between stakeholders.

Ensuring and maintaining access to a safe supply of drinking water remains a considerable challenge worldwide both now, and in the coming decade. A changing climate, population growth and demands for water from agriculture and industry, new sources and types of contamination, all pose a significant threat to existing, finite, freshwater resources (Shannon et al., 2008). To address this challenge, innovation, cooperation, and action, is required.

Cross-References

- ▶ Composite Water Quality Index
- ▶ Environment and Health
- ▶ Rural Life, Quality of

References

Bartram, J., Corrales, L., Davison, A., Deere, D., Drury, D., Gordon, B., et al. (2009). *Water safety plan manual: Step-by-step risk management for drinking-water suppliers*. Geneva: World Health Organization.

Brown, C. E. (2004). Making small water systems strong. *Journal of Contemporary Water Research & Education, 128*, 27–30.

Craun, G. F., Craun, M. F., Calderon, R. L., & Beach, M. J. (2006). Waterborne outbreaks reported in the United States. *Journal of Water and Health, 04*(Suppl 2), 19–29.

Gleick, P. H. (1996). Basic water requirements for human activities: Meeting basic needs. *Water International, 21*, 83–92.

Hrudey, S. E. (2011). *Safe drinking water policy for Canada – turning hindsight into foresight*. Toronto: C.D. Howe Institute, Commentary No. 323.

Hrudey, S. E., Hrudey, E. J., & Pollard, S. J. T. (2006). Risk management for assuring safe drinking water. *Environment International, 32*(8), 948–957.

Hrudey, S. E., Payment, P., Huck, P. M., Gillham, R. W., & Hrudey, E. J. (2003). A fatal waterborne disease epidemic in Walkerton, Ontario: Comparison with other waterborne outbreaks in the developed world. *Journal of the International Association on Water Pollution Research, 47*(3), 7–14.

Huck, P. M., & Coffey, B. M. (2004). The importance of robustness in drinking-water systems. *Journal of Toxicology and Environmental Health. Part A, 67*(20–22), 1581–1590.

IWGDW. (2005). Guidance for providing safe drinking water in areas of federal jurisdiction version 1, Interdepartmental Working Group on Drinking Water. August 23.

Jayanty, S. C., Ziegler, U. M., & Ernest, A. N. (2008). A rule-based expert system framework for small water systems: Proof-of-concept. *Civil Engineering and Environmental Systems, 25*(2), 81–97.

Jocoy, C. L. (2001). Who gets clean water? Aid allocation to small water systems in Pennsylvania. *Journal of the American Water and Wastewater Resources Association, 36*(4), 811–821.

Joint Monitoring Program [JMP]. (2012) WHO/UNICEF Joint monitoring program for water supply and sanitation. Retrieved May 14 at http://www.wssinfo.org/

Koch, T. O. M. (2004). The map as intent: Variations on the Theme of John Snow. *Cartographica, 39*(4), 1–14.

Kot, M., Castleden, H., & Gagnon, G. a. (2011). Unintended consequences of regulating drinking water in rural Canadian communities: Examples from Atlantic Canada. *Health & Place, 17*(5), 1030–1037.

Levin, R. B., Epstein, P. R., Ford, T. E., Harrington, W., Olson, E., & Reichard, E. G. (2002). U.S. drinking water challenges in the twenty-first century. *Environmental Health Perspectives, 110* Suppl (July 2001), 43–52. Retrieved May 14 from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1241146&tool=pmcentrez&rendertype=abstract

Logsdon, G. S., Schneider, O. D., & Budd, G. C. (2004). Hindsight is 20/20: Using history to avoid waterborne disease outbreaks. *Journal of American Water Works Association, 96*, 66–74.

McLeod, K. S. (2000). Our sense of snow: The myth of John Snow in medical geography. *Social Science & Medicine, 50*(7–8), 923–935.

Meays, C. L., Broersma, K., Nordin, R., & Mazumder, A. (2004). Source tracking fecal bacteria in water: A critical review of current methods. *Journal of Environmental Management, 73*(1), 71–79.

Paneth, N., Vinten-Johansen, P., Brody, H., & Rip, M. (1998). A rivalry of foulness: Official and unofficial investigations of the London cholera epidemic of 1854. *American Journal of Public Health, 88*(10), 1545–1553.

Plummer, R., Velaniškis, J., de Grosbois, D., Kreutzwiser, R. D., & de Loë, R. (2010). The development of new environmental policies and processes in response to a crisis: The case of the multiple barrier approach for safe drinking water. *Environmental Science and Policy, 13*(6), 535–548.

Riley, M. R., Gerba, C. P., & Elimelech, M. (2011). Biological approaches for addressing the grand challenge of providing access to clean drinking water. *Journal of Biological Engineering, 5*(1), 2.

Risebro, H. L., Doria, M. F., Andersson, Y., Medema, G., Osborn, K., Schlosser, O., et al. (2007). Fault tree analysis of the causes of waterborne outbreaks. *Journal of Water and Health, 5*(1), 1–18.

Rizak, S., Cunliffe, D., Sinclair, M., Vulcano, R., Howard, J., Hrudey, S., et al. (2003). Drinking water quality management: A holistic approach. *Water Science and Technology, 47*(9), 31–36.

Roberson, J. A. (2011). What's Next after 40 years of drinking water regulations? *Environmental Science & Technology, 45*(1), 154–160.

Shannon, M. A., Bohn, P. W., Elimelech, M., Georgiadis, J. G., Mariñas, B. J., & Mayes, A. M. (2008). Science and technology for water purification in the coming decades. *Nature, 452*(7185), 301–310.

Sinclair, M., & Rizak, S. (2004). Drinking-water quality management: The Australian framework. *Journal of Toxicology and Environmental Health. Part A, 67*(20–22), 1567–1579.

Summerill, C., Pollard, S. J. T., & Smith, J. A. (2010). The role of organizational culture and leadership in water safety plan implementation for improved risk management. *The Science of the Total Environment, 408*(20), 4319–4327.

Sylvestre, B., & Rodriguez, M. J. (2008). Protection strategies for drinking groundwater sources in small Quebec municipalities. *Journal of Environmental Management, 88*(1), 28–42.

Timmer, D. K., de Loë, R. C., & Kreutzwiser, R. D. (2007). Source water protection in the Annapolis valley, Nova Scotia: Lessons for building local capacity. *Land Use Policy, 24*(1), 187–198.

WHO. (2010) WHO Guidelines for drinking-water quality. Retrieved May 14, 2010, from http://www.who.int/water_sanitation_health/dwq/guidelines/en/

Woo, D. M., & Vicente, K. J. (2003). Sociotechnical systems, risk management, and public health: Comparing the north battleford and Walkerton outbreaks. *Reliability Engineering and System Safety, 80*, 253–269.

Younes, M., & Bartram, J. (2001). Waterborne health risks and the WHO perspective. *International Journal of Hygiene and Environmental Health, 204*(4), 255–263.

Drive

▶ Motivation

Drives

▶ Need Fulfillment

Dropout Rates

▶ High School Completion Rates

Dropping Out

▶ Early School Leaving

Drug Abuse

▶ Substance Abuse

Drug Addiction

▶ Substance Abuse

Drug User Quality of Life (DUQOL)/ Injection Drug User Quality of Life (IDUQOL) Scale

Anita Palepu
Medicine, St. Paul's Hospital University of British Columbia, Vancouver, BC, Canada

Synonyms

DUQOL; IDUQOL

Definition

The Injection Drug User Quality of Life (IDUQOL) scale measures the unique and individual circumstances that determine quality of life among injection drug users. The Drug User Quality of Life (DUQOL) scale is an updated name for the IDUQOL given that the measure applies equally well to drug users who do not inject drugs.

Description

Overview

The DUQOL/IDUQOL scales consist of 22 life domains that include both health and non-health-related aspects of quality of life. These instruments were built upon the original version first published by Brogly, Mercier, Bruneau, Palepu, and Franco (2003) and based on the WHO-QOL group definition of quality of life (Bonomi, Patrick, Bushnell, & Martin, 2000). A number of the life areas such as drugs, drug treatment, harm reduction, and neighborhood safety were included in the measure as they were particularly relevant to the physical and social reality of drug users' lives. This was confirmed by focus groups during the development phase of the instrument (Brogly et al., 2003). Each life domain is represented by a 4 × 4 in. laminated card with the name of the life area printed on the front along with a simple picture and a description of the life area on the card's back. Graphic representations of the life domains were used to improve the measure's accessibility to respondents who do not speak English as a first language or have low literacy skills (Palepu, Hubley, & Russell, 2007).

Administration

The administration of the scales involves the interviewer showing the respondent each of the 22 life domain cards and describing each area based on the description on the back of the card. The order of the life domain cards should be the same with each interview. The interviewer asks the participant to provide a satisfaction rating for each area using a 7-point Likert scale anchored by 1 (very dissatisfied) and 7 (very satisfied) and illustrated with seven stylized frowning and smiling faces. The next step involves the participant determining if each life domain is currently important to their quality of life (Palepu et al., 2007).

There are two optional sections. The first section allows for both the test administrator and the respondent to potentially gain more meaning and understanding from this exercise by asking the respondent about the life areas he/she (a) believes need to change and (b) is interested in changing, to improve his/her quality of life. This is accomplished by going through each of the cards one at a time. The second section can be used if the instrument is administered after an intervention to obtain the respondent's perspective on the kind

of impact an intervention had on the different life domains. Using a three-point response scale card (+ = positive change, 0 = no change, - = negative change) placed in front of him/her, the respondent is asked what kind of impact that the intervention had on each life area (Palepu et al., 2007).

Scoring

It may be useful to examine average satisfaction ratings separately for life areas identified as "important" or "unimportant" by respondents. Three average DUQOL/IDUQOL scores may be obtained:

Score 1: Average total score
Score 2: Average score for important areas
Score 3: Average score for unimportant areas

All three of these average DUQOL/IDUQOL scores range from 1.00 to 7.00, and the satisfaction anchors used in the satisfaction rating (1 = very dissatisfied, 2 = moderately dissatisfied, 3 = slightly dissatisfied, 4 = neutral (neither dissatisfied nor satisfied), 5 = slightly satisfied, 6 = moderately satisfied, and 7 = very satisfied) can be used to describe these scores qualitatively (Palepu et al., 2007).

Factor Structure

The factor structure of the IDUQOL was assessed through an exploratory factor analysis using principal axis factoring on the 21 items of the measure to determine whether essential unidimensionality was present and supported the use of a total score (Hubley, Russell, & Palepu, 2005). The first factor had an eigenvalue of 6.40 explaining 30.5 % of the variance in participants' responses. The ratio of the first to the second eigenvalue was 4.3, which exceeds the strict criterion of a ratio greater than 4.0 for evidence of unidimensionality (Hattie, 1984) and supporting the use of a total score. Factor loadings ranged from 0.31 to 0.71 for all IDUQOL items on a single factor.

Reliability

Reliability was examined through administering the IDUQOL to 250 individuals from the Vancouver Injection Drug User Study (VIDUS) and inviting the first 50 participants to return for a second session within 6–8 days to collect test-retest reliability (Hubley et al., 2005). The actual score range for the IDUQOL average total score was 1.9–6.7 with a mean value of 4.19 (SD 0.98), and the internal consistency (Cronbach alpha) was 0.88. The test-retest reliability estimate for the average total score was 0.78, with correlations for each domain across the two interviews ranging from 0.32 to 0.67.

Validity

For criterion-related validity, the IDUQOL was correlated with a variety of dichotomously scored criterion variables (Hubley et al., 2005). All of the statistically significant correlations were in the expected direction; lower IDUQOL scores were associated with unstable housing, sex trade involvement, borrowing and lending needles, daily use of heroin and speed, and overdose in the previous six months. Convergent validity evidence was examined by correlating the IDUQOL total scores with the Satisfaction with Life Scale (SWLS) and the Rosenberg Self-Esteem Scale (RSES), and discriminant validity assessed with the Marlowe-Crowne Social Desirability Scale Short Form X2 (MC X2) (Hubley et al., 2005). The convergent measures (SWLS, RSES) demonstrated moderately high correlations with the IDUQOL total score ($r = 0.59$ and 0.54, respectively), whereas the correlation between the IDUQOL and the discriminant measure (MC X2) was in the low to moderate range ($r = 0.35$). In terms of content validity, six subject matter experts (SMEs) examined 75 elements of the IDUQOL. The content validity index (Lynn, 1986) results showed that all elements (individual life areas, names used, and clarity of life area description) were endorsed by a minimum of five SMEs. The average deviation mean index (Dunlap, Burke, & Smith-Crowe, 2003) revealed acceptable agreement for all 75 elements, but *statistically significant* agreement was missed for just nine elements. The SMEs provided direction for the revision of some of the IDUQOL elements, which included adding the life domain "sense of future" and revising the description and pictures for the life domains for a number of the cards (Hubley & Palepu, 2007).

Cross-Cultural Adaptations

The IDUQOL/DUQOL has undergone cross-cultural adaptation (Morales-Manrique et al., 2007) and validation in Spanish (Castillo, 2008). The Spanish IDUQOL was found to have good reliability with a Cronbach alpha of 0.92 and an intraclass correlation coefficient of 0.79. Exploratory and confirmatory factor analyses confirmed the unidimensionality of the construct, with an explained variance of 43.8 %. Convergent and criterion-related validity were adequate with correlation coefficients with the SF-36 and the EQ-5D ranging between 0.34 and 0.61. The Spanish DUQOL was also used to examine the quality of life and life areas that were deemed most important to cocaine users in outpatient treatment. They explored the life areas with potential need and interest to change in order to improve their quality of life and examined differences by cocaine use intensity and lifetime severity of addiction to cocaine (Morales-Manrique et al., 2011). This study concluded that consideration should be given to tailoring treatment programs in order to improve retention and treatment programs by addressing the life areas that are deemed relevant to the drug users based on their intensity of consumption and lifetime severity of addiction to cocaine.

Discussion

The IDUQOL/DUQOL measure has initial content, criterion-related, convergent, and discriminant validity evidence to support it as a measure of a construct consistent with quality of life (Hubley et al., 2005). The measure has also been improved based on its content validation (Hubley & Palepu, 2007). The DUQOL has been adapted into Spanish (Morales-Manrique et al., 2007), and some initial validity evidence for this version has also been provided (Castillo, 2008).

Cross-References

- ▶ Addiction, An Overview
- ▶ Education
- ▶ Family
- ▶ Health
- ▶ Subjective Well-being

References

Bonomi, A. E., Patrick, D. L., Bushnell, D. M., & Martin, M. (2000). Validation of the United States' version of the World Health Organization Quality of Life (WHOQOL) instrument. *Journal of Clinical Epidemiology, 53*, 1–12.

Brogly, S., Mercier, C., Bruneau, J., Palepu, A., & Franco, E. (2003). Towards more effective public health programming for injection drug users: Development and evaluation of the Injection Drug User Quality of Life Scale. *Substance Use & Misuse, 38*, 965–992.

Castillo, I. I. (2008). Escala de Claidad de Vida en Ususarios de Drogas Injectadas (IDUQoL): Valoracion psicometrica de la version espanola. *Adicciones, 20*, 281–294.

Dunlap, W. P., Burke, M. J., & Smith-Crowe, K. (2003). Accurate test of statistical significance for r WG and average deviation interrater agreement indexes. *Journal of Applied Psychology, 88*, 356–362.

Hattie, J. (1984). Methodology review: Assessing unidimensionality of tests and items. *Applied Psychological Measurement, 20*, 1–14.

Hubley, A., & Palepu, A. (2007). Injection Drug User Quality of Life Scale (IDUQOL): Findings form a content validation study. *Health and Quality of Life Outcomes, 5*, 46.

Hubley, A., Russell, L. B., & Palepu, A. (2005). Injection Drug User Quality of Life scale (IDUQOL): A validation study. *Health and Quality of Life Outcomes, 3*, 43.

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research, 35*, 382–385.

Morales-Manrique, C. C., Palepu, A., Castellano-Gomez, M., Aleixandre-Benavente, R., Valderrama-Zurian, J. C., & Cocaine Group Comunidad Valenciana. (2011). Quality of life, needs and interest among cocaine users: Differences by cocaine use intensity and lifetime severity of addiction to cocaine. *Substance Use & Misuse, 46*, 390–397.

Morales-Manrique, C. C., Valderrama-Zurian, J. C., Castellano-Gomez, M., Aleixandre-Benavente, R., Palepu, A., & Cocaine Group Comunidad Valenciana. (2007). Cross cultural adaptation of the Injection Drug User Quality of Life Scale (IDUQOL) in Spanish drug dependent population, with or without injectable consumption: Drug User Quality of Life Scale - Spanish (DUQOL-Spanish). *Addictive Behaviors, 32*, 1913–1921.

Palepu, A., Hubley, A. M., & Russell, L. B. (2007). *Drug User Quality of Life Scale: Administration and scoring manual*. Vancouver, BC: Authors.

DSM-IV

▶ Schizophrenia and Satisfaction with Life Scale

Dual Diagnosis

▶ Behavioral Dysfunction

Dual-Earner Couples/Dual-Career Couples

Katarina Boye
Swedish Institute for Social Research (SOFI), Stockholm University, Stockholm, Sweden

Definition

The term *dual-earner couple* refers to a cohabiting couple where both partners work in the labor market. The term *dual-career couple* refers to a dual-earner couple where both partners are pursuing a career, that is, both are committed to work and perhaps also to progression at work. The term *one-and-a-half-earner couple* is sometimes used when one partner works part-time to complement the main earner's income. Although the term "dual-earner couples" is gender neutral, it is often used to refer specifically to opposite-sex couples in which both the woman and the man work in the labor market, distinguishing these couples from *male-breadwinner couples*,in which the man works in the labor market and the woman is a full-time homemaker.

In this entry, the term "dual-earner couple" will be used most frequently, as this is the more general term. Furthermore, the entry builds mainly on studies of opposite-sex dual-earner couples in Western countries and focuses more on adults' than on children's quality of life. For reviews of research on children's well-being, see the articles on ▶ Child Well-Being and ▶ Child and Family Well-Being.

Description

Background

A number of studies have shown that women score higher than men do on negative measures of subjective well-being, the subjective part of the quality of life concept. For example, women experience more depression, ▶ anxiety, and ▶ negative affect than men do (Diener, Suh, Lucas, & Smith, 1999; Lucas & Gohm, 2000; Sigry et al., 2006). Market work has a stronger association with high well-being than ▶ housework has; the latter may even be detrimental to well-being, and studies indicate that part of the gender difference in well-being can be attributed to the fact that women spend less time on paid work and more time on housework than men do (Boye, 2009; Coltrane, 2000; Dennerstein, 1995). The differences in time use are most pronounced in male-breadwinner couples, but time-use differences are of importance to dual-earner couples as well. For dual-earner couples, there are substantial gender differences in time use that affect aspects of quality of life related to market work and to how market work is combined with family and household responsibilities.

Although women still have the main responsibility for work in the household while men do more market work, studies from several countries have shown that women's and men's allocation of time has become more similar over the past few decades. Women spend more time on paid work and less time on housework than before, and men spend more time on housework and childcare (Bianchi & Milkie, 2010; Gershuny, 2000; Gjerdingen, McGovern, Bekker, Lundberg, & Willemsen, 2001). Changes among women are to a large extent caused by the increase in female labor force participation (Gershuny, 2000). Because of these changes, the division of housework has become more equal, particularly in dual-earner couples. However, this equalization is mainly a consequence of women

spending less time on housework rather than of men spending more time on it. Yet, the decrease in women's housework time has not always been large enough to compensate for their increased participation in paid work. Some studies indicate that in dual-earner couples with children, women therefore have less ▶ leisure time than men have (Bianchi & Milkie, 2010; Gjerdingen et al., 2001).

Quality of Life in Dual-Earner Couples

Women and men in dual-earner couples may benefit from having multiple roles, for example, being a worker in the labor market as well as a spouse and parent. According to the *role expansion hypothesis*, multiple roles bring privileges that are not necessarily offset by demands. The sources of ▶ social support increase as the number of roles increases, and ▶ self-confidence and ▶ self-efficacy are strengthened when an individual is productive in multiple contexts. Having multiple roles also buffers against ▶ distress, as failure in one context can be compensated for by success and satisfaction in another. Furthermore, the economic situation in a dual-earner arrangement brings greater material and psychological advantages than a single-earner arrangement (Barnett & Hyde, 2001; Sieber, 1974). Empirical studies (many of which have been conducted in the USA) support the role expansion hypothesis. Results show that people with more roles experience less ▶ psychological distress than do those with fewer roles. Working women experience less depression and psychological distress than do housewives, irrespective of whether or not they have children, and fathers who engage extensively in childcare are less psychologically distressed than other fathers. Furthermore, the similarities of the partners' daily life experiences in dual-earner couples facilitate communication and ▶ relationship quality (Barnett, 2008; Dennerstein, 1995). It should be noted that the beneficial effects of any given role are conditioned on the quality of that role, that is, experiences in the role and the conditions under which it is performed (ibid.).

The association between economic resources and quality of life is quite complex, but research has repeatedly found small but significant positive correlations. Economic resources appear to be of importance at least at the lower end of the income scale (Diener et al., 1999; Sigry et al., 2006). Inasmuch as a dual-earner arrangement buffers against economic hardship, it improves the quality of life of the household members, for example, by lowering depression (Barnett & Hyde, 2001). Marital satisfaction is also promoted among both women and men when breadwinning responsibilities are shared more equitably (Barnett, 2008). In addition, policy support for female employment has been shown to reduce the risk of ▶ child poverty in single- as well as two-parent households (Cooke & Baxter, 2010).

In contrast to the above-mentioned findings, there is also research that points to negative effects of the dual-earner arrangement. Much attention has been paid to experiences of *work-family conflict* in recent years. Work-family conflict is a concept that implies incompatibility of role pressures from family and work, for example, competing demands on time or incompatible behavioral demands, and includes both ▶ work-to-family conflict and ▶ family-to-work conflict. Studies show that high demands from either family or market work, or both, increase work-family conflict. For example, work-family conflict is greater among those who spend longer hours on market or family work, those with higher work involvement, those experiencing higher work or family ▶ stress, and those with a working partner and among parents (Byron, 2005, see also McGinnity & Whelan, 2009 for a selection of European studies). Hence, work-family conflict is greater among working individuals in dual-earner couples than in couples with other breadwinning arrangements. It may be most salient in dual-career couples, where the partners are likely to be more involved in their market work and work longer hours than in other dual-earner couples. Because working women do more housework and care work than working men and in some cases have less free time, it would be reasonable to expect women to experience greater work-family conflict than men do. But empirical support for gender differences in

work-family conflict is weak (Byron, 2005). One plausible explanation is women's ▶ part-time work. Many women have already reduced their paid working hours to decrease the likelihood of work-family conflict (Grönlund & Öun, 2010).

The two research strands on role expansion and work-family conflict are often not fully comparable as studies of role expansion usually include people outside the labor market, while studies of work-family conflict do not. This aside, they do point to contradictory processes within dual-earner couples. On the one hand, being active in several roles may be enriching; on the other hand, it may also be taxing. It is often assumed that role expansion and work-family conflict are mutually exclusive and hence that only one of these processes can be present in dual-earner couples. This does not have to be the case, as high levels of role expansion as well as of work-family conflict have been shown to coincide. In a study of fifteen European countries, Grönlund and Öun (2010) found that working men tended to experience role expansion, whereas women who were equally work-committed tended to experience work-family conflict as well as role expansion, that is, conflict-expansion balance. The same gender differences in these experiences were found across European ▶ social policy models. In general, though, the experience of conflict-expansion balance was more common in countries with dual-earner policies, for example, generous parental leave arrangements and well-developed, state-subsidized childcare systems such as in the Scandinavian countries, than in other countries. This sheds new light on the results of studies that have found high levels of work-family conflict in these countries, particularly among women (e.g., Gallie & Russell, 2009; Strandh & Nordenmark, 2006). In the study by Grönlund and Öun, the experience of work-family conflict without role expansion was more common where traditional, gendered working patterns are supported by policy, such as in Central European and Mediterranean countries. There were no large differences in experience of role expansion without work-family conflict between policy models. Consequently, where the state actively supports labor market participation among both women and men, experiences of work-family conflict in dual-earner couples may be counterbalanced by experiences of role expansion.

Cross-References

- ▶ Family Quality of Life
- ▶ Gendered Work
- ▶ Income Influence on Satisfaction/Happiness
- ▶ Parental Time and Child Well-being
- ▶ Women's Employment
- ▶ Women's Well-being
- ▶ Work-Family Fit
- ▶ Work-Life Balance
- ▶ Work-Life Harmony

References

Barnett, R. C. (2008). On multiple roles: Past, present, and future. In K. Korabik, D. S. Lero, & D. L. Whitehead (Eds.), *Handbook of work-family integration. Research, theory, and best practices* (pp. 75–92). London: Academic Press.

Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family. An expansionist theory. *The American Psychologist, 56*(10), 781–796.

Bianchi, S. M., & Milkie, M. A. (2010). Work and family research in the first decade of the 21st century. *Journal of Marriage and Family, 72*(3), 705–725.

Boye, K. (2009). Relatively different? How do gender differences in well-being depend on paid and unpaid work in Europe? *Social Indicators Research, 93*(3), 509–525.

Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior, 67*, 169–198.

Coltrane, S. (2000). Research on household labor: Modeling and measuring the social embeddedness of routine family work. *Journal of Marriage and Family, 62*, 1208–1233.

Cooke, L. P., & Baxter, J. (2010). "Families" in international context: Comparing institutional effects across Western societies. *Journal of Marriage and Family, 72*, 516–536.

Dennerstein, L. (1995). Mental health, work, and gender. *International Journal of Health Services, 25*(3), 503–509.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*(2), 276–302.

Gallie, D., & Russell, H. (2009). Work-family conflict and working conditions in Western Europe. *Social Indicators Research, 93*(3), 445–467.

Gershuny, J. (2000). *Changing times. Work and leisure in postindustrial society*. Oxford, UK: Oxford University Press.
Gjerdingen, D., McGovern, P., Bekker, M., Lundberg, U., & Willemsen, T. (2001). Women's work roles and their impact on health, well-being, and career: Comparisons between the United States, Sweden, and the Netherlands. *Women & Health, 31*(4), 1–20.
Grönlund, A., & Öun, I. (2010). Rethinking work-family conflict: Dual-earner policies, role conflict and role expansion in Western Europe. *Journal of European Social Policy, 20*, 179–195.
Lucas, R. E., & Gohm, C. L. (2000). Age and sex differences in subjective well-being across cultures. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 291–317). Cambridge, MA/London: MIT Press.
McGinnity, F. & Whelan, C.T. (Eds.). (2009). Comparing work-life conflict in Europe: Evidence from the European Social Survey [Special issue]. *Social Indicators Research, 93*(3), 433–605.
Sieber, S. D. (1974). Toward a theory of role accumulation. *American Sociological Review, 39*(4), 567–578.
Sigry, M. J., Michalos, A. C., Ferris, A. L., Easterlin, R. A., Patrick, D., & Pavot, W. (2006). The quality-of-life (QOL) research movement: Past, present, and future. *Social Indicators Research, 76*, 343–466.
Strandh, M., & Nordenmark, M. (2006). The interference of paid work with household demands in different social policy contexts: Perceived work-household conflict in Sweden, the UK, the Netherlands, Hungary, and the Czech Republic. *The British Journal of Sociology, 57*(4), 597–617.

Dual-Factor Model of Subjective Well-Being

► Subjective Well-Being, Psychopathology, and Physical Health in Adolescents

Duke Anxiety-Depression Scale (DUKE-AD)

George R. Parkerson Jr.
Community and Family Medicine, Duke University School of Medicine, Durham, NC, USA

Definition

The Duke Anxiety-Depression Scale (DUKE-AD) is a seven-item self-report questionnaire for detecting the risk of major anxiety and/or depression at a given point in time. It can be completed by the respondent or by an interviewer.

Description

The Duke Anxiety-Depression Scale (DUKE-AD) (Fig. 1) was developed by Parkerson, Broadhead, and Tse (1990, 1991) as a 7-question subscale of the 17-question Duke Health Profile (DUKE) to measure the risk of both major anxiety and major depression within a 1-week time frame. It can be administered by the respondent or by an interviewer. There are two questions for psychological symptoms (nervousness, depressed feelings), two for self-esteem (give up too easily, comfortable around people), two for somatic symptoms (sleeping, fatigue), and one for cognition (difficulty concentrating). It is user-friendly because of its small number of brief, easy-to-understand questions, with only three response options for each question. It can be scored immediately by simply adding the seven single-digit response scores to see if the risk of anxiety and/or depression is excessive. Scoring on a scale of 0–100 can be done manually or by computer. Higher scores indicate more risk of anxiety and/or depression.

Reliability

Cronbach's alpha correlations for internal consistency in six studies ranged from 0.60 to 0.73 (Parkerson et al., 1999, & unpublished data).

Validity

The Spearman rank-order correlation coefficient was 0.67 between scores of the DUKE-AD and the State Anxiety Inventory (SAI) and 0.68 between scores of the DUKE-AD and the Center for Epidemiologic Studies Depression Scale (CES-D). The DUKE-AD was an effective brief screener for both clinical anxiety and depression as diagnosed by the Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition (DSM-III-R). The predictive accuracy of the DUKE-AD in terms of receiver operating characteristic (ROC) curve areas was 72.3 % for

Duke Anxiety-Depression Scale (DUKE-AD)

INSTRUCTIONS: Here are some questions about your health and feelings. Please read each question carefully and check (√) your best answer. You should answer the questions in your own way. There are no right or wrong answers.

	Yes, describes me exactly	Somewhat describes me	No, doesn't describe me at all
1. I give up too easily	2	1	0
2. I have difficulty concentrating	2	1	0
3. I am comfortable being around people	0	1	2

DURING THE PAST WEEK:
How much trouble have you had with:

	None	Some	A Lot
4. Sleeping	0	1	2
5. Getting tired easily	0	1	2
6. Feeling depressed or sad	0	1	2
7. Nervousness	0	1	2

HOW TO SCORE

1. Add the scores next to each of the blanks you checked.
2. If your total score is 5 or greater, then your symptoms of anxiety and/or depression may be excessive.

(For exact scoring, multiply the total score by 7.143 to obtain the DUKE-AD score on a scale of 0 for lowest to 100 for highest symptom level.)

Duke Anxiety-Depression Scale (DUKE-AD), Fig. 1 The Duke Anxiety-Depression Scale (DUKE-AD)

major types of anxiety and 78.3 % for major types of depression. At a DUKE-AD score cutoff point of >30 on a scale of 0–100, sensitivity was 71.4 % and specificity was 59.2 % for major anxiety and 81.8 % and 63.6 %, respectively, for major depression (Parkerson & Broadhead, 1997).

Responsiveness

Response of the DUKE-AD scores to clinical change over time in cardiac rehabilitation patients showed improvement after treatment, with a baseline mean score of 26.0 ± 16.2 S.D., a mean score change of -8.8 ± 13.3 S.D. (−33.9 %), and a standard response mean (SRM) of −0.66 (Parkerson, et al., unpublished data).

Reliability, validity, and responsiveness data and references are detailed in the User's Guide by Parkerson (2002). Further information is available on the website http://healthmeasures.mc.duke.edu.

Discussion

The DUKE-AD is a very brief 7-question, easy-to-score, screener for the risk of DSM-III-R major anxiety and major depression. It compares

well with the longer traditional screeners, SAI for anxiety and CES-D for depression.

References

Parkerson, G. R., Jr. (2002). *User's guide for Duke health measures*. Durham, NC: Department of Community and Family Medicine, Duke University School of Medicine.

Parkerson, G. R., Jr., & Broadhead, W. E. (1997). Screening for anxiety and depression in primary care using the Duke Anxiety-Depression Scale (DUKE-AD). *Family Medicine, 29*(3), 177–181.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1990). The Duke Health Profile, a 17-item measure of health and dysfunction. *Medical Care, 28*, 1056–1072.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1991). Development of the 17-item Duke Health Profile. *Family Practice, 8*, 396–401.

Parkerson, G. R. Jr., Willke, R. J., & Hays, R. D. (1999). An international comparison of the reliability and responsiveness of the Duke Health Profile for measuring health-related quality of life of patients treated with alprostadil for erectile dysfunction. *Medical Care, 37*, 56–67.

Duke Health Profile (DUKE)

George R. Parkerson Jr.
Community and Family Medicine, Duke University School of Medicine, Durham, NC, USA

Definition

The Duke Health Profile (DUKE) is a 17-item self-report questionnaire for measuring generic ► health-related quality of life (HRQOL) during a 1-week period of time. It can be completed by the respondent or by an interviewer.

Description

The Duke Health Profile (DUKE) was developed by Parkerson, Broadhead, and Tse (1990, 1991) to measure self-reported health-related quality of life (HRQOL) in adults over a 1-week time period (Fig. 1). It is user-friendly because of its small number of brief, easy to understand questions, and because there are only three response options for each question. The 17 questions on the DUKE were selected from the 63 questions on the Duke-University of North Carolina (Duke-UNC) Health Profile developed by Parkerson et al. (1981).

The DUKE questions can be scored separately, as a variety of scales, or as overall HRQOL. Six scales measure function, i.e., physical health, mental health, social health, general health, self-esteem, and perceived health, with high scores indicating better HRQOL. Five scales measure dysfunction, i.e., anxiety, depression, anxiety-depression, pain, and disability, with high scores indicating worse HRQOL. The physical health, mental health, social health, perceived health, and disability scales are independent of each other, because none of their questions are shared. The other scales are not independent because they share single or multiple questions. Scoring on a scale of 0–100 can be done manually or by computer (Fig. 2).

Reliability

Test-retest Spearman rank-order correlations for temporal stability in three studies for DUKE multiple-item scales ranged from 0.35 to 0.78, and for single-item scales, 0.30 to 0.68 (Parkerson et al., 1990, 1992; Beaton et al., 1997). Cronbach's alpha correlations for internal consistency in 10 studies for the multiple-item scales ranged from 0.39 to 0.80 (Parkerson et al., 1990, 1992, 1993, 1999, & unpublished data; Beaton et al., 1997).

Validity

DUKE scores were compared with scores of other health measures for the same patients in seven studies and compared between patient groups having different clinical diagnostic profiles and severity of illness in three studies. DUKE scores were used to predict health-related, clinical, or educational outcomes in 12 studies. For example, the mean mental health score for primary care patients with known mental health disorders was 49.2 $\pm$ 25.7 S.D., compared with 75.7 $\pm$ 19.4 S.D. for patients with painful physical

FORM A: FOR SELF-ADMINISTRATION BY THE RESPONDENT (revised 4-2000)

DUKE HEALTH PROFILE (The DUKE)

Date Today:_____ Name: _____ ID Number:_____
Date of Birth:_____ Female____ Male____

INSTRUCTIONS: Here are some questions about your health and feelings. Please read each question carefully and check (√) your best answer. You should answer the questions in your own way. There are no right or wrong answers. (Please ignore the small scoring numbers next to each blank.)

		Yes, describes me exactly	Somewhat describes me	No, doesn't describe me at all
1.	I like who I am	12	11	10
2.	I am not an easy person to get along with	20	21	22
3.	I am basically a healthy person	32	31	30
4.	I give up too easily	40	41	42
5.	I have difficulty concentrating	50	51	52
6.	I am happy with my family relationships	62	61	60
7.	I am comfortable being around people	72	71	70

TODAY would you have any physical trouble or difficulty:

		None	Some	A Lot
8.	Walking up a flight of stairs	82	81	80
9.	Running the length of a football field	92	91	90

DURING THE PAST WEEK: How much trouble have you had with:

		None	Some	A Lot
10.	Sleeping	102	101	100
11.	Hurting or aching in any part of your body	112	111	110
12.	Getting tired easily	122	121	120
13.	Feeling depressed or sad	132	131	130
14.	Nervousness	142	141	140

DURING THE PAST WEEK: How often did you:

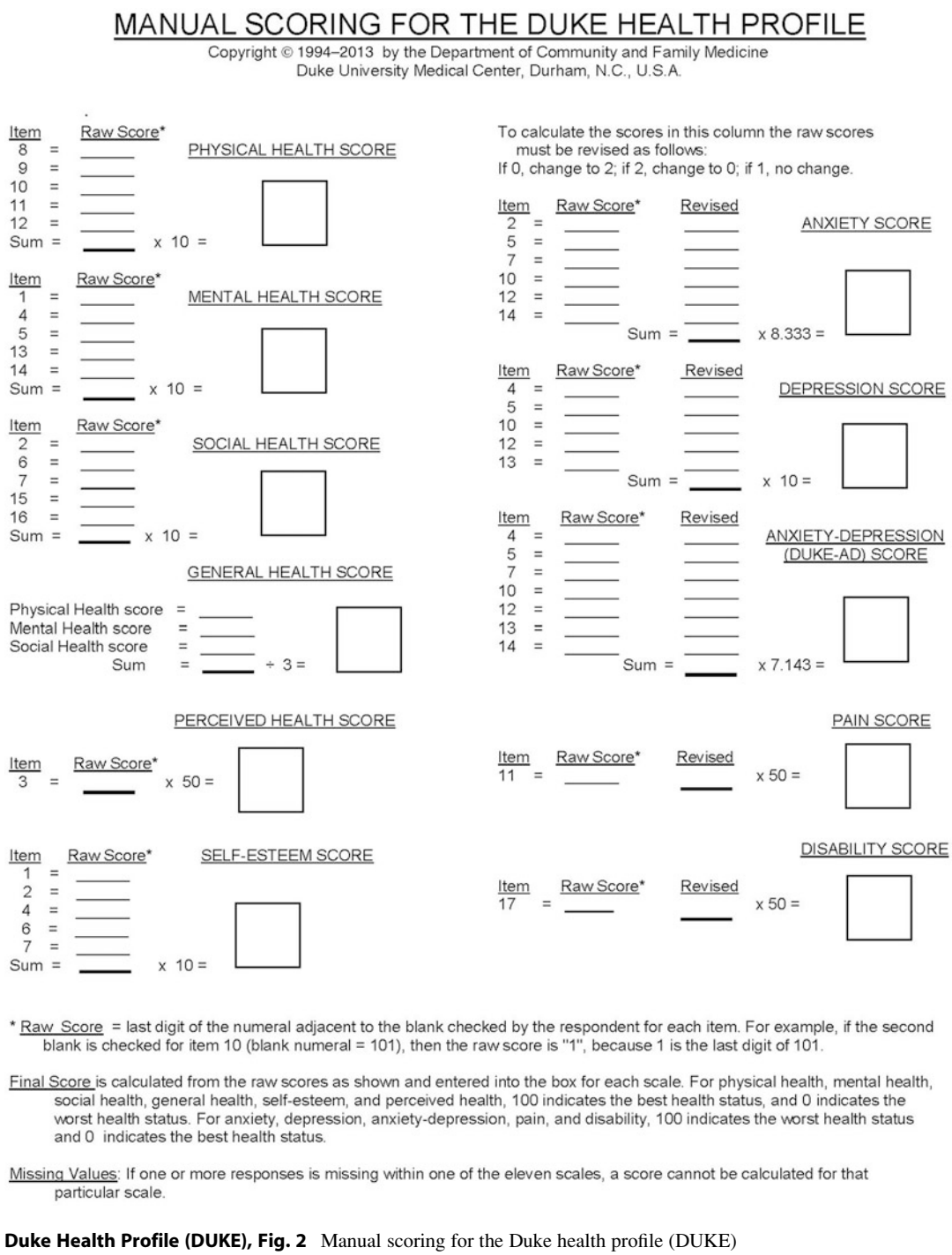
		None	Some	A Lot
15.	Socialize with other people (talk or visit with friends or relatives)	150	151	152
16.	Take part in social, religious, or recreation activities (meetings, church, movies, sports, parties)	160	161	162

DURING THE PAST WEEK: How often did you:

		None	1-4 Days	5-7 Days
17.	Stay in your home, a nursing home, or hospital because of sickness, injury, or other health problem.	172	171	170

Duke Health Profile (DUKE), Fig. 1 Duke Health Profile (DUKE)

problems, and compared with 79.2 ± 18.9 S.D. for health maintenance patients (Parkerson et al., 1990). The physical health score was 48.9 ± 23.4 S.D. for end-stage renal disease patients on hemodialysis compared with 67.5 ± 21.0 S.D. for insurance policyholders (Parkerson & Gutman, 1997). The baseline physical health score was 46.7 ± 24.6 S.D. for patients who had



Duke Health Profile (DUKE), Fig. 2 Manual scoring for the Duke health profile (DUKE)

at least one referral or hospitalization during 18-month follow-up, compared with 60.5 ± 22.4 S.D. for patients with no referrals or hospitalizations (Parkerson et al., 1995). The anxiety-depression scale predicted major anxiety with a sensitivity of 71.4 % and specificity of 59.2 % and predicted major depression with a sensitivity of 81.8 % and specificity of 63.6 % (Parkerson & Broadhead,

1997). Although all of these analyses were done for adults, the DUKE has been validated for adolescents in five studies.

Responsiveness

Response of the DUKE scores to clinical change over time has been measured in five studies. For example, cardiac rehabilitation patients showed improvement after treatment for all scales, with score changes ranging from +3.5 for perceived health to +13.0 for physical health, and from −8.3 for anxiety to −11.5 for disability (unpublished data). The standard response mean (SRM) ranged from 0.12 for perceived health to 0.76 for general health and from −0.28 for pain to −0.66 for anxiety-depression (unpublished data). When DUKE and MOS 36-Item Short Form Health Survey (SF-36) scores were compared for responsiveness in patients with musculoskeletal disorders, for physical health, the SRM for DUKE was 0.62 compared with 0.81 for SF-36; for mental health, 0.36 compared with 0.08; and for pain, 0.73 compared with 1.13 (Beaton et al., 1997).

Reliability, validity, and responsiveness data and references are detailed in the user's guide by Parkerson (2002). Further information is available on the website http://healthmeasures.mc.duke.edu.

Discussion

The DUKE is user-friendly because each of its 17 questions is brief and easy to understand, there are only three response options for each question, it is short enough to be printed on one side of one page, it can be self-administered in less than 5 minutes, and it can be scored manually. It has been usedutes primarily for research in the clinical setting, both as a predictor of health-related outcomes and as an outcome itself. Its 7-item anxiety-depression scale (DUKE-AD) has been used as an effective screener for DSM-III-R anxiety and depression in primary care. Also, because of its predictive value, the DUKE is being used as one component of an ambulatory case-mix classification system called the Duke Case-Mix System (DUMIX) (Parkerson, et al., 1997, 2001). The DUKE is available in 17 languages other than American English.

References

Beaton D. E., Hogg-Johnson S., & Bombardier C. (1997). Evaluating changes in health status: reliability and responsiveness of five generic health status measures in worker with musculoskeletal disorders. *Journal of Clinical Epidemiology, 50*, 79–93.

Parkerson, G. R. Jr., & Gutman, R. A. (1997) Perceived mental health and disablement of primary care and end-stage renal disease patients. *International Journal of Psychiatric Medicine, 27*(1), 33–45.

Parkerson, G. R. Jr., Broadhead, W. E., & Tse, C.-K. J. (1995). Health status and severity of illness as predictors of outcomes in primary care. *Medical Care, 33*, 53–66.

Parkerson, G. R. Jr., Wilke, R. J., & Hays, R. D. (1999) an international comparison of the reliability and responsiveness of the Duke Health Profile for measuring health-related quality of life of patients treated with alprostadil for erectile dysfunction. *Medical Care, 37*, 56–67.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1992). Quality of life and functional health of primary care patients. *Journal of Clinical Epidemiology, 45* (11), 1303–1313.

Parkerson, G. R., Jr., Connis, R. T., Broadhead, W. E., Patrick, D. L., Taylor, T. R., & Tse, C.-K.J. (1993). Disease-specific versus generic measurement of health-related quality of life in insulin-dependent diabetic patients. *Medical Care, 31*, 629–639.

Parkerson, G. R., Jr. (2002). *User's guide for Duke health measures*. Durham, NC: Department of Community and Family Medicine, Duke University School of Medicine.

Parkerson, G. R., Jr., & Broadhead, W. E. (1997). Screening for anxiety and depression in primary care using the Duke Anxiety-Depression Scale (DUKE-AD). *Family Medicine, 29*(3), 177–181.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1990). The Duke Health Profile, a 17-item measure of health and dysfunction. *Medical Care, 28*, 1056–1072.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1991). Development of the 17-item Duke Health Profile. *Family Practice, 8*, 396–401.

Parkerson, G. R., Jr., Gehlbach, S. H., Wagner, E. H., James, S. A., Clapp, N. E., & Muhlbaier, L. H. (1981). The Duke-UNC Health Profile: An adult health status instrument for primary care. *Medical Care, 19*, 806–828.

Parkerson, G. R., Jr., Harrell, F. E., Jr., Hammond, W. E., & Wang, X.-Q. (2001). Characteristics of adult primary care patients as predictors of future health services charges. *Medical Care, 39*, 1170–1181.

Parkerson, G. R., Jr., Michener, J. L., Yarnall, K. S. H., & Hammond, W. E. (1997). The Duke Case-Mix System (DUMIX) for ambulatory health care. *Journal of Clinical Epidemiology, 50*(12), 1385–1394.

Duke Older Americans Resources and Services Instrument

Qiushi Feng
Department of Sociology, National University of Singapore, Singapore

Synonyms

OARS Multidimensional Functional Assessment Questionnaire (OMFAQ)

Definition

The Duke Older Americans Resources and Services (OARS) Instrument is a widely used measure that assesses the overall functional status of adults (particularly older adults) and the services they receive. OARS is a multidisciplinary and multidimensional instrument with a broad range of applications including clinic screening and outcome assessment, evaluation of treatment and programs, and surveys of health and health services. In comparison with other comprehensive functional assessments of older people, Duke OARS emphasize both function status and use of service; it is therefore particularly suited for evaluating the cost-effectiveness of service programs on the functional status of older persons.

Description

OARS was the product of a project to evaluate alternative institutionalization strategies (Maddox, 1972). While used independently, it also operationalizes the OARS model, which examines the impact of packages of services on individuals of comparable functional status. This structured questionnaire has two parts: Part A focuses on assessment of functional status, Part B on services assessment. The structure and content are summarized in Table 1 (Fillenbaum, 2005/1988). Administration is usually through face-to-face interview, but information can be also obtained by mail or telephone. On average, the entire questionnaire takes about 45 min to complete.

The validity and reliability of Part A (Functional Assessment) of OARS has been evaluated. Content and consensual validity are guaranteed by the manner of construction. Criterion validity (not determined for social resources) indicated that, for a sample of 49 patients from a family medicine clinic, the Spearman rank order correlation ranged from 0.68 to 0.89 ($P < 0.001$) and Kendall's tau was 0.62 to 0.82 ($P < 0.001$) (Fillenbaum & Smyer, 1981). Test-retest reliability was based on the Community Survey Questionnaire (CSQ), a precursor of which OARS is a statistically reduced version, which was administered to 30 community residents aged 65 and over on two occasions (time interval 3–5 weeks). The response rate was as high as 98.5 % with 90.7 % of the responses being identical (Fillenbaum, 2005/1988). Interrater reliability was based on a sample of 11 experts in diverse geographical areas and yielded intraclass correlation coefficients of 0.82 for social resources, 0.78 for economic resources, 0.80 for mental health, 0.60 for physical health, and 0.87 for self-care capacity to all significant at $P < 0.001$ (Fillenbaum & Smyer, 1981). Intra-rater reliability was examined for Part A (CSQ version) in 7 raters. The Pearson product moment correlations commonly ranged from 0.87 to 1.00 over a time interval of 12–18 months (Fillenbaum, 2005/1998). Although no study was specifically designed to examine the validity and reliability of Part B, Services Assessment, one study showed good agreement between service use reported by community residents and service provision reported by local agencies (Comptroller General, 1977).

OARS has been used in many substantial surveys, including the Canadian Study of Health and Aging and the European Study of Adult Well-Being (Ferring et al., 2001). It has been translated into and used in multiple languages, including Afrikaans, Chinese, Dutch, French, German

Duke Older Americans Resources and Services Instrument, Table 1 The sections of Duke OARS

Administrative and demographic information: *Subject's address and telephone number, sex, race, age, education; interviewer and informant data; date, place and time of interview*	
Part A: Functional assessment: *A 6-point scale was used for summarizing each of the five dimensions as below, where the values range from 1 (level of functioning excellent) to 6 (level of functioning totally impaired)*	
1. Social resources: *Extent and perceived adequacy of social contacts with friends and family; presence of a confidant; availability of help from friends in time of need*	
2. Economic resources: *Adequacy of income and income resources*	
3. Mental health: *Adequacy of cognitive functioning; presence/absence of psychiatric disorder*	
4. Physical health: *Indication of superior physical health functioning, of physical health conditions, and of functional limitations due to physical health problems*	
5. Self-care capacity: *Extent of capacity to do those tasks needed for continued independent living in the community*	
Part B: Services assessment: *Service provider, intensity of utilization, and perceived need for each of 24 non-overlapping, broadly encompassing generically defined services*	
1. Transportation	2. Social/recreational
3. Employment	4. Sheltered employment
5. Educational services, employment related	6. Remedial training
7. Mental health	8. Psychotropic drugs
9. Personal care	10. Nursing care
11. Medical services	12. Supportive devices and prostheses
13. Physical therapy	14. Continuous supervision
15. Checking	16. Relocation and placement
17. Homemaker-household	18. Meal preparation
19. Administrative, legal, and protective	20. Systematic multidimensional evaluation
21. Financial assistance	22. Food, groceries
23. Living quarters (housing)	24. Coordination, information, and referral

(for use in Austria), Greek, Italian, Japanese, Malay, Portuguese, and Spanish (Cuban and Puerto Rican Spanish). The Instrumental Activities of Daily Living section has also been translated into Korean and Vietnamese. Some foreign-language versions of Duke OARS have been validated (e.g., McCusker, Bellavance, Cardin, & Belzile, 1999; Rodrigues, 2008); however, caution is needed when used outside the United States. A recent study examining the Social Resources section of OARS in six European countries indicated problems with reliability (Burholt et al., 2007).

For current manual and information on use of the OARS questionnaire, view the website (http://www.geri.duke.edu and click on Services and then on Duke Older Americans Resources and Services) or contact OARS, Center for the Study of Aging and Human Development, Box 3003, Duke University Medical Center, Durham, NC 27710, USA.

Cross-References

- ▶ Content Validity
- ▶ Criterion Validity
- ▶ Intraclass Correlation Coefficient (ICC)
- ▶ Rank-Order Correlation
- ▶ Reliability
- ▶ Test-Retest Reliability

References

Burholt, V., Windle, G., Ferring, D., Balducci, C., Fagerstrom, C., Thissen, F., et al. (2007). Reliability and validity of the Older Americans Resources and Services (OARS) Social Resources Scale in six European countries. *The Journal of Gerontology: Social Science, 62*(6), S371–S379.

Comptroller General. (1977). *The well-being of older people in Cleveland, Ohio*. Report to the Congress, US GAO, HRD-77-70.

Ferring, D., Windle, G., Heiss, C., Paulsson, C., Spazzafumo, L., Borg, C., van der Meer, M., Hoffmann, M., & Petit, C. (2001). *European Study of Adult Well-Being (ESAW): Comparative report on physical health and functional status*. EU 5th Framework Project, Contract number: QLK6-CT-2001-00280.

Fillenbaum, G. G. (2005/1988). *Multidimensional functional assessment of older adults: The Duke Older Americans Resources and Services procedures*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Fillenbaum, G. G., & Smyer, M. A. (1981). The development, validity, and reliability of the OARS Multidimensional Functional Assessment Questionnaire. *Journal of Gerontology, 36*(4), 428–434.

Maddox, G. L. (1972). Intervention and outcomes: Notes on designing and implementing an experiment in health care. *International Journal of Epidemiology, 1*, 339–345.

McCusker, J., Bellavance, F., Cardin, S., & Belzile, E. (1999). Validity of an activities of daily living questionnaire among older patients in the emergency department. *Journal of Clinical Epidemiology, 52*, 1023–1030.

Rodrigues, R. M. (2008). Validation of the European Portuguese version of the Older Americans Resources and Services instrument. *Revista Panamericana de Salud Pública, 23*(2), 109–115.

Duke Religious Index

► Duke Religious Index in Portuguese

Duke Religious Index in Portuguese

Giancarlo Lucchetti[1,2] and Alessandra Lamas Granero Lucchetti[1]
[1]Research Departament of São Paulo Medical Spiritist Association, São Paulo, Brazil
[2]Department of Neurology, Federal University of São Paulo, São Paulo, Brazil

Synonyms

Duke religious index; DUREL; Escala de religiosidade da universidade de Duke; Índice de religiosidade de Duke; PDUREL

Definition

The Duke Religious Index (DUREL) is a five-item measure of religious involvement, which yields three subscales: (1) organizational religious behavior (1 item), (2) nonorganizational religious behavior (1 item), and (3) intrinsic religious ► motivation (3 items drawn from the Hoge's 10-item intrinsic religiosity scale). Response options are on a 5- or 6-point Likert scale.

This scale is used worldwide for assessing religiousness in scientific studies. Since DUREL is a short and easy instrument, it can be used in a great variety of studies such as epidemiological studies and/or clinical trials. A Portuguese version of DUREL is available and validated.

Description

The interface between religiousness/► spirituality (S/R) and ► health has been extensively investigated in the last decades (Koenig, 2000).

Spirituality is defined by Koenig (Koenig, McCullough, & Larson, 2001) as "a personal search for understanding final questions about life, its meaning, its relationships to sacredness or transcendence that may or may not lead to the development of religious practices or formation of religious communities." Religiosity is understood as the "extension to which an individual believes, follows, and practices a religion, and can be organizational (church or temple attendance) or non organizational (to pray, to read books, to watch religious programs on television)."

Studies have shown that those with higher levels of S/R have lower prevalence of depression and ► anxiety (Koenig, 2009), better ► quality of life (Sawatzky, Ratner, & Chiu, 2005), lower prevalence of cardiologic problems, and lower mortality (Lucchetti, Lucchetti, & Koenig, 2011).

Religiousness may play a protective role in health, preventing health problems or aiding in recovery or adjustment to health problems, and may be a factor in coping with chronic conditions

and the disability they cause. In other cases, religion may play a more consoling role and can be mobilized to cope with illness or ▶ stress, leading to associations between measures of religion and health (Fitchett, Rybarczyk, DeMarco, & Nicholas, 1999).

In addition, according to surveys carried out in Brazil and worldwide, most patients want their doctors and nurses to address their spiritual needs. Lucchetti et al. evaluated Brazilian patients and found that more than 87 % of patients wanted their physicians to ask about their religious beliefs. Nevertheless, only 8.7 % recalled have been asked about their religion by their doctors (Lucchetti et al., 2011). These results are in line with a study conducted by McCord et al. in the United States, in which 83 % of respondents wanted physicians to ask about spiritual beliefs (McCord et al., 2004).

Within this context, understanding the role of S/R on health-disease process is worth investigation. Nevertheless, for a correct measurement, we need a reliable instrument.

In fact, measuring spirituality in clinical practice and research has posed a particular challenge because of the complexity of the elements and definitions involved. As there is no widely accepted approach for measuring S/R, a broad variety of research instruments has emerged (Monod et al., 2011) such as ▶ religious coping and spiritual well-being scales.

One of the most famous instruments for that matter is the Duke Religion Index (DUREL). It was created in 1997 by Koenig, Parkerson, and Meador from Duke University (Koenig Parkerson, & Meador, 1997) and, since then, translated and validated for several languages (Koenig & Büssing, 2010).

According to the original authors, DUREL was designed to measure religiosity in Western religions (such as Christianity, Judaism, and Islam) and is less accurate in assessing religiousness in Eastern religions (such as, Hinduism or Buddhism) (Koenig & Büssing, 2010).

The instrument basically consists on a five-item measure of religious involvement with three subscales (Koenig et al., 1997; Koenig & Büssing, 2010; Lucchetti et al., 2012):

1. Organizational religious behavior – ORA (1 item):

   How often do you attend church or other religious meetings? (English)/Com que frequência você vai a uma igreja, templo ou outro encontro religioso? (Portuguese) – response options are on a 6-point Likert scale (1. more than once a week, 2. once a week, 3. a few times a month, 4. a few time a year, 5. once a year or less, 6. never).
2. Nonorganizational religious behavior – NORA (1 item):

   How often do you spend time in private religious activities, such as prayer, meditation, or Bible study? (English)/Com que frequência você dedica o seu tempo a atividades religiosas individuais, como preces, rezas, meditações, leitura da bíblia ou de outros textos religiosos? (Portuguese) – response options are on a 6-point Likert scale (1. more than once a day, 2. daily, 3. two or more times a week, 4. once a week, 5. a few times a month, 6. rarely or never).
3. Intrinsic religious motivation – intrinsic (3 statements): Respondents must mark the extent to which each statement is true or not true for them.

   In my life, I experience the presence of the Divine (i.e., God) (English)/Em minha vida, eu sinto a presença de Deus (ou do Espírito Santo) (Português).

   My religious beliefs are what really lie behind my whole approach to life (English)/As minhas crenças religiosas estão realmente por trás de toda a minha maneira de viver (Portuguese).

   I try hard to carry my religion over into all other dealings in life (English)/Eu me esforço muito para viver a minha religião em todos os aspectos da vida (Portuguese).

   Response options are on a 5-point Likert scale (1. definitely true of me, 2. tends to be true, 3. unsure, 4. tends not to be true, 5. definitely not true).

   Scoring DUREL (H. G. Koenig & Büssing, 2010; Yi et al., 2007)

   There is no recommendation of summing all three "subscales" into a total overall religiosity score, because combining all three subscales in

a single analysis could result in subscale scores canceling out the effects of each other:

ORA – Reverse score item 1 to obtain frequency of religious attendance subscale score (scored from 1 to 6, with higher scores indicating more frequent activity).

NORA – Reverse score item 2 to obtain frequency of private religious activity subscale score (scored from 1 to 6, with higher scores indicating more frequent activity).

Intrinsic – Reverse score items 3–5 and total to obtain intrinsic religiosity subscale score (scored from 3 to 15, with higher scores indicating greater levels of intrinsic religiosity).

Validation into Portuguese Language

In Brazil, Lucchetti et al. (2012) has validated this instrument for research purposes. The Portuguese version of the Duke Religion Index (PDUREL) was translated and adapted for administration to 383 individuals from a population-based study (Lucchetti et al., 2012; Lucchetti & Peres, 2011) of low-income community-dwelling adults.

The PDUREL intrinsic subscale and total scores demonstrated high ▶ internal consistency (alphas ranging from 0.733 for the total scale score to 0.758 for the intrinsic subscale). Correlations among the DUREL subscales were also examined for evidence of ▶ discriminant validity. Correlations were ranging from 0.36 to 0.46, indicating significant overlap between the scales without marked redundancy. Therefore, PDUREL is a reliable and valid scale.

This comprehensive but brief measure of religiousness can foster new studies on religiousness and health by researchers from countries that speak the Portuguese language.

Cross-References

- ▶ Anxiety Disorders
- ▶ Measurement Methods
- ▶ Quality of Life (QOL)
- ▶ Religion/Spiritual Fulfillment, Satisfaction with
- ▶ Spiritual Needs of Those with Chronic Diseases
- ▶ Stress

References

Fitchett, G., Rybarczyk, B. D., DeMarco, G. A., & Nicholas, J. J. (1999). The role of religion in medical rehabilitation outcomes: A longitudinal study. *Rehabilitation Psychology, 44*(4), 333–353.

Koenig, H. G. (2000). Religion and medicine I: Historical background and reasons for separation. *International Journal of Psychiatry in Medicine, 30*(4), 385–398.

Koenig, H. G. (2009). Research on religion, spirituality, and mental health: A review. *Canadian Journal of Psychiatry, 54*(5), 283–291.

Koenig, H. G., & Büssing, A. (2010). The duke university religion index (DUREL): A five-item measure for use in epidemiological studies. *Religions, 1*(1), 78–85.

Koenig, H., McCullough, M., & Larson, D. (2001). *Handbook of religion and health*. New York: Oxford University Press.

Koenig, H., Parkerson, G. R., Jr., & Meador, K. G. (1997). Religion index for psychiatric research. *The American Journal of Psychiatry, 154*(6), 885–886.

Lucchetti, G., Granero Lucchetti, A. L., Peres, M. F., Leão, F. C., Moreira-Almeida, A., & Koenig, H. G. (2012). Validation of the duke religion index: DUREL (Portuguese Version). *Journal of Religion and Health, 51*(2), 579–586.

Lucchetti, G., Lucchetti, A. G. L., Badan-Neto, A. M., Peres, P. T., Peres, M. F. P., Moreira-Almeida, A., et al. (2011). Religiousness affects mental health, pain and quality of life in older people in an outpatient rehabilitation setting. *Journal of Rehabilitation Medicine, 43*(4), 316–322.

Lucchetti, G., Lucchetti, A. L. G., & Koenig, H. G. (2011). Impact of spirituality/religiosity on mortality: Comparison with other health interventions. *EXPLORE: The Journal of Science and Healing, 7*(4), 234–238.

Lucchetti, G., & Peres, M. F. P. (2011). The prevalence of migraine and probable migraine in a Brazilian favela: Results of a community survey. *Headache: The Journal of Head and Face Pain, 51*(6), 971–979.

McCord, G., Gilchrist, V. J., Grossman, S. D., King, B. D., McCormick, K. F., Oprandi, A. M., et al. (2004). Discussing spirituality with patients: A rational and ethical approach. *Annals of Family Medicine, 2*(4), 356–361.

Monod, S., Brennan, M., Rochat, E., Martin, E., Rochat, S., & Büla, C. J. (2011). Instruments measuring spirituality in clinical research: A systematic review. *Journal of General Internal Medicine, 26*(11), 1345–1357.

Sawatzky, R., Ratner, P. A., & Chiu, L. (2005). A meta-analysis of the relationship between spirituality and quality of life. *Social Indicators Research, 72*(2), 153–188.

Yi, M., Mrus, J., Mueller, C., Luckhaupt, S., Peterman, A., Puchalski, C., et al. (2007). Self-rated health of primary care house officers and its relationship to psychological and spiritual well-being. *BMC Medical Education, 7*(1), 9.

Duke Severity of Illness Analog Scale (DUSOI-A) Duke/World Organization of Family Doctors Severity Illness Checklist (DUSOI/WONCA)

► Duke Severity of Illness Checklist

Duke Severity of Illness Checklist

George R. Parkerson Jr.
Community and Family Medicine,
Duke University School of Medicine, Durham, NC, USA

Synonyms

Burden of illness; Comorbidity; Determinants of health-related quality of life (HRQOL); Duke Severity of Illness Analog Scale (DUSOI-A) Duke/World Organization of Family Doctors Severity Illness Checklist (DUSOI/WONCA); DUSOI; Prognosis; Severity of illness; Symptom level; Treatability of illness

Definition

The Duke Severity of Illness Checklist (DUSOI) is an instrument that uses clinical judgment to measure a patient's severity of illness (burden of illness) for all identified health problems during a 1-week period of time, using the following severity parameters for each diagnosis: symptom status, complications, prognosis without treatment, and treatability. It can be completed by a health-care provider or medical record auditor.

Description

The Duke Severity of Illness Checklist (DUSOI) (Fig. 1) was developed by Parkerson, Broadhead, Tse, Hammond, and Yarnall (Parkerson et al., 1993, 1994, 1995) using clinical judgment to measure a patient's severity of illness (burden of illness) during a 1-week time period for all identified health problems, with the following severity parameters for each diagnosis: symptom status, complications, prognosis without treatment, and treatability. The DUSOI can be completed by the health-care provider at the time of the patient encounter or by a clinician medical record auditor at a later date. Three types of scores can be calculated: the Diagnosis DUSOI score for the severity of each health problem separately, the Overall DUSOI score for the combined severity of all health problems, and the Comorbidity DUSOI score for the severity of comorbid health problems other than one specified health problem. Scoring on a scale of 0–100 can be done manually or by computer.

Reliability

For interrater reliability among medical record clinician auditors for Overall DUSOI scores in four studies, the intraclass correlation coefficient (ICC) ranged from 0.54 to 0.79 (Parkerson, et al., 1989, 1993, 1994 & unpublished data). For interrater reliability between a single auditor and multiple health-care providers in three studies, the ICC ranged from 0.57 to 0.77 (Parkerson et al., 1993, 1994 & unpublished data). For intrarater reliability for the same auditor in two studies, the Spearman rank-order correlation coefficient ranged from 0.68 to 0.89 (Parkerson, et al., 1989, 1993).

Validity

Diagnosis DUSOI scores were compared among patient groups with different diagnostic profiles in seven studies and with different levels of

DUKE SEVERITY OF ILLNESS CHECKLIST (DUSOI)

Patient:_____ ID# _____ Date of Encounter: _____
Provider:_____ If Audit, Date: _____ Auditor:_____

Health Problems	Severity Scores (Enter Codes 0–4)*			
	Symptoms	Complications	Prognosis	Treatability
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				

* SEVERITY CODING CRITERIA

	None	Questionable	Mild	Moderate	Major
1. Symptoms (past week):	0	1	2	3	4
2. Complications (past week):	0	1	2	3	4

	Disability				
3. Prognosis (next 6 months, without treatment):	None	Mild	Moderate	Major	Threat to Life
	0	1	2	3	4

	Need for Treatment			Expected Response to Treatment		
	No	Questionable	IF YES →	Good	Questionable	Poor
4. Treatability:	0	1		2	3	4

Duke Severity of Illness Checklist, Fig. 1 Duke severity of illness checklist

► health-related quality of life (HRQOL) in three studies. Overall DUSOI scores were used to predict future HRQOL in one study and health services utilization in three studies. Diagnosis DUSOI scores (scale 0–100) among patients with different diagnoses ranged from 13.9 ± 10.7 S.D. for menopausal syndrome to 69.1 ± 14.5 S.D. for insulin-dependent diabetes

DUSOI/WONCA CHECKLIST

DUKE AND WORLD ORGANIZATION OF FAMILY DOCTORS SEVERITY OF ILLNESS CHECKLIST

Patient: _____ Female:__ Male:__ Birth Date:_____Provider:_____ Date of Encounter:_____

Health Problems (Addressed during this encounter)	Raw Scores (Enter 0-4)* Symptoms	Complications	Prognosis	Treatability	Total Raw Score (0-16)	Severity Code** (0-4)	ICPC-2 Code
EXAMPLE: Gout	3	1	3	2	9	3	T92:3
1.							
2.							
3.							
4.							
5.							
6.							

(Use additional pages if more than six health problems.)

* RAW SCORES

	None	Questionable	Mild	Moderate	Major
1. Symptoms (past week):	0	1	2	3	4
2. Complications (past week):	0	1	2	3	4

	Disability				
3. Prognosis (next 6 months, without treatment):	None	Mild	Moderate	Major	Threat to Life
	0	1	2	3	4

	Need for Treatment			Expected Response to Treatment		
	No	Questionable	IF YES →→	Good	Questionable	Poor
4. Treatability:	0	1		2	3	4

** SEVERITY CODES

Total Raw Score		Severity Code	Severity
0	=	0	Zero
1 - 4	=	1	Low
5 - 8	=	2	Intermediate
9 - 12	=	3	High
13 - 16	=	4	Maximum

Duke Severity of Illness Checklist, Fig. 2 Duke and World Organization of Family Doctors severity of illness checklist

mellitus (Parkerson et al., 1993). The Overall DUSOI score was 74.7 ± 13.9 S.D. for end-stage renal disease (ESRD) patients on hemodialysis compared with 43.4 ± 18.6 S.D. for primary care patients (Parkerson & Gutman, 1997a). In a cross-sectional analysis, Overall DUSOI scores explained 15 % of the variance in Duke Health Profile (DUKE) HRQOL scores (Parkerson et al., 1992). In a prospective analysis, the baseline Overall DUSOI score was 51.3 ± 18.7 S.D. for primary care patients whose 18-month total clinic charges were in the upper tertile, compared with 43.7 ± 17.2 S.D. for other patients, with an odds ratio of 1.023 for DUSOI scores predicting the higher charges (Parkerson, et al., 1995).

Reliabilty and validity data and references are detailed in the User's Guide by Parkerson (2002). Further information is available on the website http://healthmeasures.mc.duke.edu.

Discussion

The DUSOI is a brief instrument for assessing a patient's severity of illness from the provider's perspective by evaluating symptom status, complications, prognosis without treatment, and treatability for each of the patient's diagnoses. Completing the DUSOI requires an average of 1–2 min of provider time or 2–3 min of medical record auditor time. Two other versions of the DUSOI are the Duke Severity of Illness Analog Scale (DUSOI-A) (Parkerson et al., 1993), which can be used to rate overall severity of illness globally on an analog scale, rather than rating each diagnosis separately, and the Duke/World Organization of Family Doctors Severity of Illness Checklist (DUSOI/WONCA) (Parkerson et al., 1996) (Fig. 2), which is scored immediately by the provider. The DUSOI is available in American English and German, and the

DUSOI/WONCA, in American English, German, French, Dutch, and Norwegian. Because of its predictive value for health outcomes, the DUSOI has been combined with three other predictors, i.e., age, gender, and DUKE HRQOL scores, as an ambulatory case-mix classification system called the Duke Case-Mix System (DUMIX) (Parkerson et al., 1997b, 2001).

Cross-References

- ▶ Duke Anxiety-Depression Scale (DUKE-AD)
- ▶ Duke Health Profile (DUKE)

References

Parkerson GR Jr. (2002). *User's guide for Duke health measures*. Durham NC USA: Department of Community and Family Medicine, Duke University School of Medicine.

Parkerson, G. R., Jr., Bridges-Webb, C., Gervas, J., Hofmans-Okkes, I., Lamberts, H., Froom, J., et al. (1996). Classification of severity of health problems in family/general practice: An international field trial. *Family Practice, 13*, 303–309.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1992). Quality of life and functional health of primary care patients. *Journal of Clinical Epidemiology, 45*(11), 1303–1313.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1993). The Duke severity of illness checklist (DUSOI) for measurement of severity and comorbidity. *Journal of Clinical Epidemiology, 46*, 379–393.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1995). Health status and severity of illness as predictors of outcomes in primary care. *Medical Care, 33*, 53–66.

Parkerson, G. R., Jr., & Gutman, R. A. (1997a). Predictors of functional health status of end-stage renal disease patients. *Health Care Financing Review, 18*(4), 37–49.

Parkerson, G. R., Jr., Hammond, W. E., & Yarnall, K. S. H. (1994). Feasibility and potential clinical usefulness of a computerized severity of illness measure. *Archives of Family Medicine, 3*, 968–973.

Parkerson, G. R., Jr., Harrell, F. E., Jr., Hammond, W. E., & Wang, X.-Q. (2001). Characteristics of adult primary care patients as predictors of future health services charges. *Medical Care, 39*, 1170–1181.

Parkerson, G. R., Jr., Michener, J. L., Yarnall, K. S. H., & Hammond, W. E. (1997b). The Duke Case-Mix System (DUMIX) for ambulatory health care. *Journal of Clinical Epidemiology, 50*(12), 1385–1394.

Parkerson, G. R., Jr., Michener, J. L., Wu, L. R., Finch, J. N., Muhlbaier, L. H., Magruder-Habib, K., et al. (1989). Associations among family support, family stress, and personal functional health status. *Journal of Clinical Epidemiology, 42*, 217–229.

Duke Social Support and Stress Scale (DUSOCS)

George R. Parkerson Jr.
Community and Family Medicine, Duke University School of Medicine, Durham, NC, USA

Synonyms

Determinants of health-related quality of life (HRQOL); Family stress; Family support; Nonfamily support; Nonfamily stress; Perceived well-being; Personal social network; Social stress; Social support

Definition

The Duke Social Support and Stress Scale (DUSOCS) is a 24-item self-report questionnaire for measuring social support (12 items) and social stress (12 items) at a given point in time. It can be completed by the respondent or by an interviewer.

Description

The Duke Social Support and Stress Scale (DUSOCS) was developed by Parkerson et al., (1989a, 1991). It is a 24-item self-report questionnaire for measuring social support (12 items) and social stress (12 items) at a given point in time (Fig. 1). It can be completed by the respondent or by an interviewer. It is user-friendly because of its small number of brief, easy-to-understand questions and response options.

Respondents are asked to rate family members and nonfamily members on a four-point scale

DUKE SOCIAL SUPPORT AND STRESS SCALE (DUSOCS)

I. SUPPORT: People Who Give Personal Support
(A supportive person is one who is helpful, who will listen to you, or who will back you up when you are in trouble.)

INSTRUCTIONS: Please look at the following list and decide how much each person (or group of persons) is supportive for you at this time in your life. Check (√) your answer.

How supportive are these people now:	None	Some	A Lot	There is No Such Person
1. Your wife, husband, or significant other person				
2. Your children or grandchildren				
3. Your parents or grandparents				
4. Your brothers or sisters				
5. Your other blood relatives				
6. Your relatives by marriage (for example: in-laws, ex-wife, ex-husband)				
7. Your neighbors				
8. Your co-workers				
9. Your church members				
10. Your other friends				

	Yes	No
11. Do you have one particular person whom you trust and to whom you can go with personal difficulties?		

12. If you answered "yes", which of the above types of person is he or she? (for example: child, parent, neighbor)_____

II. STRESS: People Who Cause Personal Stress
[A person who stresses you is one who causes problems for you or makes your life more difficult.]

INSTRUCTIONS: Please look at the following list and decide how much each person (or group of persons) is a stress for you at this time in your life. Check (√) your answer.

How stressed do you feel by these people now:	None	Some	A Lot	There is No Such Person
1. Your wife, husband, or significant other person				
2. Your children or grandchildren				
3. Your parents or grandparents				
4. Your brothers or sisters				
5. Your other blood relatives				
6. Your relatives by marriage (for example: in-laws, ex-wife ex-husband)				
7. Your neighbors				
8. Your co-workers				
9. Your church members				
10. Your other friends				

	Yes	No
11. Is there one particular person who is causing you the most personal stress now?		

12. If you answered "yes", which of the above types of person is he or she? (for example: child, parent, neighbor) _____

Duke Social Support and Stress Scale (DUSOCS), Fig. 1 Duke Social Support and Stress Scale (DUSOCS)

("none," "some," "a lot," or "there is no such person") for the amount of support and/or stress caused by each relationship. On the questionnaire family members are grouped in six categories: "wife, husband, or significant other person," "children or grandchildren," "parents or grandparents," "brothers or sisters," "other blood relatives," and "relatives by marriage." There are

four categories of nonfamily members: "neighbors," "coworkers," "church members," and "other friends." Also, the respondent indicates the type of person who is most supportive and the type who is most stressful.

Separate scores on a scale of 0–100 can be generated for family support, family stress, nonfamily support, and nonfamily stress. Also, total social support and social stress scores can be derived by combining family and nonfamily scores. Scoring can be done manually or by computer.

Reliability

Test-retest correlations for temporal stability in two studies (Parkerson et al., 1989a, 1992) were family support 0.76 and 0.73, nonfamily support 0.67 and 0.50, family stress 0.40 and 0.58, and nonfamily stress 0.68 and 0.27. Cronbach's alpha correlations for internal consistency in one study (Parkerson et al., 1992) were family support 0.71, nonfamily support 0.70, family stress 0.69, and nonfamily stress 0.53.

Validity

DUSOCS scores (scale 0–100) were compared with scores of other support and stress measures for the same patients in three studies (Parkerson et al., 1989a, 1991, 1992), compared between patient groups having different diagnoses and severity of illness in eight studies (Parkerson et al., 1989a, b, 1991, 1992, 1995, 1996, and Parkerson & Gutman, 1997a, b), and used to predict health-care utilization in one study (Parkerson et al., 1995). For example, in primary care patients, DUSOCS family support scores had Spearman rank-order correlations of +0.43 with Family Strengths scores and −0.19 with Family Inventory of Life Events (FILE) scores. DUSOCS family stress scores had the expected opposite correlations of −0.44 and +0.45 with the same comparison measures. In another study (Parkerson & Gutman, 1997a), regression analyses showed that DUSOCS family stress scores explained 4.9 % of the variance in Duke Anxiety-Depression (DUKE-AD) scores in primary care patients, compared with 7.0 % in ESRD patients. In another study (Parkerson et al., 1995), lower average DUSOCS family support scores (47.7 versus 54.1) at baseline predicted higher 18-month charges (>$268 versus <$268) with an odds ratio of 1.011, and higher average DUSOCS family stress scores (25.6 versus 19.0) predicted higher charges with an odds ratio of 1.018.

Reliability and validity data and references are detailed in the User's Guide by Parkerson (2002). Further information is available on the website http://healthmeasures.mc.duke.edu.

Discussion

The DUSOCS may be the only validated self-report questionnaire that measures both social support and social stress in the same person at the same point in time. It is user-friendly because each of its 24 questions is brief and easy to understand, there are only four response options for each question, it is short enough to be printed on one side of one page, it can be self-administered in less than five minutes, and it can be scored manually. It has been used primarily for research in the clinical setting, both in primary care and renal dialysis patients.

References

Parkerson, G. R., Jr. (2002). *User's guide for Duke Health Measures*. Durham, NC: Department of Community and Family Medicine, Duke University School of Medicine.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1991). Validation of the Duke Social Support and Stress Scale using the Duke Health Profile. *Family Medicine, 23*, 357–360.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1992). Quality of life and functional health of primary care patients. *Journal of Clinical Epidemiology, 45*(11), 1303–1313.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1995). Perceived family stress as a predictor of health-related outcomes. *Archives of Family Medicine, 4*, 253–260.

Parkerson, G. R., Jr., Broadhead, W. E., & Tse, C.-K. J. (1996). Anxiety and depression symptom identification using the Duke Health Profile. *Journal of Clinical Epidemiology, 49*, 85–93.

Parkerson, G. R., Jr., & Gutman, R. A. (1997a). Predictors of functional health status of end-stage renal disease patients. *Health Care Financing Review, 18*(4), 37–49.

Parkerson, G. R., Jr., & Gutman, R. A. (1997b). Perceived mental health and disablement of primary care and end-stage renal disease patients. *International Journal of Psychiatry in Medicine, 27*(1), 33–45.
Parkerson, G. R., Jr., Michener, J. L., Wu, L. R., Finch, J. N., Muhlbaier, L. H., Magruder-Habib, K., et al. (1989a). Associations among family support, family stress, and personal functional health status. *Journal of Clinical Epidemiology, 42*, 217–229.
Parkerson, G. R., Jr., Michener, J. L., Wu, L. R., Finch, J. N., Broadhead, W. E., Muhlbaier, L. H., et al. (1989b). The effect of a telephone family assessment intervention on the functional health of patients with elevated family stress. *Medical Care, 27*, 680–693.

DUQOL

▶ Drug User Quality of Life (DUQOL)/Injection Drug User Quality of Life (IDUQOL) Scale

Duration Models of Survival

▶ Survival Analysis

Durban (South Africa), Quality of Life

Brian O´Leary
Corporate Policy Unit, eThekwini Municipality, Durban, South Africa

Synonyms

Community perceptions in Durban, South Africa

Definition

▶ Quality of life in Durban survey is concerned with general ▶ satisfaction with life, ▶ quality of place, and satisfaction with City Council services. Quality of life information should be seen as a strategic resource for supporting continued development and the future satisfaction of its citizens.

Description

Research Locale

Durban, which is a port city on the east coast of South Africa, has a population of approximately 3.5 million people. The Durban Metropolitan Area is administered by eThekwini Municipality. It is Africa's busiest port and is South Africa's second largest industrial hub. It provides key trade linkages to Johannesburg, which is South Africa's largest industrial hub. The major economic sectors are manufacturing, tourism, finance, and transport. Durban has a complex topography which is intersected by 19 rivers that flow to 98 km of coastline.

Background

Measuring quality of life in Durban was first proposed by the Quality of Life Task Group in 1994 (Wright. C). The Task Group found its relevance in the mission statement, which at the time included the following statement "to improve the quality of life for all within Durban." Any interventions that the City Council would make in improving quality of life would require a clear understanding of what is meant by quality of life in the context of city service delivery. It was stated that the quality of life indicators would need to be clear and to be measurable and would need to have two components. The first was to be objective and would be concerned with socioeconomic and physical conditions. The second would be subjective and would relate to "perceptions, feelings, or reactions to prevailing conditions" (Wright, 1994. p. 1). The Task Group also made the point that the report was focused on the areas where the City Administration had direct influence, which were the objective measures of quality of life. It was acknowledged that the subjective measures were important but it was felt the city had less influence on the subjective measures.

In 1994, the population of Durban was experiencing "high levels of ▶ poverty and ▶ unemployment" and was "located in high-density, under-resourced areas." The Task Group therefore recommended that the core indicators should be ▶ basic needs and economic

growth indicators. The core indicators would monitor two needs: first is the need for adequate shelter, water, sanitation, refuse removal, and electricity and the second was the need for development so that the disadvantaged obtained the economic capacity to determine their own future (Wright, 1994 p. 2). In this context, the Task Group defined quality of life indicators as "either a proxy or a direct measurement of a particular aspect of development or need" (Wright, 1994 p. 2). The indicators were intended to be measures of outputs and results rather than inputs, and they should allow for regional and international comparability. It was proposed that indicators be developed in the following categories:

- Socioeconomic
- Water and sanitation
- Electricity and energy
- Shelter/housing
- Land use
- Access/transport
- Education
- Health
- Economic and development
- Environment
- Culture and recreation
- Safety/welfare
- Telecommunications
- Community involvement
- Finance

The critical starting point was identified as the setting up of a multidisciplinary task team which would reach agreement on the indicators and to propose a monitoring program (Wright, 1994 p. 5). The Quality of Life Task Group concluded that "quality of life information should be seen as a strategic resource for supporting continued development of the region and the future satisfaction of its citizens."

In February 1998, Allan C. et al. produced a document titled "Quality of Life Research Project Proposal," which outlined the mission, objectives, institutional arrangements, and program required to monitor quality of life indicators. The mission of the project was to "undertake continuous triangular longitudinal studies of quality of life indicators, with an aim to make information available to guide policy makers in the Durban Metropolitan Area Councils." The objectives were to develop a "linear additive model of quality of life measures" which includes the objective and subjective domains. The objective domains were to be supplied by the service departments of the City Council, and the subjective measures would be obtained through conducting quantitative and qualitative research. The report stressed that the subjective aspects of quality of life, despite their importance, had previously not been adequately researched in the context of local government. The institutional arrangements established two committees: the Project Steering Committee (PSC) and the Research Advisory Committee (RAC). The Project Steering Committee consisted of staff from the Urban Strategy Department, now known as the Corporate Policy Unit, and they were to coordinate, monitor, review, and evaluate the study. The Research Advisory Committee (RAC) comprised academics from Tertiary Institutions in the Durban area. Some of the key tasks of the RAC were as follows: to assist in the research design, to ensure that ▶ research ethics were adhered to in the design, to develop validity and ▶ reliability measures, to refine the indicator list, and to advise on time series development. The program had 6 phases as follows: (1) project preparation and the establishment of institutional arrangements; (2) approval by the 7 Metro Councils, promotion, and fundraising; (3) commission and management of the survey by the PSC; (4) analysis and review of results; (5) reporting and information dissemination; and (6) evaluation.

Once the RAC and the PSC had drafted the quantitative questionnaire, it became apparent that a third committee was required to increase the relevance for the City Council service delivery departments (O'Leary, 2001). This group of experts from the service delivery departments was called the Technical Working Group and was comprised of staff from the following departments: Economic Development, Health, Electricity, Housing, Library Services, Water, Parks, Traffic and Transportation, and Local Councils Planning Departments and the Urban Strategy Department. The refinements that the

TWG made ensured that the questions reflected the levels of service provided in Durban. The 7 Metro Councils, which have now been consolidated into one council, approved of the project and its budget and recommended that it run for 5 years.

Sample Size

The ▶ sample size was calculated using the following formula (Wegner, 2000. p. 461):

$n = N(pqz^2)$__
$NE^2 + (pqz^2)$

z = level of confidence
E = precision (sample error)
p = variability
q = (1-p)
n = sample size
N = households

The confidence level was set at 95 % and the precision level at 3 %, which resulted in a sample size of 1,200 households. It was decided to conduct 30 interviews per sample area, and this meant that there would be 40 primary sampling units (PSUs). The 40 PSUs were stratified and proportionately allocated according to the percentage of households in the urban core, periphery, and rural areas. The PSUs were randomly selected within the strata, and within each PSU, the 30 households were randomly selected as the sample unit (O'Leary, 2007).

The 1998 questionnaire had the following sections:

- Economic household roster
- Transport household roster
- Biographical information, club membership, and household assets
- Personal well-being
- Migration history
- Public and private transport
- Household services
- Housing
- Community services
- Use of facilities
- Everyday problems
- Rates and services payment
- Perception of neighborhood and the city center

Measuring Quality of Life

The 1998 questionnaire included one question regarding quality of life in the ▶ personal well-being section. The question was phrased as follows: "In general how satisfied have you been with your life over the past year?" and the responses were provided in a 5-point Likert scale (very satisfied, satisfied, neither satisfied or dissatisfied, dissatisfied, and very dissatisfied). This question remained as it was between 1988 and 2002, during which time correlations between life satisfaction, socioeconomic status, and services levels were undertaken. These correlations did provide some insight into the issues that could be used to improve quality of life. Due to the non-causality of correlations, it was decided to include a follow-up question that would probe the reasons for life satisfaction.

Hence, the 2000–2001 and 2001–2002 questionnaires were amended to include a follow-up question which asked "what is the main reason for your life satisfaction or dissatisfaction?" Responses to these open-ended questions were more informative regarding reasons for dissatisfaction than for satisfaction with life. These responses still did not provide a detailed understanding of the quality of life domains and our respondent's experience of the domains. The Detroit Area Study, described by Marans and Couper (2000), was the source of an expanded range of questions regarding the domains of quality of life, and, as seen below and in Table 1, these were used to increase the quality of life domain questions in the 2002–2003 survey:

- Can you tell me how satisfied or dissatisfied you are with these parts of your life?
  - The amount of money you have available to you personally
  - The amount of time you have to do the things you want to do
  - If married, your marriage or relationship with your partner
  - Family life – the time you spend and the things you do with them
  - Friends
  - Standard of living – the things you have like houses, car, and furniture
  - Your income and your family income

Durban (South Africa), Quality of Life, Table 1 Satisfaction with domains of quality of life

	Very satisfied	Satisfied	Slightly satisfied	Dissatisfied	Very dissatisfied	Total
The amount of money available to you personally	3.1	17.1	21.1	38.8	20	100
The amount of time you have to do the things you want to do	11	52.9	23.8	11	1.3	100
If married, your marriage or relationship with your partner	33.2	51.2	11	3.8	0.8	100
Family life – the time you spend and the things you do with them	27.9	50.7	14.4	6.5	0.5	100
Friends – the time you spend and the things you do with them	19.4	49.9	24	5.6	1	100
Standard of living – the things you have like houses, cars, furniture	8.6	31.4	28	21.8	10.2	100
Household income including your income and other family incomes	5.2	20.9	24.2	32.7	17	100
The way you spend your leisure time – recreation, relaxation, etc.	11.1	45.1	27.2	12.8	3.7	100
Your health in the last year	17.1	47.2	22.6	10.6	2.6	100
Satisfaction with life over the past year	6.9	35.4	37.9	16.5	3.3	100

  - The way you spend your leisure time – recreation, relaxation, etc.
  - Your health in the last year
- In general how satisfied have you been with your life over the past year?

Using skip instructions the follow-up questions were specifically directed at those who were either satisfied or dissatisfied:

- If satisfied or very satisfied with life, what is the main reason for your life satisfaction?
- If dissatisfied or very dissatisfied with life, what is the main reason for your life dissatisfaction?

At this point, 2002–2003, in the development of the research instrument 5 years had passed, which was the original term set down for the duration of the project. There had been fairly high interest in the results, however, which led to funding for the project continuing on an annual basis.

This instrument design for the quality of life domains was used in the annual surveys until 2010–2011, with the exception of 2005–2006 when ▶ focus groups were conducted rather than quantitative surveys.

The South African Cities Network in 2010 commissioned a comparative study of quality of life and satisfaction with services surveys in South African Cities (Palmer Development Group, 2010). This review noted that there was a need for a core set of questions so that comparative studies could be undertaken and furthermore recommended that best practice methodologies should be used. In response to this, the Corporate Policy Unit in City Council in Durban (eThekwini Municipality) acquired the questionnaires from Tshwane, Johannesburg, and Cape Town. The aim of this was to utilize the best practices from these four questionnaires to redesign the Durban questionnaire.

This revision of the questionnaire occurred prior to the local government elections in 2011, which elected a council for a 5-year term. A position was taken to thoroughly assess the survey instrument prior to the commencement of each council term of 5-years. This assessment would seek to align the instrument with the vision and mission of the City Council as set out in the Integrated Development Plan, which is a 5-year development plan.

The comparative study of the methodologies used in the quality of life and satisfaction with services surveys in South African cities provided an ideal opportunity to thoroughly assess the

Durban (South Africa), Quality of Life, Table 2 Life satisfaction reasons

	Percent (%)
The time you spend with family	22.1
Marriage/relationship with partner	21.6
Health in last year	19.7
Time available to do things you want	10.4
Standard of living	6.4
The way you spend leisure time	5.7
The time you spend with friends	5.6
Money available personally	5.1
Household income	3.3
	100.0

Durban (South Africa), Quality of Life, Table 3 Life dissatisfaction reasons

	Percent (%)
Money available personally	29.0
Household income	23.1
Standard of living	20.1
Health in last year	11.8
Time available to do things you want	4.1
The way you spend leisure time	3.9
The time you spend with family	3.5
Marriage/relationship with partner	2.5
The time you spend with friends	1.9
	100.0

questionnaire prior to the commencement of a new 5-year term of the City Council. The 2011–2012 revision was substantial regarding the public amenity service-related questions. The quality of life domain questions remained as they were since 2003, but the personal well-being and the economic outlook section was moved toward the end of the questionnaire. The follow-up question regarding the reasons for satisfaction with life changed from an open-ended design, and respondents were asked to choose the three most important domains of quality of life that contributed to either life satisfaction or dissatisfaction.

The most important revision was to the ▶ Likert scale. The revision was the adoption of an asymmetric scale which had the effect of removing a neutral option and replacing it with a slightly satisfied option. The asymmetric scale is as follows: very satisfied, satisfied, slightly satisfied, dissatisfied, and very dissatisfied. As the scale of measurement has changed, any analysis of quality of life trends should be for the years from 2002–2003 to 2010–2011. The year 2011–2012 would become the baseline for a new trend.

Quality of Life Results (2011–2012)

Respondents who were dissatisfied, including very dissatisfied and dissatisfied, with life totaled 19.8 %. Table 3 indicates that the domains of quality of life that were mentioned as being the reasons for dissatisfaction with life were predominately related to the material aspects of life. Personal finance, household income, and standard of living accounted for 72.2 % of the reasons given for dissatisfaction. Dissatisfaction with health was mentioned by 11.8 %, and dissatisfaction with social and leisure domains was mentioned by 14 %.

Those that mentioned that they were either satisfied or very satisfied totaled 42.3 %. Conversely to the respondents who were dissatisfied, 54.1 % of the satisfied respondents in Table 2 mentioned social domains, such as family time, marriage/relationship, and time to do the things that they wanted, as among the main reasons for life satisfaction. Health was mentioned by 19.7 % of respondents as a reason for life satisfaction. It is worth noting that health is the only domain that scored prominently in the reasons for satisfaction and dissatisfaction.

Conclusion

It is clear from the results that the City Council in Durban (eThekwini Municipality) can deliver services that will have a positive impact on satisfaction with life. The delivery of basic household services, public amenities, infrastructure, and an investor-friendly environment will improve living conditions and create the platform for economic growth and job creation. This will improve the standard of living and improve the finances of households. Investment in the health sector and ensuring a healthy environment will contribute significantly to increasing satisfaction with life.

Cross-References

- ▶ Community QOL measures
- ▶ Community satisfaction
- ▶ Community well-being Index
- ▶ Sample

References

Allan, C., Naidoo, H., Ngcobo, R., & Whitfield, C. (1998). *Quality of life research project proposal*. Unpublished report to The Durban Metro Council. Durban.

Marans, R. W., & Couper, M. (2000). Measuring the quality of community life: A program for longitudinal and comparative international research. *Proceedings of the Second International Conference on Quality of Life in Cities* (Vol. 2, pp. 386–400). 8–10 March. Singapore: University of Singapore.

O'Leary, B. (2001). Residential quality-of-life and needs assessment research in Durban, South Africa. *Fourth Conference of the International Society for Quality of Life Studies in Washington, DC*.

O'Leary, B. (2007). Changes in the quality-of-life of Durban's People. *Social Indicators Research* (Vol. 81, pp. 357–373). Springer, Netherlands.

Palmer Development Group. (2010). *Review of quality of life and customer satisfaction surveys undertaken by SACN member cities*. Johannesburg: South African Cities Network.

Wegner, T. (2000). *Quantitative methods for marketing decisions*. Cape Town: Juta.

Wright, C. (1994). Report on a proposal for monitoring Quality of Life indicators for Metropolitan Durban. Unpublished Report to the City of Durban. Durban.

DUREL

- ▶ Duke Religious Index in Portuguese

DUSOI

- ▶ Duke Severity of Illness Checklist

Dutch Life Situation Index

- ▶ SCP Life Situation Index

Duties and Obligations

- ▶ Human Rights

Duty-Based Ethics

- ▶ Deontology

Dwelling Size

Andrew Sanderford and Charles T. Koebel
Urban Affairs and Planning, College of Architecture and Urban Studies, Virginia Tech, Blacksburg, VA, USA

Synonyms

Dwelling unit size; House size; Housing unit size

Definition

A description of the physical size of a dwelling unit in square feet (or square meters), the number of bedrooms, or total number of rooms excluding closets and other storage spaces.

Description

A dwelling unit can be a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) (Census, 2007). More specifically, a dwelling unit is real property (or in the case of a mobile home personal property) improved with a structure that provides basic living accommodations, including sleeping space, bathroom, and cooking facilities (IRS, 2008). Dwelling size describes the dimensions in square footage (or square meters) or the number of bedrooms or non-storage rooms.

The measurement seeks to provide a summary description of the dwelling unit that can be placed in the context of descriptors such as the number of occupants, age of dwelling unit, occupant tenure, status as rental or owner occupied, household income, and property value to create statistics or ratios that can describe the state of the dwelling unit and its position and value as a part of a neighborhood or housing market (Census, 2007).

National census bureaus and national-level housing departments collect and analyze dwelling size data according to locations and political subdivisions. Additionally, local tax assessment departments collect dwelling size information to provide the basis for property tax assessments. Other government departments or political subdivisions (such as a state or local jurisdiction) or private firms also use the data to estimate trends within housing markets (national, state, or local), including their ability to meet the spatial or affordability needs of the population proximate to the location of the units (NAR, 2011; Nechayev, 2010).

Dwelling size is related to a number of quality of life topics such as unit design and construction materials, energy efficiency, land use policy, tax policy, and crowding. Specifically relating to design, quality of life researchers are interested in issues of light, ventilation, sanitation, ingress, egress, ceiling heights, and overcrowding. There are broad ranges of acceptable minimums for design items, as most dwelling units in many countries must meet minimum established building codes (e.g., Universal Building Code or International Building Code). However, despite basic design minimums, there is little consensus on the maximum number of people that may legally (or culturally) inhabit a single room of a dwelling unit. This metric is known as crowding or overcrowding. Researchers focusing on crowding in Western Europe and the USA have tended to observe that optimal occupancy for a single room is 1.5 individuals (Koebel & Renneckar, 2003). However, outside this area, Edwards et al. have shown that attitudes about crowding and personal living space are complicated and difficult to extricate from cultural values and traditions (Edwards & Fuller, 1994).

Future research should continue to monitor demographic changes in populations and their relationship to the current housing stock. This will allow for a more refined projection of the spatial needs of housing consumers and their abilities to pay. Further, it will be important to link dwelling size data with energy efficiency and also transportation research to optimize the methods, systems, and policies that influence energy conservation and a reduction in vehicle miles traveled or other related metrics. Similarly, it will be important to examine the roots of the Great Recession to understand the influence of home ownership and growth policies on future housing, land use, transportation, energy, and tax policies.

Cross-References

▶ Public Policy

References

Census U. S. (2007). *Summary file 1: Technical documentation*.

Edwards, J., & Fuller, T. (1994). *Household crowding and its consequences*.

IRS. (2008). *Definition of dwelling unit*. Retrieved from http://www.irs.gov/publications/p527/ch05.html#en_US_2012_publink1000219176.

Koebel, C., & Renneckar, P. (2003). *A review of the worst case housing needs measure: US Dept of Housing and Urban Development*.

NAR. (2011). *National association of realtors: Research*. Retrieved December 29, 2010, from http://www.realtor.org/research

Nechayev, G. (2010). How much excess housing supply is there? *CBRE Econometric Advisors: About Real Estate Weekly*. Retrieved from http://www.cbre.com/EN/research/Pages/econometricadvisors.aspxe

Dwelling Unit Size

▶ Dwelling Size

Dyadic Satisfaction

▶ Relationship Satisfaction

Dying While Giving Birth

► Maternal Mortality in South Africa

Dysfunctional Attitude Scale (DAS)

► Need for Approval Measures

Dyspareunia

Kelly B. Smith
Department of Obstetrics & Gynaecology, University of British Columbia, Vancouver, BC, Canada

Synonyms

Pain, sexual

Definition

Dyspareunia refers to pain with sexual intercourse. Although controversy exists as to whether dyspareunia should be considered a pain disorder or a sexual dysfunction [see Peer Commentaries on Binik (2005)], it is currently classified as one of two sexual pain disorders in the Sexual Dysfunction category of the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR; American Psychiatric Association [APA], 2000). Dyspareunia is defined in the DSM-IV-TR as "recurrent or persistent genital pain associated with sexual intercourse" that "causes marked distress or interpersonal difficulty" (APA, 2000, p. 556). It has been proposed that dyspareunia be subsumed in the upcoming DSM-5 under a new diagnostic category, Genito-Pelvic Pain/Penetration Disorder (Binik, 2010), which will include symptoms of pain, pelvic floor muscle tension, and marked fear of penetration.

Description

Dyspareunia is a common and often distressing type of pain. The estimated prevalence of female dyspareunia varies widely across studies and ranges from approximately 14 % to 34 % for younger women and from 7 % to 45 % for older women (as reviewed in van Lankveld et al., 2010). Up to 20 % of Canadian adolescent girls may experience chronic dyspareunia, or dyspareunia that is present for 6 months or more (Landry & Bergeron, 2009). Dyspareunia in men has been studied much less and, until recently, was considered rare (Binik, 2010; Davis, Binik, & Carrier, 2009). For this reason, the current entry focuses on female dyspareunia.

Pain associated with dyspareunia can occur near the vaginal opening (i.e., superficial dyspareunia) and/or in the pelvic/abdominal region (i.e., deep dyspareunia). Women with dyspareunia may also experience pain in other areas of the genitals or with activities other than intercourse, such as tampon insertion or gynecological exams. Given that nonsexual activities may produce pain for women with dyspareunia, it has been argued that dyspareunia should be considered a pain condition versus a sexual dysfunction (e.g., Binik, 2005). Nevertheless, dyspareunia often has severe sexual effects (Basson, 2012), and the new DSM-5 diagnostic category "Genito-Pelvic Pain/Penetration Disorder" will be classified as a sexual dysfunction.

Multiple factors can cause dyspareunia, and, from a biopsychosocial perspective, the interaction of physiological, psychological, and social factors is thought to influence the development and maintenance of such pain (Boyer, Goldfinger, Thibault-Gagnon, & Pukall, 2011). Dyspareunia can occur in conjunction with a number of medical conditions (e.g., endometriosis, vaginal infections, pelvic inflammatory disease [Boyer et al., 2011; van Lankveld et al., 2010]) or can occur in the absence of relevant physical findings such as infection; indeed, the most common cause of superficial dyspareunia among women of reproductive age is provoked vestibulodynia (PVD).

Provoked Vestibulodynia (PVD)

PVD, formerly called vulvar vestibulitis syndrome (VVS), is recurrent genital pain in women that occurs in the absence of an identifiable physical condition or pathology (Moyal-Barracco & Lynch, 2004). The pain of PVD is experienced at the vulvar vestibule (i.e., vaginal opening) and is triggered by contact or pressure to the area. Vaginal penetration is the most common trigger of PVD-related pain, and PVD is considered the most common type of dyspareunia among women of reproductive age. Central nervous system changes that produce hypersensitivity to pain are thought to underlie the development and maintenance of a number of chronic pain conditions, including PVD (Basson, 2012). Unfortunately, the lack of visible findings upon physical examination can contribute to the fact that many women with PVD remain undiagnosed after seeking medical consultation (e.g., Harlow & Gunther Stewart, 2003). Women with PVD may also feel dismissed by and frustrated with their interactions with health care providers, with some perceiving that providers view the pain as psychosomatic (e.g., Sadownik, Seal, & Brotto, 2012).

Dyspareunia and Quality of Life

Dyspareunia is associated with decreased quality of life, including reduced sexual desire, arousal, and psychological well-being. In comparison to controls, women with dyspareunia report less sexual satisfaction, desire, arousal, and ability to orgasm (see Smith, Pukall, & Boyer, 2009 for a review). All aspects of the sexual response cycle can be affected in women with dyspareunia, and comorbidity with other sexual dysfunctions (e.g., low sexual desire) is common (van Lankveld et al., 2010). Women with dyspareunia may also report more negative and less positive feelings about sexual activity compared to nonaffected women (e.g., Brauer, ter Kuile, Laan, & Trimbos, 2009), and qualitative research suggests that women with dyspareunia feel inadequate as sexual partners and ashamed, and do not feel like "real women" as a result of experiencing dyspareunia (e.g., Ayling & Ussher, 2008; Kaler, 2006). However, controlled studies examining general relationship adjustment of women with dyspareunia have yielded mixed results, and, among women with PVD, a recent review suggested that affected women do not report lower levels of relationship adjustment in comparison to controls (Smith & Pukall, 2011).

With regard to psychological function, increased symptoms of depression and anxiety have been reported by women with dyspareunia in comparison to controls (Smith et al., 2009). For example, one recent study documented that women with a mood or anxiety disorder were four times more likely to develop chronic genital pain; genital pain was also associated with new or recurrent onset of a mood or anxiety disorder (Khandker et al., 2011). Among adolescent girls with chronic dyspareunia, higher levels of trait anxiety were found in comparison to nonaffected girls and such anxiety predicted the presence of pain during intercourse (Landry & Bergeron, 2011).

Treatment

It is recommended that a multidisciplinary, multimodal, individualized approach be used to manage dyspareunia (van Lankveld et al., 2010), and various management options, ranging from medical (e.g., vestibular surgery for PVD) to psychological (e.g., cognitive behavioral therapy; mindfulness-based interventions) exist. To date, most research regarding treatment for dyspareunia has focused on PVD and has shown variable rates of efficacy (see Landry, Bergeron, Dupuis, & Desrochers, 2008). New research suggests that a mindfulness-based approach is beneficial for improving pain and quality of life among women with PVD (Brotto, Basson, Carlson, & Zhu, 2012); such an approach is currently undergoing further efficacy testing and holds much promise in terms of its ability to address the pain and associated psychological and sexual difficulties.

Cross-References

▶ Anxiety
▶ Anxiety Disorders

- Marital Adjustment
- Mindfulness
- Mood
- Pain
- Relationship Satisfaction
- Sexual Arousal Disorder
- Sexual Dysfunction(s)
- Sexual Functioning
- Sexual Interest/Arousal Disorder (SIAD)
- Sexual Satisfaction
- Sexual Satisfaction and Sexual Costs in Women

References

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision). Washington, DC: Author.

Ayling, K., & Ussher, J. M. (2008). "If sex hurts, am I still a woman?" The subjective experience of vulvodynia in hetero-sexual women. *Archives of Sexual Behavior, 37*, 294–304.

Basson, R. (2012). The recurrent pain and sexual sequelae of provoked vestibulodynia: A perpetuating cycle. *Journal of Sexual Medicine, 9*, 2077–2092.

Binik, Y. M. (2005). Dyspareunia looks sexy on first but how much pain will it take for it to score? A reply to my critics concerning the DSM classification of dyspareunia as a sexual dysfunction. *Archives of Sexual Behavior, 34*, 63–67.

Binik, Y. M. (2010). The DSM diagnostic criteria for dyspareunia. *Archives of Sexual Behavior, 39*, 292–303.

Boyer, S. C., Goldfinger, C., Thibault-Gagnon, S., & Pukall, C. F. (2011). Management of female sexual pain disorders. In R. Balon (Ed.), *Sexual dysfunction: Beyond the brain-body connection* (pp. 83–104). New York: Karger.

Brauer, M., ter Kuile, M. M., Laan, E., & Trimbos, B. (2009). Cognitive-affective correlates and predictors of superficial dyspareunia. *Journal of Sex & Marital Therapy, 35*, 1–24.

Brotto, L. A., Basson, R., Carlson, M., & Zhu, C. (2012). Impact of an integrated mindfulness and cognitive behavioural treatment for provoked vestibulodynia (IMPROVED): A qualitative study. *Sexual and Relationship Therapy*. doi: 10.1080/14681994.2012.686661. Online ahead of print.

Davis, S. N. P., Binik, Y. M., & Carrier, S. (2009). Sexual dysfunction and pelvic pain in men: A male sexual pain disorder? *Journal of Sex & Marital Therapy, 35*, 182–205.

Harlow, B. L., & Gunther Stewart, E. (2003). A population-based assessment of chronic unexplained vulvar pain: Have we underestimated the prevalence of vulvodynia? *Journal of the American Medical Women's Association, 58*, 82–88.

Kaler, A. (2006). Unreal women: Sex, gender, identity and the lived experience of vulvar pain. *Feminist Review, 82*, 50–75.

Khandker, M., Brady, S. S., Vitonis, A. F., MacLehose, R. F., Stewart, E. G., & Harlow, B. L. (2011). The influence of depression and anxiety on risk of adult onset vulvodynia. *Journal of Women's Health, 20*, 1445–1451.

Landry, T., & Bergeron, S. (2009). How young does vulvo-vaginal pain begin? Prevalence and characteristics of dyspareunia in adolescents. *Journal of Sexual Medicine, 6*, 927–935.

Landry, T., & Bergeron, S. (2011). Biopsychosocial factors associated with dyspareunia in a community sample of adolescent girls. *Archives of Sexual Behavior, 40*, 877–889.

Landry, T., Bergeron, S., Dupuis, M.-J., & Desrochers, G. (2008). The treatment of provoked vestibulodynia: A critical review. *Clinical Journal of Pain, 24*, 155–171.

Moyal-Barracco, M., & Lynch, P. J. (2004). 2003 ISSVD terminology and classification of vulvodynia: A historical perspective. *Journal of Reproductive Medicine, 49*, 772–777.

Peer Commentaries on Binik. (2005). *Archives of Sexual Behavior, 34(1)*, 23–61.

Sadownik, L. A., Seal, B. N., & Brotto, L. A. (2012). Provoked vestibulodynia: A qualitative exploration of women's experiences. *BC Medical Journal, 54*, 22–28.

Smith, K. B., & Pukall, C. F. (2011). A systematic review of relationship adjustment and sexual satisfaction among women with provoked vestibulodynia (PVD). *Journal of Sex Research, 48*, 166–191.

Smith, K. B., Pukall, C. F., & Boyer, S. C. (2009). Psychological and relational aspects of dyspareunia. In A. T. Goldstein, C. F. Pukall, & I. Goldstein (Eds.), *Female sexual pain disorders: Evaluation and management* (pp. 208–212). Oxford, England: Wiley-Blackwell.

van Lankveld, J. J. D. M., Granot, M., Weijmar Schultz, W. C. M., Binik, Y. M., Wesselmann, U., Pukall, C. F., et al. (2010). Women's sexual pain disorders. *Journal of Sexual Medicine, 7*, 615–631.

Dysthymic Disorder

- Mood Disorders and Sexuality