

# Chapter 1

## An Overview of Quality of Urban Life

Robert W. Marans and Robert Stimson

### Introduction

This book is about quality of life (QOL), particularly as it relates to *place*. By place, we mean the geography or environments of individuals and groups of individuals such as households, neighborhoods and communities. Since most people live in urban environments, and especially in large *urban* environments that we call cities or metropolitan areas, the focus of the book is on the investigation of quality of *urban* life.

In their extensive review of the literature on QOL, Mulligan et al. (2004) broadly interpret QOL as the satisfaction that a person receives from surrounding human and physical conditions, conditions that are scale-dependent and can affect the behavior of individual people, groups such as households and economic units such as firms. For reasons outlined on the following pages, we believe their definition more accurately reflects quality of urban life (hereafter referred to as QOUL) rather than QOL. Accordingly, the book considers the meaning of QOUL as well as how it is measured and assessed.

The measurement and the assessment of QOL, and the investigation of its effects on human behavior are increasingly important topics within the social sciences

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R.W. Marans (✉)

Institute for Social Research, University of Michigan, P.O. Box 1248,  
Ann Arbor, MI 48106, USA  
e-mail: marans@umich.edu

R. Stimson

Australian Urban Research Infrastructure Network (AURIN), Faculty of Architecture,  
Building and Planning, University of Melbourne, VIC 3010, Melbourne, Australia  
e-mail: rstimson@unimelb.edu.au

(Dissart and Deller 2000; Diener and Suh (2000); Diener and Biswas-Diener 2008). And as discussed by Lambiri et al. (Lambiri 2007), QOL has increasingly become a concept researched theoretically and empirically in economics.

Investigating QOUL is important not only because it affects how people behave but also their life satisfaction and happiness. And it has broader implications for research and urban policy. For example, QOL in general and QOUL in particular can:

- Underlie the demand for public action (Dahmann 1985; Lu 1999)
- Directly affect the liveability of cities for residents and provide a set of metrics which allow policy makers and planners to assess the effectiveness of their efforts (Marans 2002)
- Motivate residential location decisions and choices (Campbell et al. 1976b; Golledge and Stimson 1987; Zehner 1977)
- Have broad implications for patterns of regional migration, regional economic growth, and environmental sustainability (Kemp et al. 1997)

Indeed it is well established that, at least in part, migration patterns and urban growth arise in response to differences in QOL between places (Keeble 1990; Ley 1996; Glaeser et al. 2000; Liaw et al. 2002), which may reflect the nature of employment opportunities (Brotchie et al. 1985; Grayson and Young 1994; Rogerson 1999), and the competitiveness of a city or metropolitan area (Sirgy et al. 2000). Patterns of intra-urban mobility are also related to differences in both the objective characteristics of neighborhoods and the subjective evaluations people make about aspects of the QOUL, and how that may vary across urban space (Keeble 1990; Ley 1996).

It is, then, not surprising that there is widespread interest in QOL, particularly within the context of the places where people live.

In order to understand the QOL in a particular setting, such as a city, we need to measure conditions in that place using sets of *indicators*. Furthermore, we need to monitor changes in those conditions over time in order to appraise or determine if and how those conditions have changed. And if they have changed, we need to determine if they have improved or deteriorated and by how much. This effort might include evaluating the impact of various public or private interventions which sought to improve conditions.

We know that different people may have different *perceptions* and therefore make different *subjective* judgments about the things which impinge on their QOL including specific attributes of their urban environment. To adequately investigate those aspects of QOL, we need to use model frameworks and collect data to operationalize those frameworks within a particular context.

This book includes sections that provide an overview of the evolution and application of theoretical frameworks and methodologies that have been used to investigate QOL. As discussed by Andelman et al. (1998), investigation has been pursued predominately through two approaches:

- (a) The *objective* approach which is most typically confined to the analysis and reporting of *secondary data* – usually *aggregate data* at different geographic or

**Table 1.1** Examples of QOL indicators that can be used to investigate QOUL in cities and neighborhoods

Objective indicators	Subjective indicators	Behavioral indicators
Employment rates	Housing and neighborhood satisfaction	Public transit use
Educational attainment		Participation in sports
Per capita income	Desire to move	Amount of walking and bicycling
Crime statistics	Perceptions of crime	
Domestic violence	Perceptions of school quality	Visits to cultural amenities and events
Death rates	Perceptions of health care services	
Incidence of chronic diseases	Feelings about neighbors	Visits to parks
Air quality	Feelings about rubbish collection	Visits to health clinics/doctors
Residential density	Feelings about congestion and crowding	Amount of neighboring
Housing vacancy rates	Feelings about government	Participation in voluntary organizations
Amount of parkland	Satisfaction with health	Participation in local decision-making organizations
Number of public transit riders	Satisfaction with family, friends, job etc	Residential mobility
Distance to transit stop	Life satisfaction, overall happiness	
Availability of grocery/food stores	(overall well-being)	
Vehicle kilometers/miles traveled		

Source: The authors

spatial scales – that are available mainly from official governmental data collections, including the census. This is an approach that is often associated with *social indicators* research.

- (b) The *subjective* approach which is specifically designed to *collect primary data* at the *disaggregate or individual* level using *social survey* methods where the focus is on the peoples' behaviors and *assessments, or evaluations* of aspects of QOL in general and of QOUL in particular.

We might identify a set of *objective indicators* and *subjective indicators* that may be used to evaluate QOL in a city or neighborhoods within a city such as those attributes listed in Table 1.1. As illustrated in the third column in Table 1.1, we might want to also identify explicitly *behavioral indicators* of QOL.

But it is the nature and the strength of the links between broad objective dimensions and subjective evaluations of the urban environment which has represented a challenge for researchers. The nature and strength of linkages need to be tested as understanding them may be important in informing how planning and other policy interventions might contribute to improving the QOUL.

Much of this book is devoted to a discussion of QOUL in a number of places or environments throughout the world, reporting the outcomes of recent empirical research that has used survey methods to collect primary data on aspects of QOUL. In most of the studies, a relatively common set of core questions were included to measure perceptions of QOL domains, including those dealing

explicitly with place. In many, information relating to the sociophysical environmental context of those places was also collected. Some of the case studies present the results of modeling that explores relationships between subjective and objective aspects of QOUL, including the use of geographic information systems (GIS) technology to integrate survey-based subjective information with spatial objective information.

In the remainder of this introductory chapter, we provide an overview of approaches to the investigation of QOL in general and of QOUL in particular.

## Quality of Life and Living Environments

For many years, scholars in both the social sciences and the environmental design professions have been arguing that “quality” of any entity has a *subjective* dimension that is *perceptual* as well as having an *objective reality*. Central to that assertion is the notion that the environment may be defined as having built, natural, and socio-cultural dimensions (Marans 2005: p. 315), and different environmental settings will have specific characteristics with respect to those dimensions. But the places in which people live consist of all three of those dimensions, and research findings have clearly demonstrated that all three form important components of the QOL or subjective *well-being* of people living in a specific place.

In the introduction to their comprehensive book on well-being, Kahneman et al. (1999: p. x) indicated that the *quality of life experience* is embedded in the social and cultural context of the subject and the evaluator. Those researchers also suggest that the objective characteristics of society – such as poverty, crime rates and pollution – contribute predominately to peoples’ *judgments* of their lives.

QOL is certainly a multi-faceted concept that seems to defy precise definition. Often it is difficult to differentiate between the notions of *QOL*, *well-being*, *satisfaction*, and *happiness*. Over the years, the study of QOL has attracted the attention of researchers from a wide range of academic disciplines as well as the interest of politicians, policy makers, planners and others in the environmental professionals. It is certainly an interdisciplinary field of study.

Many QOL studies have tended to examine attributes of individuals, such as their employment, age, health, and interpersonal relationships. However, people live their lives in *places* or series of places, each of which has particular environmental characteristics. Those places might be viewed at various levels or scales – from the dwelling to the local area or neighborhood, to the city, to the broader region or even to a state or a nation – and it may be argued that where people live will influence their lives and, therefore, their QOL. As such, a fundamental assumption underlying many approaches to planning is that urban environments (places) may be designed to increase the level of satisfaction with the lives of residents. Given that most people in advanced economies live in the large urban environments that we call cities or metropolitan areas and such areas are expected to grow over the next few decades,

it is important to examine the relationships between the characteristics of urban environments and the perceived QOL of the residents.

While social scientists have had a strong interest over a long period of time in investigating aspects of QOL, that intensity of interest, the approaches used and the focus of those investigations have varied. But in recent times, there does seem to have been an upsurge of interest in QOL studies and related phenomena. An indication of that is the formation of the *International Society for Quality-of-Life Studies* (ISQOLS), which holds an annual conference and which launched in 2006 the journal *Applied Research in Quality of Life*. That journal deals with QOL studies in applied areas of the social and natural sciences, and it has the goal to:

... help decision-makers apply performance measures and outcome assessment techniques based on concepts such as well-being, human satisfaction, human development, happiness, wellness and quality-of-life.

That statement is indicative of breadth of concerns which might be related to the notion of QOL, and it reinforces the “fuzziness” of its meaning.

## Approaching How to Investigate Quality of Life

As mentioned earlier, two basic approaches have been used by researchers to examine QOUL, particularly in the context of people living in cities and metropolitan areas:

- (a) The first has involved monitoring QOL/QOUL through a set of *indicators* – usually over time – derived from *aggregated spatial data* using official sources, such as the census, that are said to be related to perceived QOL (for example, level of household income, crime rates, pollution levels, housing costs, and so on).
- (b) The second has involved modeling *relationships* between *characteristics of the urban environment* and measures of peoples’ *subjective assessments* of QOL domains, including their *satisfaction* with specific phenomena and with life as a whole. This approach typically involves data collected through survey research methods and analyzed using techniques such as regression analysis or structural equation models.

Monitoring indicators over time can provide information on those aspects of QOUL that people see as improving or declining, while survey data can also provide information on individual and community level perceptions, behaviors, subjective evaluations and levels of satisfaction with various aspects of urban living. However, as pointed out by McCrea et al. (2005), while those indicators are useful, they are also limited. That is because they cannot by themselves indicate the relative importance of the different attributes of urban living and environments that contribute to the level of satisfaction of individuals with urban living.

Even if a sample of residents living in a city were asked to rank in order of importance a list of items relating to QOUL, the information thus gathered does not

necessarily allow one to estimate the proportion of the level of satisfaction explained by any one factor nor the unique contribution of any one factor. Therefore, it is important to develop models to analyze the data and to test hypotheses about those relationships using methods to establish the relative and unique importance of various aspects of urban living in contributing to the QOUL of various groups of residents. These methods could range from regression analysis to more sophisticated structural equation modeling techniques.

The complex relationships between the characteristics of urban environments at different scales and the satisfaction of the residents of a city with QOUL domains are certainly difficult to model without a theoretical framework to guide the process. In addition to the complexities just discussed, Schwirian et al. (1995) have identified an “urbanism” construct which consists of four related dimensions, namely:

- Demographic characteristics
- Economic stress
- Social stress
- Environmental stress

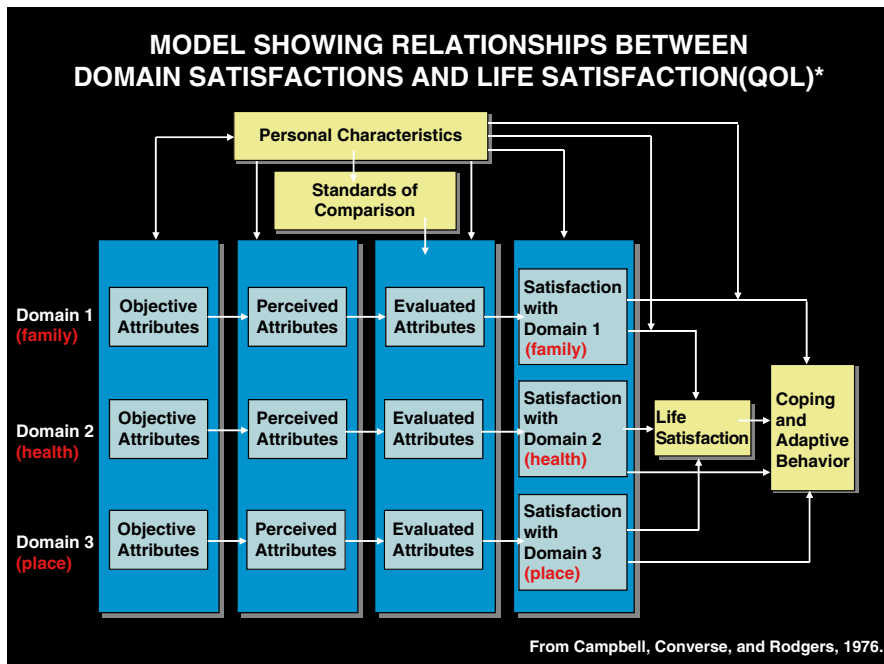
The notion is that economic, social, and environmental conditions in an urban setting might create stressful situations or experiences for some of the people living there.

It might appear that it is difficult to incorporate such a complex set of factors into one model. However, in seminal work more than 30 years ago, Marans and Rodgers (1975) proposed a model of satisfaction with residential environments and adapted in Campbell et al. (1976a). The literature in QOL studies seems to most frequently cite the Campbell et al. reference as providing an overarching model framework for the investigation of QOL which can readily incorporate a range of demographic, social, economic and environmental relationships, while taking into account satisfaction with different levels of living or domains of life (see Fig. 1.1).

The model rested on the following four principles:

- (a) The experiences of people are derived from their interactions with the surrounding environment.
- (b) The subjective experiences of people are different from the objective environment.
- (c) People respond to their experiences with the environment.
- (d) The level of satisfaction in various life domains contributes to the overall QOL experience.

In essence, the model specified a series of linkages between various objective attributes of each life domain and satisfaction measures of those domains, which in turn could be influenced by a range of individual characteristics and individual standards of comparison.



**Fig. 1.1** Model showing the relationship between domain satisfactions and life satisfaction (Source: Campbell et al. 1976a)

The approach proposed by Campbell et al. (1976a) suggested that satisfaction with life could be viewed at multiple levels of analysis (or for different life domains). As suggested by Marans and Rodgers (1975), that might include, for example:

- Satisfaction with housing
- Satisfaction with neighborhood
- Satisfaction with the wider community (or broader region).

This was thus a *bottom-up* model framework in which urban characteristics (such as perceived crime) might contribute to satisfaction in a specific domain (for example, neighborhood satisfaction) which, in turn, might contribute to overall satisfaction with life. Paths could thus be mapped from economic, social and environmental characteristics of urban living to satisfaction with different living domains, and those paths are mostly between variables at the same level of analysis. However, the Campbell et al. (1976a, b) model did provide for relationships between the various QOL domains and geographic levels of urban scale to be analyzed.

## Some Related Concepts: Well-Being, Satisfaction, and Happiness

One of the confusing things in the QOL literature is the proliferation of terms used to relate to the concept QOL. Those terms include *well-being*, *satisfaction*, and *happiness* when talking about investigating aspects of *life experiences* and QOL.

In their seminal study of the quality of American life, Campbell et al. (1976a) conceptualized the “QOL experience” as being about *individual well-being*. They measured peoples’ perceptions, evaluations and satisfaction with domains of QOL including urban domains using scales incorporated in questionnaires that were administered to a sample of more than 2,000 US residents. Primarily, the focus was on measuring the *global evaluations of life* rather than on *actual conditions* of life. In doing so, the Campbell et al. approach addressed the concept of *satisfaction* rather than *happiness*, which had been considered in earlier studies of well-being (such as those by Bradburn and Caplowitz 1965; Bradburn 1969). “Satisfaction” was viewed as being more definable and implied judgment or cognitive experience, whereas “happiness” reflected a relative short-term mood of elation or gaiety. And “satisfaction” was also considered by Campbell et al. (1976a) to be a more plausible and realistic objective for policy makers than “happiness” if research outcomes were to be used by policy makers. The intent of Campbell et al. was, then, to measure and compare peoples’ assessments of several domains of their lives as well as their “lives as a whole,” and to determine the degree to which each domain explained overall well-being or QOL. The seven domains considered were: health, marriage, housing, family, financial situation, leisure, and community or place of residence.

In addition, Campbell et al. (1976a) considered that *context* and evaluator or *person characteristics* were important in understanding QOL, with “context” being the actual conditions of life or “objective attributes.” But their attempts to measure those attributes were modest.

With respect to *domain satisfactions*, Campbell et al. (1976a, b) suggested that they were a reflection of peoples’ perceptions and assessments of the many attributes of each domain and that these in turn were influenced by the objective attributes themselves. For example, job satisfaction was seen as a function of a person’s assessment of the many attributes of a job, such as the degree of autonomy, relationships with co-workers, wages and so on. Furthermore, the assessment of the wage attribute was considered a function of the level of a person’s actual salary and his/her expectations and standards of comparison. Similarly, perceptions of crowding in a dwelling were expected to be associated with an objective measure (such as the number of people per room or another measure of housing density) and individual standards relating to crowding. That was similar to the later views of Kahneman et al. (1999) on the role of the objective world in understanding subjective well-being.

In recent years, it has again become fashionable for writers and media commentators to talk about “happiness” For example, on ABC NEWS.COM (May 29, 2008), Bob Cummins, a psychologist in Australia, said:

... When happiness was considered a mysterious, ephemeral state of mind, it was not worthy of serious consideration. But over the last few decades, science has begun to lift the veil of mystery, revealing happiness as an ordinary state of mind that can be studied and understood.



There has in fact been a proliferation of research and writings on “happiness” as seen in the recent publication of a range of books (such as those by White 2006; Thaler and Sunstein 2008; Eid 2007; van Praag 2004; Lyubomirsky 2008; and Weiner 2008; Diener and Biswas-Diener 2008). Some of that research on happiness (for example, van Praag 2004) reflect what has been perused by economists, and that type of research is considered by some to be at the frontier of that discipline using econometric analysis to deal with variables including income, health, marriage, gender, social comparison norms and the dynamics of satisfaction. However, as has already been noted, most of those factors have long been considered in research by psychologists and sociologists in the study of happiness and satisfaction, often in the context of studying well-being.

The quantitative analysis of happiness by social scientists has resulted in the development of sophisticated scales to measure individual and collective norms that include satisfaction with life as a whole as well as with various domains of life, such as health and income. And there are a number of on-going surveys that attempt to measure “happiness,” one being the *Australian Unity Wellbeing Index*, which has been measuring the happiness of Australians since April 2001 (see Cummins et al. 2003). It uses the *Subjective Wellbeing Homeostasis* management system, which suggests that we hold happiness within a relatively narrow range of values. It has been shown to be resilient. It would seem that two key factors relating to peoples’ happiness are:

- An internal factor, namely relationships (for which one may read as having an emotionally intimate relationship)
- An external factor, namely resources (for which one may read as “money”)

That Australian study suggests that happiness rises only marginally beyond a household income of about A\$100,000 a year and that after A\$150,000, there is no more rise in happiness. And having more money is not a substitute for not having a good relationship. This is the so-called Easterlin Paradox, which says that once people have met their basic needs, they do not become happier as they become richer.

## Place and Environmental Setting Do Matter

There is considerable evidence to show that “place” matters when it comes to QOL concerns, and studies focusing on QOUL enable us to better understand the meaning of QOL and how it might be measured (Marans 2002: p. 2). For example, Marans and his collaborators (Marans and Rodgers 1975; Lee and Marans 1980; Connerly and Marans 1985, 1988) have built on the seminal work by Campbell et al. (1976a) to explore the *objective–subjective relationships* in investigating QOUL, asserting that the quality of a place or the geographic setting at various levels of *scale* (the region, the city as a whole, the neighborhood, the dwelling) is in fact a subjective phenomenon and that each person occupying that setting might differ in their views about it. Further, it has been suggested that those views would reflect each individual’s

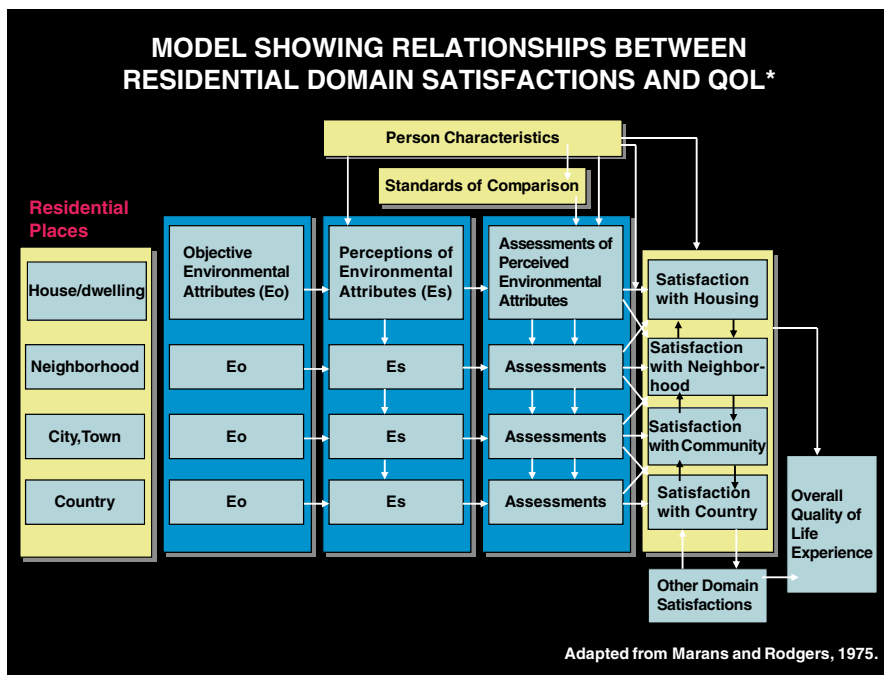


Fig. 1.2 Model showing the relationships between residential domain satisfactions and quality of life (Source: Marans and Rodgers 1975)

perceptions and assessments of a number of setting attributes that could in turn be influenced by certain characteristics of the occupant, including their past experiences. Those past experiences thus represent a set of standards against which current judgments are being made. Those judgments include other settings experienced by the resident of a place, and they also include their aspirations. Finally, it also has been asserted that those assessments and perceptions of setting attributes are associated with the place attributes themselves. Marans (2002) provides this example:

... the degree to which a person feels crowded at home is expected to be related to some degree to the number of people in his household per room (i.e. housing unit density). At the neighborhood level, assessments of air quality and family health (e.g. the incidence of asthma) are likely to be associated with air quality measures in the neighborhood. (pp. 1–2)

Marans and Rodgers (1975) had proposed a model depicting such relationships for different residential domains of urban environments and how those domains, together with other domains, contribute to QOL (see Fig. 1.2). There are, of course, assumptions underlying the model:

- (a) One is that the quality of the geographical or environmental setting (the region, the city, the neighborhood or the dwelling) cannot be captured through a single

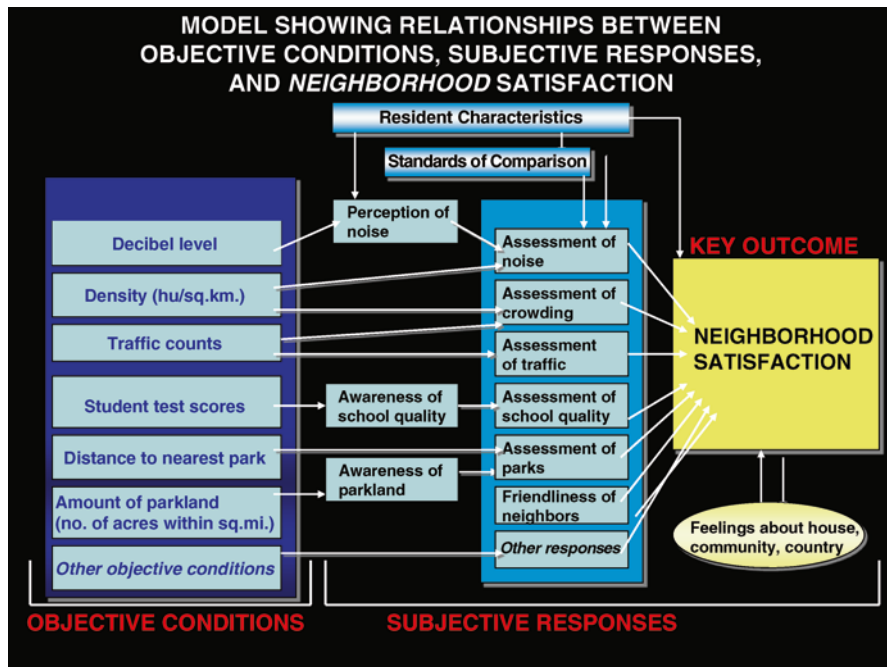


Fig. 1.3 Model showing the relationships between objective neighborhood conditions, subjective responses and neighborhood satisfaction (Source: Marans 2002)

measure; rather, it requires measures of multiple attributes of the environmental setting in question. In as yet to be specified combination, it reflects the overall quality of the setting.

- (b) Another is that quality is a *subjective phenomenon reflecting the life experiences* of the occupants of the setting. The objective conditions of the setting themselves do *not* convey the true quality of the setting; rather, its quality is a reflection of the meaning of those conditions to the occupants.

More recently, Marans (2002) has elaborated on the model by showing the relationships that might account for people’s feelings about their neighborhood (that is, “neighborhood satisfaction”), as demonstrated in the example given in Fig. 1.3.

As Marans (2002) has stated:

... Often, policy-makers want to know the most effective means of enhancing satisfaction. An important part of research therefore is determining the degree to which various objective conditions are associated with satisfaction. There is general agreement that satisfaction as an indicator of individual well-being is an important outcome in quality of life research. Nonetheless, there are other outcomes of importance to well-being that may be examined in quality of life studies. For instance, the physical health of individuals and the amount and type of physical activity they engage in are important to their overall well-being. (p. 3)

**Table 1.2** Additional possible outcomes at the neighborhood and the dwelling level

Neighborhood	Dwelling
Concern for safety	Amount of leisure time spent at home
Rating of school quality	Number of accidents
Public transit use	Amount of time spent with children
Assessment of public transit	Time spent in housekeeping
Involvement in governance at a city level	Time spent in home maintenance
Amount of neighboring	
Number of shopping trips	
Where children play	
<i>Park visits</i>	<i>Airborne-related illnesses</i>
<i>Amount of walking</i>	<i>Number of meals at home</i>
<i>Visits to doctors</i>	

Note: Items in italics might be used as physical health-related outcomes

Source: The authors

It may be that in investigating QOUL, researchers might want to explicitly focus on outcomes additional to those indicated in Fig. 1.2. By way of example, that might include the outcomes for people at the neighborhood level and at the dwelling level that are listed in Table 1.2. Particular measures might be used to relate to an outcome on a particular domain, such as the items in italics that could relate to physical health outcomes.

A further conceptual model proposed by Marans and Mohai (1991) suggests how health may be linked to a number of objective conditions associated with a set of leisure resources including environmental quality, as illustrated in Fig. 1.4. It showed that environmental and urban amenities are related to community quality and individual activities, satisfactions, and physical health:

(a) Environmental amenities include both:

- Natural recreation resources (for example, rivers, lakes, wetlands, forests)
- The quality of the ambient environment (air, water, noise, solid, and hazardous waste)

(b) Urban amenities include both:

- Man-made recreation resources (swimming pools, bicycle paths, walking trails, golf courses)
- Cultural resources (cinemas, concert halls, orchestras, museums, galleries, sports teams)

The model hypothesized that the perceptions or awareness of these environmental and urban amenities will influence peoples' evaluation and their use of them. And the model also suggested that in the case of the man-made recreational resources and the natural recreational resources, their use or non-use by an individual is associated with physical health.

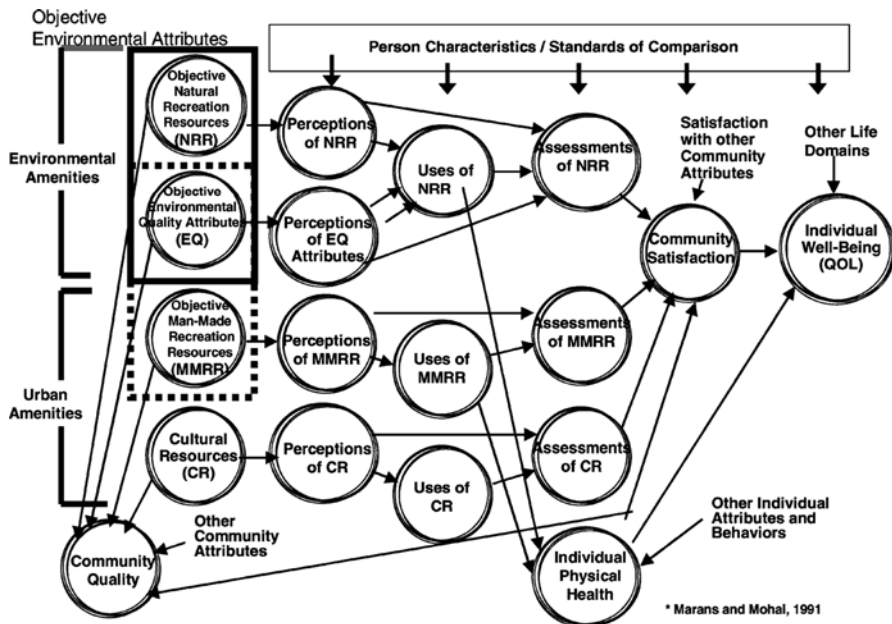


Fig. 1.4 A model linking recreation resources and activities to individual well-being, health and community quality (Source: Marans & Mohai 1991)

Models such as that depicted in Fig. 1.4 provide opportunities to explore many relationships including the role of recreational, environmental, and cultural resources in understanding QOL and in particular QOUL. Conceptualizing similar models can serve to guide data collection and analyses for other outcomes associated with QOL and with *quality of place*.

But the importance of relationships between urban characteristics and the perceived or subjective assessment of QOUL extends far beyond the satisfaction of individual residents with their living environments. Indeed, that has been the focus of much of the aggregate level analysis and modeling that had been conducted using spatial objective data. For example, as discussed at the outset to this chapter, migration patterns are often attributed in part to QOUL considerations associated with particular cities or regions that may either be places from which people move or places to which people are attracted, and there is a rich literature in geography and regional science investigating migration flows using aggregate data derived from the census. Such models typically use as explanatory variables *place-related attributes*, including measures of local labor market characteristics (such as industry structure and wages) and urban amenities, which might include, for example, climate, the amount of public open space and the number of recreational facilities, museums and art galleries, sports teams, health services and facilities, and public transport characteristics.

By way of an example, in a study for the US Department of Housing and Urban Development, Glaeser et al. (2000) made the claim that urban growth is

driven by a variety of QOUL issues that relate to *urban consumption experiences*. Their research identified seven urban consumption areas that are said to predispose an area to rapid urban growth:

- A rich variety of high-quality public services (especially in health, education and public safety)
- Aesthetic and attractive physical settings in the form of architecture, urban design, and natural features, such as a favorable climate.
- Easy movement around the city, with resident location having more to do with easy access to consumption opportunities and less to do with access to work
- A housing stock that is architecturally distinctive, affordable, and varied
- Neighborhoods that are safe and ethnically diverse, that offer transport choices, that have a mix of compatible uses (for example, retail, residential, and commercial), and that contain parks and open spaces
- Civic spaces and civic activities that provide opportunities for social interaction among residents
- A reasonable cost of living

In addition to population flowing to places offering a higher QOUL, so too does economic capital as additional investment is needed to cater for an increasing population, and this in turn is likely to enhance the region's economic growth and possibly its competitiveness (see, for example, Grayson and Young 1994). And Rogerson (1999) has suggested that the consumption experiences afforded in such places of in-migration and urban growth are key factors determining QOUL (as seen, for example, in research by Ley 1996).

A concern for these issues is clearly evident in strategy formulation for regional and local economic development, where a focus on business development and attraction through policy and programs that seek to enhance place amenity, create a business-friendly culture, and build human capital are common-place, with the objective being to improve overall QOL (Blakely 1994; Wong 2006; Roberts and Stimson 1998; Mathur 1999).

The importance of "place" is also demonstrated by Richard Florida (2008) in his book, *Whose Your City?*, in which he had this to say:

... The place we choose to live affects every aspect of our being. It can determine the income we earn, the people we meet, the friends we make, the partners we choose, and the options available to our children and families. People are not equally happy everywhere, and some do a better job of providing a high quality of life than others. Some places offer us more vibrant labor markets, better career prospects, higher real estate appreciation, and stronger investment earning opportunities. Some places offer more mating markets. Others are better environments for raising children.

In his writings, Florida (2002, 2008) has claimed that the opportunities offered by certain places for achieving a high QOL has become the impetus for attracting and retaining what he calls the "creative class." That class, he says, has been the key to the emergence of the dynamic contemporary of the creative economy which is

highly spatially concentrated in particular large cities or urban regions, the top three of which, he says, are the San Francisco Bay Area, Boston and Seattle. The high QOL experiences by the creative class are achieved by the individual consumption of necessities – like health, housing, education – and the consumption of goods and services that help satiate the hedonistic values of the contemporary age, but Florida (2002) claims that most importantly, it is acquired through

... a passionate quest for experiences. The idea... is to ‘live the life’ - a creative life packed full of intense, high quality multidimensional experiences. And the *kinds* of experiences they crave reflect and reinforce their identities as creative people ... [T]hey favour active, participatory recreation over passive spectator sports. They like indigenous street-level culture – a teeming blend of cafes, sidewalk musicians, and small galleries and bistros, where it is hard to draw the line between participant and observer, or between creativity and its creators. (p 166)

Florida puts the argument that the communities (or “neighborhoods”) in which these people live are chosen because they offer opportunities for those experiences. They are close to work in the inner city, where these experiences are most likely to be concentrated. In this way, the post-industrial community of the creative class has some semblance to the occupational community of the earlier industrial age. Both types of community were or are located in the inner city, close to places of work, with residents of what is called “the occupational community” being the key class (the working class) of the industrial era. Florida has called this community an “occupational community” because of the close ties that exist between home/the community and place of employment (for example, a ship building yard). Yet there are also fundamental differences between the communities of the industrial and post-industrial ages. Whereas those residing in industrial age communities had close-knit ties and thus – in Putnam’s (1993) terms – held considerable *social capital*, the post-industrial communities of the creative class have weak ties and thus limited social capital. Putnam’s lament about the decline of social capital in the contemporary world is not shared by Florida. Indeed Florida (2002, 2008) has shown that places with extensive social capital are not only where the creative economy is largely absent, but those places contain remnants of the earlier and now defunct industrial economy and its working class. Conversely, places with dynamic, contemporary, creative economies – and thus the creative class – have weak ties and low levels of social capital. Moreover, according to Florida the cities and urban regions where the creative economy (and thus the creative class) is concentrated are characterized by diversity and tolerance, with this openness providing a climate for innovation.

Florida (2008) has gone as far as listing those places in the USA which his research shows as offering the “best” places for particular groups of people according to their stage in the life cycle. For example, Table 1.3 lists his “best places” for (a) mid-career professionals who are single or married, without children and aged 30 to 44 years, and (b) empty-nesters aged 45 to 64 years.

Florida (2008) says the key is to find a place that fits, that makes one happy, and that enables one to achieve one’s life goals.

**Table 1.3** Overall best places for people to live in the USA

<i>Large regions</i>	<i>Medium-size regions</i>	<i>Small regions</i>
<b>(a) For mid-career professionals, single or married, without children, aged 30–44</b>		
San Jose, CA	Stamford, CT	Durham, NC
Minneapolis	Portland, ME	Provo, UT
Austin	Madison, WI	Reno, NV
San Diego	Omaha, NE	Fayetteville, AR
Denver	Des Moines, IA	Boulder, CO
<b>(b) For empty-nesters aged 45–64</b>		
San Francisco	Stamford, CT	Boulder, CO
Seattle	Portland, ME	Trenton, NJ
Boston	Madison, WI	Fort Collins, CO
Minneapolis	Honolulu, HI	Santa Rosa, CA
Hartford, CT	Rochester, NY	Norwich, CT

Source: Florida (2008)

## Benefits of a Modeling Approach

From the discussion so far, it is evident that the relationship between QOL and urban environments is undoubtedly complex, and people's satisfaction with living in urban environments is influenced by their personal characteristics, such as (individual or group) values, expectations, perceptions and evaluations, and their demographic and socioeconomic characteristics. People vary in what they may consider to be important when judging their satisfaction with life in general and their QOUL in particular (Hsieh 2003), and different people might perceive things differently in the same situation or setting. The complexity of the relationships between urban characteristics and those subjective judgments or evaluations might help explain why research finds that a low correlation is often found to exist between individual subjective evaluations and objective measures of QOL (see, for example, Warr 1987, 1999; Schwarz and Strack 1999).

The benefits of using the modeling approaches that have evolved from the original Campbell et al. (1976a) model are numerous, as discussed by McCrea et al. (2005):

- (a) The models have been able to accommodate a large number of factors thought to influence levels of satisfaction with urban living as well as personal characteristics of people.
- (b) The models also have allowed for the comparison of a number of different geographic levels of urban living. Including different levels of urban living in QOL models has been important because different planning, urban development and service provision policies may target different levels of urban living. When only one level of analysis is incorporated into a model, the results may be confounded because the other levels of analysis are not controlled (Gyourko and Tracy 1991). For example, relationships depicted in a model that are confirmed when



analyzing data covering an entire region may not hold up when analyzing data for separate communities within that region. That is because of what geographers refer to as the “aggregation/disaggregation problem” whereby greater clarity in terms of spatial differentiation in a phenomenon is more likely to be evident at a more disaggregated level of scale than will be the case at a more aggregated level of scale.

- (c) In addition to incorporating different levels of urban living, models have allowed for characteristics of one particular satisfaction domain to contribute to satisfaction in another domain. For example, a public transport system may be a characteristic of a city and contribute to its overall quality, but it may also influence neighborhood satisfaction and people’s ability to move easily throughout a region.
- (d) Finally, it is possible for the level of satisfaction in one domain to influence (or color) satisfaction in other domains. For example, housing and neighborhood satisfaction have been shown to predict community satisfaction. Such links between satisfaction domains are “spillover effects” (Jeffres and Dobos 1995).

## **Social Indicators, Urban Amenity and Livability Studies**

As indicated earlier in this chapter, one of the common approaches to the investigation of QOL and of QOUL has been concerned with the secondary analysis of aggregate data at different levels of spatial scale typically using information available from official data collections, including the census. Mulligan et al. (2004) have provided a comprehensive review of the research – published predominately in the economics, regional science and geography literature – which has analyzed and modeled QOL in a spatial context using those approaches.

### ***Social Indicators***

In an early seminal study, Thorndyke (1939) assessed QOL using a wide variety of single-variable indicators grouped into six categories. Then much later in the 1960s and 1970s, a vast amount of research was conducted using Thorndyke’s approach in what became known as the *social indicators* movement, which grew out of a long tradition of social and social policy research. That was reflected in the publication of an array of books written by social scientists from many disciplines, including for example, contributions by geographer David Smith (1973; 1977; 1979), planner Judith Innes de Neufville (1975), and sociologists Otis Dudley Duncan (1969) and Peter Rossi (1972).

The social indicators movement reflected an increasing policy interest in and a concern for an array a range of social issues – such as poverty and crime – which

reflected the incidence of social disadvantage in society. The research was conducted at a variety of levels of spatial scale, from the analysis of social indicators at the national level using data for states and counties in the USA, to the analysis of patterns within cities, to a focus on the study of neighborhoods. Often the research involved the benchmarking of performance at the local or regional level against a national performance figure (or standard), and it was common for geographers to do this by mapping the location quotient scores of regions on a particular social indicator.

An example of that approach was a study by Liu (1976) in which more than 240 US metropolitan areas in 1970 were assessed using five general categories of well-being, namely:

- Economic health
- Political performance
- Environmental conditions
- Health and education
- Social concerns.

The raw data were standardized and then added so that once assigned to three size-groups, the cities could be designated as being “sub-standard,” “adequate,” “good,” “excellent,” or “outstanding.”

In addition, many studies have used multivariate data reduction techniques, such as principal components analysis, to reduce to a small number of significant social dimensions the scores of regions on a battery of social indicator variables (see, for example, Hadden and Borgatta 1965; Berry and Kasarda 1977). Others have used discriminant analysis to classify places according to their social disadvantage problem using measures of inequality and deprivation. An example is the Cheshire et al. (1986) study of more than 100 of the largest metropolitan areas in the European Economic Community countries using functional urban regions and using variables relating to income, unemployment, migration and travel demand. They were able to compare the rank position of cities and calculate a change in health score over the period 1971 to 1988.

It has been relatively common for studies such as those referred to above to claim that they are measuring QOL. A more detailed discussion of social indicators, and in particular of territorial social indicators, is provided in Chap. 2.

## *Urban Amenity*

Social indicator studies fell into disfavor after the 1970s, especially in the USA. However, in recent decades, there has been a resurgence of interest among some social scientists in conducting QOL studies using spatial social data sets with the focus being on the evaluation of regional or city level performance, including the study of *urban amenity* – including public goods – as an attractor for migration in the context

of researching labor regional markets and regional economic development, and the role of amenities in urban life, including their impact on housing markets (see, for example, Bartik and Smith 1987; Gyourko et al. 1999). This interest – particularly among regional scientists – is elaborated in more detail in what follows.

The substantial literature that has developed investigating urban amenity has focused on both the inter-urban and the intra-urban scales. In the context of QOUL studies, the role of *urban amenity* has typically been seen from an economic perspective and as being capitalized in real estate and rents – and even wages – which will reflect non-market amenities. That influence has been explained through the *compensating differentials* concept. Over time, there has developed a considerable literature on the capitalization of urban environmental amenity (see, for example, Geoghegan et al. 1997; Orford 1999; Mahan et al. 2000; Esparza and Carruthers 2000; Hardie et al. 2001; Johnston et al. 2001; Bastian et al. 2002; Smith et al. 2002).

The range of amenity variables used in such studies has been considerable and includes surrogate measures of the following:

- Wages and income
- Industrial structure and employment
- Housing prices
- Quality of education facilities and production of human capital
- Cultural facilities
- Wetlands
- Scenic views
- Proximity to farmland
- Climate (especially average temperatures).

It is interesting to note that urban amenity thus incorporates landscape diversity and the built environment in addition to cultural and economic factors. The notion is that all such factors – many of which are intangibles – can operate to enhance QOUL. But spatial variation in the provision of and in access to those place amenity factors is highly variable not only on an inter-regional basis but also on an intra-regional basis (that is, within a city). Similarly, QOUL will be spatially highly variable. This is an indication of the Tiebout principle at work (1956), where residents relocate to maximize their satisfaction with public goods by matching their individual preferences and circumstances with the substantial spatial variations in institutional capacity and capability as is clearly seen in the differential performance of local government across urban space and the way in which property taxes are capitalized (Logan and Molotch 1987; Ladd 1994; Brasington 2002).

Many such studies on urban amenity have used *hedonic analysis* to model the effect of location-specific amenities on wages and housing prices, while controlling for effects such as education and race (see, for example, Rosen 1974, 1979; Roback 1982, 1988). And there has also been focus on investigating revealed preferences (see, for example, Kahn 1995). Much of that modeling has operated at the intra-urban scale.

Thus, there is now a vast literature on urban amenity which incorporated a variety of research approaches some of which are explicitly linked to the study of QOL and QOUL, while in others, the link is more implicit than explicit. A more detailed discussion is provided in Chap. 5, in which models dealing with urban amenity – mainly in the USA – are presented.

*Benchmarking* national, state and regional “performance” has almost become an industry in itself as there is an increasing concern, particularly among local officials, to see how their jurisdictions “rate” against other places, often those places seen as being “competitors.” In 1989, the State of Oregon in the USA began a statewide performance measurement initiative called *Benchmarking Oregon*, which attempted to benchmark its performance on measures related to economic, social and environmental “livability” on phenomena as diverse as the educational attainment of Oregonians, income levels and much exercise people were getting every week.

One of the best known of these types of studies is the *Places Rated Almanac* (in the U.S. and Canada) which ranks more than 350 cities across nine general categories and a variety of sub-categories (Savageau and D’Agostino 2000).

It has thus now become common place for states, cities and regions to rate themselves on so-called livability indicators, and it has been estimated by the on-line [www.governing.com](http://www.governing.com) (the resources for States and Localities) that there are now more than 170 efforts going on at the state, regional and local levels across the USA. In some ways, such efforts might be regarded as exercises in “feelgood,” but nonetheless they seem to be taken seriously by public officials, and when the performance of a place is favorable, are widely used in city marketing and promotion campaigns.

Similarly, there has been an increasing interest in rating cities according to their QOL/“liveability”/“amenity.” This is reflected in the emergence in recent years of a number of “city rating” ranking studies published by private firms including media outlets (such as Mercer, *Monocle Magazine*, and *The Economist Intelligence Unit*). A discussion of those approached to the investigation of QOUL is provided in Chap. 2.

## ***Environmental Quality of Life***

There has, of course, been a long interest among researchers in issues to do with environmental quality in the context of urbanization and city planning and how to deal with urban problems (see, for example, Schmandt and Bloomberg 1969).

One of the earlier books dealing specifically with the quality of the urban environment and its effect on QOL was a set of papers in a book edited by Harvey Perloff (1969) in which a diverse range of issues were canvassed, including pollution, open space, amenity resources and transport. In addition, the relationships between the environmental factors and the role of location, size and

shape of cities were addressed. In the introduction to that book, Perloff (1969) wrote this:

... The current interest in the quality of the urban environment is in large part a convergence of two other evolving public concerns. One is a concern with the quality of the natural environment – the quality of air, water, land, wilderness areas, and other resources. The other is a concern with the development of our urban communities – with all the matters coming under the rubric of more traditional city planning, but recently refocused to a special concern for the human beings in the city. The quality of life of all the people who are clustering into urban communities is clearly influenced by what happens to both the natural and the man-made environments in direct interrelationship with each other. (p. 3)

Of particular significance was a concern about the possible arrays of environmental elements and the trade-offs that give rise to the urban-environment system and the implications for policy decision-making.

Much of the focus of research on urban environmental quality has been on pollution (mainly air and water quality), the costs of pollution, pollution as a *disamenity*, and abatement measures (see, for example, Gleaser 1998; Smith and Huang 1995; Kahn 2002). And some research has investigated the relationship between environmental quality and a range of socioeconomic attributes and other attributes, such as political activism (see Millimet and Slottje 2002).

Concerted attempts to address environmental quality also have been evident in the area of land-use planning and zoning through mechanisms to protect, restrict and exclude (see, for example, Knaap 1998; Mayer and Somerville 2000; Pendall 2000; and Malpezzi 2002). However, spillover effects may occur as often poorer people and some firms are displaced to less-restricted localities (Landis 1986; 1992). Through the differential policies and actions of local governments, for example, there can thus be generated considerable differentials in QOUL across large urban regions. At the metropolitan regional level of scale, planning interventions – such as the imposition of an urban growth boundary and other measures aimed at restricting urban sprawl – can also have spillover effects and thus change amenity and perceived QOUL. Knaap (1985) has found that these may influence expectations about when land will be developed, thus distorting price gradients and the like. Metropolitan urban planning policy interventions like these are now widespread and may also lead to supply-restricted increases in property prices detrimentally affecting housing affordability and helping to create stress on the QOL, especially of lower income households.

In more recent times, with the increasing interest in and concern for issues to do with the environment, sustainable development, and the challenges of climate change, it is not surprising that there has emerged a considerable literature on environmental quality of life [Rehdanz and Maddison 2008; Schaffer and Vollmer 2010; Westaway 2009].

This increasing emphasis on environmental QOL is seen in public policy and planning responses as demonstrated, for example, in the assertion by Choonyong (2008) in the Korean Research Institute for Human Settlements publication *KRIHS Gazette* that:

... paradigm shift is needed in the policy for road space towards prioritizing human beings, environmental quality of life, as well as public transport and walking.

## *Summing up*

In the conclusion to their comprehensive review of the multidisciplinary literature addressing the complex relationships that exist between the urban environment and QOL, Mulligan et al. (2004) had this to say:

... Hedonic models have been emphasized but other perspectives have been included. Natural amenities like climate and topography remain important in household migration and are partially responsible for the high housing costs of some cities. However, fiscal prudence, cultural and lifestyle tolerance, and the responsible management of key human-made amenities - especially crime, education, and land use - are increasingly seen as being critical for the continued success of cities. In order to be competitive in a global, high-tech economy, firms must be able to attract high human-capital workers. But these people prefer to live in large cities with broad QOL appeal or smaller places with specific QOL appeal. These same persons avoid areas of high crime, locally if not regionally, and they want their children to be educated in high-quality school districts. Housing costs are bid up accordingly and high taxes ensure the provision of high-quality public goods and services. Especially in large urban areas, these same people tolerate a wide diversity of lifestyles and, increasingly, they demand an orderly and aesthetically pleasing urban landscape. With non-interventionist state- and national-level public policies, and political fragmentation in metropolitan areas, existing resource and life-opportunity gaps between the most advantaged and the most deprived will only widen in our largest cities. (p.787)

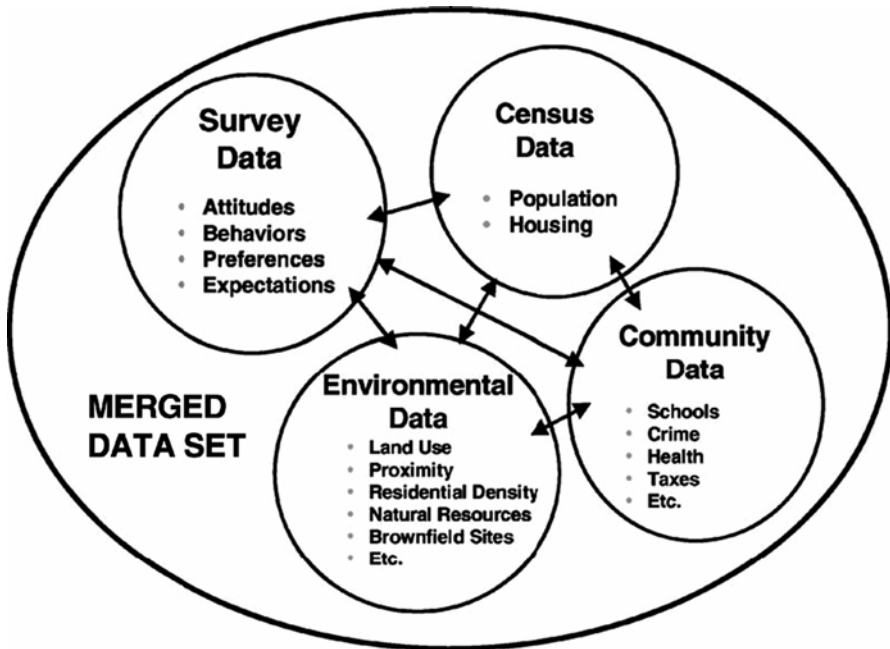
## **The Introduction of Geographic Information Systems**

Increasingly Geographic Information Systems (GIS) technology is being used in social research including QOUL studies, and it is certain that this will become more common in the future.

GIS technology has been employed widely by researchers in re-examining the entire issue of accessibility in urban environments to assess how overall proximity to diverse opportunities such as employment, education, shopping, health and recreation might directly affect something such as personal health (Witten et al. 2003). Studies have examined the relationships between health levels and urban lifestyles, assessing – among other things – how transportation infrastructure affects longevity (Handy et al. 2002; Boarnet et al. 2003).

But it has been the use of GIS technology which now permits the integration of survey-based data on subjective QOUL at the level of the individual with spatial objective information about the urban environment where currently, profoundly dramatic innovations are being made in QOUL studies. By geocoding the residential location of respondents to QOL surveys, it is possible to integrate:

- Survey-based information on individuals' attitudes, preferences, behaviors and expectations with respect to QOL domains and of aspects of QOUL at different spatial scale levels
- Spatial objective information on the demographic and socioeconomic characteristics of populations and of housing of local areas derived from census data



**Fig. 1.5** Using GIS to integrate data sources to generate a merged data set (Source: Marans 2002: p. 7, Figure 5)

- Spatially objective environmental data relating to land use, proximity to urban services and facilities and natural resources like parks, residential density, brown-field sites and noxious industry
- Community data relating to schools, crime, health, taxes, etc.

This integrative capability of GIS is conceptualized in Fig. 1.5 and has been used in a number of QOUL studies recently, including in research that has investigated QOUL in metro Detroit (see Chap. 7) and in the Brisbane-South East Queensland region in Australia (see Chaps. 8 and 18). Data integration gives rise to the possibility of investigating many aspects of the relationships between contextual data and responses to survey questionnaires on QOL using bi-variate analysis and multi-variate statistical modeling. For example, an analysis might address a question such as how density (as reflected by multiple density measures) affects peoples' responses to crowding, knowing the names of neighbors, and their interactions with them.

Marans (2002) suggests that this integrative capability potentially is most useful to help researchers address issues that might have policy significance or be useful in helping us to address urban and environmental planning issues. Marans gives the following examples of questions that might be addressed:

- Where do people live who feel negatively about their cities and their neighborhoods?

- To what extent are police reports about crime associated with concerns about neighborhood safety?
- To what extent is public transit use influenced with proximity to bus routes and bus stops?
- Do people living in mixed-use neighborhoods use public transit more and walk more than people living in neighborhoods consisting of single family homes?
- Is there a relationship between access to parks and frequency of park visits?
- Is the amount of walking that people do associated with self-reports of health?
- What physical and social attributes of neighborhoods if any contribute to the degree to which residents feelings about “sense of community”?
- Are preferences for open space neighborhoods associated with feelings about urban sprawl, preservation of farmland, and natural resource conservation?
- Is the type of street network in a neighborhood associated with amount of automobile use?

The research investigating the relationships between subjective evaluations of QOUL and objective indicators of QOUL in the Brisbane-South East Queensland metropolitan region in Australia has also demonstrated this integrative capability of GIS technology to model those relationships (see McCrea et al. 2005, 2006; McCrea 2007). The possibilities for innovation in this regard are also demonstrated in some of the chapters in Part IV of this book.

## Conclusion

This chapter has provided a broad overview of the evolution of approaches to research on QOL and on QOUL. The review has demonstrated that the research is both diverse and complex, incorporating both objective approaches and subjective approaches. Both have evolved over time in terms of theories and methodologies, and in more recent times, the availability of geographic information system (GIS) technology has enhanced the evolution and development of integrated approaches. GIS provides exciting new opportunities for the development of more holistic frameworks for the analysis and modeling of the complexities of QOUL – its nature, characteristics and the complex inter-relationships between the objective and subjective elements that influence overall QOUL and specific QOUL outcomes over time.

There is no doubt that QOL and QOUL studies are experiencing something of a resurgence of interest in contemporary times, driven not only by the research community but also by public policy and the concern in urban governance, planning and management with how to make cities more competitive, achieve sustainable development, and enhance the well-being of residents. Central to those concerns is a whole set of issues that can be informed through QOUL studies.



## References

- Andelman, R., Board, R., Carman, L., Cummins, R., Ferriss, A., Friedman, P., et al. (1998). *Quality of life definition and terminology: A discussion document from the International Society of Quality of Life Studies, (Monograph)*. Blacksburg: International Society of Quality of Life Studies.
- Bartik, T. J., & Smith, V. K. (1987). Urban amenities and public policy. In E. Mills (Ed.), *Handbook of regional and urban economics: Vol. 2. Urban economics* (pp. 1207–1254). Amsterdam: North-Holland.
- Bastian, C., McLeod, D., Germino, M., Reiners, W., & Blasko, B. (2002). Environmental amenities and agricultural land values: A hedonic model using geographic information systems data. *Ecological Economics, 40*, 337–349.
- Berry, B. J. L., & Kasarda, J. D. (1977). *Contemporary urban ecology*. New York: Macmillan.
- Blakely, E. J. (1994). *Planning local economic development: Theory and practice* (2nd ed.). Sherman Oaks: Sage Publications.
- Boarnet, M. G., Greenwald, M. and McMillan, T. E. (2003). *Planning and health promotion: quantifying links between land use, walking, and physical activity*. Unpublished Manuscript, pp. 39.
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago: Aldine.
- Bradburn, N. M., & Caplowitz, D. (1965). *Reports on happiness*. Chicago: Aldine.
- Brasington, D. M. (2002). Edge versus center: Finding common ground in the capitalization debate. *Journal of Urban Economics, 52*, 524–541.
- Brothie, J., Newton, P., Hall, P., & Nijkamp, P. (1985). *The future of urban form*. London: Coom Helm.
- Campbell, A., Converse, R., & Rodgers, W. (1976a). *The quality of American life: Perceptions, evaluations and satisfactions*. New York: Russell Sage Foundation.
- Campbell, A., Converse, P., Rodgers, W., & Marans, R. W. (1976b). The residential environment. In A. Campbell, P. Converse, & W. Rodgers (Eds.), *The quality of American life: Perceptions, evaluations and satisfactions* (pp. 217–266). New York: Russell Sage Foundation.
- Cheshire, P., Carbonaro, G., & Hay, D. (1986). Problems of urban decline and growth in EEC countries. *Urban Studies, 23*, 131–150.
- Choonyong, Y. (2008). Space and environment. *KRIHS Gazette Korean Research Institute for Human Settlements, 32*, 12–14.
- Connerly, C., & Marans, R. W. (1985). Comparing global measures of neighborhood quality. *Social Indicators Research, 45*, 29–47.
- Connerly, C., & Marans, R. W. (1988). Neighborhood quality: A description and analysis of indicators. In E. Huttman & W. Vleit (Eds.), *The US handbook on housing and built environment* (pp. 37–62). Westwood: Greenwood Press.
- Coppock, J. T., & Wilson, C. B. (Eds.). (1974). *Environmental quality: With emphasis on urban problems*. New York: A Halsted Press Book, Wiley.
- Cummins, R. A., Eckersley, R., van Vugt, J., & Misajon, R. (2003). developing a national index of subjective wellbeing: The Australian wellbeing unity index. *Social Indicators Research, 63*, 159–190.
- Dahmann, D. C. (1985). Assessments of neighborhood quality in metropolitan America. *Urban Affairs Quarterly, 20*(4), 511–535.
- Diener, E., & Biswas-Diener, R. (2008). *Happiness: Unlocking the mysteries of psychological wealth*. Malden: Blackwell Publishing.
- Diener, E., & Suh, E. M. (Eds.). (2000). *Culture and subjective well-being*. Cambridge: The MIT Press.
- Dissart, J.-C., & Deller, S. C. (2000). Quality of life in the planning literature. *Journal of Planning Literature, 1*, 36–61.
- Duncan, O. D. (1969). *Towards social reporting: Next steps*. New York: Russell Sage Foundation.

- Eid, M. (2007). *The science of subjective wellbeing*. New York: Guilford Publications.
- Esparza, A., & Carruthers, J. (2000). Land use planning and exurbanization in the rural Mountain West: Evidence from Arizona. *Journal of Planning Education and Research*, 20, 26–39.
- Florida, R. (2002). *The rise of the creative class; and how it's transforming work, leisure, and everyday life*. New York: Basic Books.
- Florida, R. (2008). *Who's your city? How the creative economy is making where to live the most important decision of your life*. New York: Basic Books.
- Geoghegan, J., Wainger, L., & Bockstael, N. (1997). Spatial landscape indices in a hedonic framework: An ecological economics analysis using GIS. *Ecological Economics*, 23, 251–264.
- Gilbert, D. (2005). *Stumbling on happiness*. New York: Vintage Books.
- Glaeser, E. L. (1998). Are cities dying? *Journal of Economic Perspectives*, 12, 139–160.
- Glaeser, E., Kolko, J., & Saiz, A. (2000). *Consumer city* (Working Paper 7790). Cambridge: National Bureau of Economic Research.
- Golledge, R. G., & Stimson, R. J. (1987). *Analytical behavioural geography*. London: Croom Helm.
- Grayson, L., & Young, K. (1994). *Quality of life in cities*. London: British Library.
- Gyourko, J., & Tracy, J. (1991). The structure of local public-finance and the quality-of-life. *Journal of Political Economy*, 99(4), 774–806.
- Gyourko, J., Kahn, M., & Tracy, J. (1999). Quality of life and environmental conditions. In P. Cheshire & E. S. Mills (Eds.), *Handbook of regional and urban economics: Vol. 3. Applied urban economics* (pp. 1413–1454). Amsterdam: North-Holland.
- Hadden, J. K., & Borgatta, E. F. (1965). *American cities: Their social characteristics*. Chicago: Rand McNally.
- Handy, S., Boarnet, M. G., Ewing, R., & Killingsworth, R. E. (2002). How the built environment influences physical activity: Views from urban planning. *American Journal of Preventative Medicine*, 23, 64–73.
- Hardie, I., Narayan, T., & Gardner, B. (2001). The joint influence of agricultural and nonfarm factors on real estate values: An application to the Mid-Atlantic region. *American Journal of Agricultural Economics*, 83, 120–132.
- Hsieh, C. (2003). Counting importance: The case of life satisfaction and relative domain importance. *Social Indicators Research*, 61, 227–240.
- Innes de Neufville, J. (1975). *Social indicators and public policy: Interactive processes of design and application*. Amsterdam: Elsevier.
- Jeffres, L. W., & Dobos, J. (1995). Separating peoples satisfaction with life and public perceptions of the quality-of-life in the environment. *Social Indicators Research*, 34(2), 181–211.
- Johnston, R., Opaluch, J., Grigalunas, T., & Mazzotta, M. (2001). Estimating amenity benefits of coastal farmland. *Growth and Change*, 32, 305–325.
- Kahn, M. (1995). A revealed preference approach to ranking city quality of life. *Journal of Urban Economics*, 38, 221–235.
- Kahn, M. (2002). Smog reduction's impact on California county growth. *Journal of Regional Science*, 40, 565–582.
- Kahneman, D., Deiner, D., & Schwartz, N. (Eds.). (1999). *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
- Keeble, D. (1990). Small firms, new firms, and uneven regional development in the United Kingdom. *Area*, 22, 234–245.
- Kemp, D., Manicaros, M., Mullins, P., Simpson, R., Stimson, R., & Western, J. (1997). *Urban metabolism: A framework for evaluating the viability, livability and sustainability of South East Queensland*. Brisbane: The Australian Housing and Urban Research Institute.
- Knaap, G. (1985). The price effects of urban growth boundaries in metropolitan Portland, Oregon. *Land Economics*, 61, 26–35.
- Knaap, G. (1998). The determinants of residential property values: Implications for metropolitan planning. *Journal of Planning Literature*, 12, 267–282.
- Ladd, H. F. (1994). Fiscal impacts of local population growth: A conceptual and empirical analysis. *Regional Science and Urban Economics*, 24, 661–686.

- Lambiri, D., Biagi, B., & Rpyuela, V. (2007). Quality of life in the economic and urban economic literature. *Social Indicators Research*, 84, 1–25.
- Landis, J. (1986). Land regulation and the price of new housing: Lessons from three California cities. *Journal of the American Planning Association*, 52, 9–21.
- Landis, J. (1992). Do growth controls work? A new assessment. *Journal of the American Planning Association*, 58, 489–508.
- Lee, T., & Marans, R. W. (1980). Subjective and objective indicators; scale discordance and inter-relationships. *Social Indicators Research*, 6, 47–64.
- Ley, D. (1996). *The new middle class and the remaking of the central city*. Oxford: Oxford University Press.
- Liaw, K. L., Frey, W. H., & Lin, J. P. (2002). Location of adult children as an attraction for black and white elderly primary migrants in the United States. *Environment and Planning A*, 34(2), 191–216.
- Liu, B. C. (1976). *Quality of life indicators in U.S. metropolitan areas: A statistical analysis*. New York: Praeger.
- Logan, J., & Molotch, H. (1987). *Urban fortunes: The political economy of place*. Berkeley: University of California Press.
- Lu, M. (1999). Determinants of residential satisfaction: Ordered logit vs. regression models. *Growth and Change*, 30(spring), 264–287.
- Lyubomirsky, S. (2008). *The how of happiness: A scientific approach to getting the life you want*. New York: The Penguin Press.
- Mahan, B., Polasky, S., & Adams, R. (2000). Valuing urban wetlands: A property price approach. *Land Economics*, 76, 110–113.
- Malpezzi, S. (2002). Urban regulation, the “new economy”, and housing prices. *Housing Policy Debate*, 13, 323–349.
- Mathur, V. (1999). Human capital-based strategy for regional economic development. *Economic Development Quarterly*, 13, 203–216.
- Marans, R. W. (2002). Understanding environmental quality through quality of life studies: The 2001 DAS and its use of subjective and objective indicators. *Landscape and Urban Planning*, 99(1), 1–11.
- Marans, R. W. (2005). Modeling residential quality using subjective and objective measures. In D. C. Verstbro, Y. Huroi, & N. Wilkinson (Eds.), *Methods in housing research* (pp. 314–328). Newcastle-Upon-Tyne: Urban International Press.
- Marans, R. W., & Mohai, P. (1991). Leisure resources, recreation activity, and the quality of life. In B. L. Driver, P. Brown, & G. L. Peterson (Eds.), *The benefits of leisure* (pp. 351–363). State College, PA.: Venture Publishing.
- Marans, R. W., & Rodgers, W. (1975). Towards an understanding of community satisfaction. In A. Hawley & V. Rock (Eds.), *Metropolitan America in contemporary perspective* (pp. 299–352). New York: Halsted Press.
- Mayer, C., & Somerville, T. (2000). Land use regulation and new construction. *Regional Science and Urban Economics*, 30, 639–662.
- McCrea, R. (2007) *Urban quality of life: Linking objective dimensions and subjective evaluations of the urban environment*. Unpublished PhD thesis, The University of Queensland, Brisbane.
- McCrea, R., Stimson, R. J., & Western, J. (2005). Testing a general model of satisfaction with urban living using data for South East Queensland. *Australia, Social Indicators Research*, 72, 121–152.
- McCrea, R., Shyy, T.-K., & Stimson, R. (2006). What is the strength of the link between objective and subjective indicator of urban quality of life? *Applied Research in Quality of Life*, 1, 79–96.
- Millimet, D. L., & Slotje, D. (2002). Environmental compliance costs and the distribution of emissions in the U.S. *Journal of Regional Science*, 42, 87–105.
- Mulligan, G., Carruthers, J., & Cahill, M. (2004). Urban quality of life and public policy: A survey. In R. Capello & P. Nijkamp (Eds.), *Advances in urban economics* (pp. 729–802). Amsterdam: Elsevier Science B.

- Orford, S. (1999). *Valuing the built environment: GIS and house price analysis*. London: Ashgate.
- Pendall, R. (2000). Local land use regulation and the chain of exclusion. *Journal of the American Planning Association*, 66, 125–142.
- Perloff, H. S. (Ed.). (1969). *The quality of the urban environment: Essays on "New Resources" in an urban age*. Baltimore: Resources for the Future, The Johns Hopkins Press.
- Putnam, R. (1993). *The prosperous community: Social capital and public life* (pp. 35–42). Spring: The American Prospect.
- Rehdanz, K., & Maddison, D. (2008). Local environmental quality and life-satisfaction in Germany. *Ecological Economics*, 64, 787–797.
- Roback, J. (1982). Wages, rents, and the quality of life. *Journal of Political Economy*, 90, 1257–1278.
- Roback, J. (1988). Wages, rents, and amenities: Differences among workers and regions. *Economic Inquiry*, 26, 23–41.
- Roberts, B., & Stimson, R. J. (1998). Multi-sectoral qualitative analysis: a tool for assessing the competitiveness of regions and formulating strategies for economic development. *The Annals of Regional Science*, 32, 469–494.
- Rogerson, R. (1999). Quality of life and city competitiveness. *Urban Studies*, 36(5–6), 319–328.
- Rosen, S. (1974). Hedonic prices and implicit markets: Product differentiation in pure competition. *Journal of Political Economy*, 82, 34–55.
- Rosen, S. (1979). Wage-based indexes of urban quality of life. In P. Mieszkowski & M. Straszheim (Eds.), *Current issues in urban economics* (pp. 74–104). Baltimore: Johns Hopkins Press.
- Rossi, P. H. (1972). Community social indicators. In A. Campbell & P. E. Converse (Eds.), *The human meaning of social change*. New York: Russell Sage Foundation.
- Savageau, D., & D'Agostino, R. (2000). *Places rated almanac*. New York: Hungry Minds.
- Schaffer, D., & Vollmer (Rapporteurs), D. (2010). *Pathways to urban sustainability: Research and development on urban systems*. Washington DC: National Academy Press.
- Schmandt, H. J., & Bloomberg, W. M. (Eds.). (1969). *The quality of urban life*. Beverley Hills.: Sage Publications.
- Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
- Schwirian, K. P., Nelson, A. L., & Schwirian, P. M. (1995). Modeling urbanism: Economic, social and environmental-stress in cities. *Social Indicators Research*, 35(2), 201–223.
- Sirgy, M. J., Rahtz, D. R., Cicic, M., & Underwood, R. (2000). A method for assessing residents' satisfaction with community-based services: A quality-of-life perspective. *Social Indicators Research*, 49(3), 279–316.
- Smith, D. M. (1973). *The geography of social well-being in the United States: An introduction to territorial social indicators*. New York: McGraw Hill.
- Smith, D. M. (1977). *Human geography: A welfare approach*. London: Edward Arnold.
- Smith, D. M. (1979). *Where the grass is greener: Living in an unequal world*. London: Penguin Books.
- Smith, D. M. (1994). *Geography and social justice*. Cambridge: Blackwell.
- Smith, V. K., & Huang, J. C. (1995). Can hedonic models value air quality? A meta-analysis. *Journal of Political Economy*, 103, 209–227.
- Smith, K., Poulos, C., & Kim, H. (2002). Treating open space as an urban amenity. *Resource and Energy Economics*, 24, 109–119.
- Thaler, R. H., & Sunstein, C. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven: Yale University Press.
- Thorndike, E. L. (1939). *Your city*. New York: Harcourt, Brace and Company.
- Tiebout, C. (1956). A pure theory of local expenditures. *The Journal of Political Economy*, 64(5), 416–424.
- van Praag, B. (2004). *Happiness quantified: A satisfaction calculus approach*. Oxford: Oxford University Press.

- Warr, P. B. (1987). *Work, unemployment, and mental health*. Oxford: Oxford University Press.
- Warr, P. B. (1999). Well-being and the workplace. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 392–412). New York: Russell Sage Foundation.
- Weiner, E. (2008). *The geography of bliss*. New York: Twelve (Hatchett Book Group).
- Westaway, M. S. (2009). Aspects of environmental quality of life that affect neighbourhood satisfaction in disadvantaged and advantaged Johannesburg communities. *Development Southern Africa*, 26, 447–458.
- White, N. P. (Ed.). (2006). *A brief history of happiness*. Malden: Blackwell Publishing.
- Witten, K., Exeter, D., & Field, A. (2003). The quality of urban environments: Mapping variation in access to community resources. *Urban Studies*, 40, 161–177.
- Wong, C. (2006). *What is local development? A conceptual overview (Occasional Paper 49)*. Manchester: Department of Planning and Landscape, University of Manchester.
- Zehner, R. (1977). *Indicators of quality of life in new communities*. Cambridge: Ballinger Publishing Co.