

Fifty Years After the Social Indicators Movement: Has the Promise Been Fulfilled?

An Assessment an Agenda for the Future

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Accepted: 17 January 2017 / Published online: 2 March 2017
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Abstract This paper reviews the origins, promise, and subsequent development of social indicators/quality-of-life/well-being conceptualizations and research since the 1960s. It then assesses the state of this field in the 2010s and identifies four key developments—the development of professional organizations that nurture its conceptual and empirical development; the widespread political, popular, and theoretical appeal of the quality-of-life (QOL) concept; a new era of the construction of composite or summary social indicators; and a recognition of the key role of the QOL concept in connecting social indicators to the study of subjective well-being—that have evolved over the past five decades and that are very much with us today. The final section of the paper poses the question of where the field should focus its energies. Beyond carrying on the existing research program, it argues that the field needs to recognize the substantial changes in the social and economic organization of contemporary societies as compared to the mid-1960s launch period for the Social Indicators Movement and develop new research foci for the years to come.

A previous version of this paper was presented in the Research Committee 55: Social Indicators Keynote Session, XVIII ISA World Congress of Sociology, Yokohama, Japan, July 15, 2014.

The authors were not members of the cohort of social scientists who initiated the Social Indicators Movement of the 1960s and 1970s. They did, however, join this group of scholars in the 1970s and have been active in the field ever since.

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Keywords Social Indicators Movement · Quality-of-Life Research · Well-Being Indicators · Social Reporting · Social Indicators Agenda

1 Introduction

The contemporary era of research and reporting on social indicators/quality-of-life/well-being (hereafter “social indicators” for short) has its origins in the Social Indicators Movement of some 50 years ago. This paper commences with a review of those origins, their promise, and the subsequent development of social indicators conceptualizations and research since the 1960s. It then engages in an assessment of the state of this field in the 2010s and identifies developments that have evolved over the past five decades and that are very much with us today. The final section of the paper then poses the question of where the field should focus its energies. Beyond carrying on the existing research program, it argues that the field needs to recognize the substantial changes in the social and economic organization of contemporary societies as compared to the mid-1960s launch period for the Social Indicators Movement and develop new foci for the years to come.

1.1 Promise—The Social Indicators Movement of the 1960s and 1970s and the Development of the Field over the Past Five Decades

Several partial histories of social indicators research have been written from diverse perspectives and the main lesson learned from such studies is that it would take a very big book to gather up all the important milestones leading to where we are today. In fact, there are three relatively large and recently published treatises that have so much historical material that they have given us pause to think about the point of producing this relatively short history. Ordered by length they are the *Handbook of Social Indicators and Quality of Life Research* edited by Land et al. (2012), *Global Handbook of Quality of Life* edited by Glatzer et al. (2015) and the twelve volume *Encyclopedia of Quality of Life and Well-Being Research* edited by Michalos (2014a, b, c). Other fine book-length overviews can be found among the 58 volumes in the Social Indicators Research Book Series, e.g., *Assessing Quality of Life and Living Conditions to Guide National Policy* edited by Hagerty, Vogel and Møller (2002), *Barometers of Quality of Life Around the World* edited by Møller et al. (2008) and *Millennium Development Goals (MDGs) in Retrospect* edited by Andrews et al. (2015).

Excellent and relatively lengthy review articles have also preceded us, e.g., “The U.S. Federal effort in developing social indicators” by Ferriss (1979), “National and international approaches in social reporting by Rothenbacher (1993), “Systems of social indicators and social reporting: the state of the art” by Berger-Schmitt and Jankowitsch (1999), “Quality of life indexes for national policy: review and agenda for research” by Hagerty et al. (2001), “Social indicators and quality of life research: background, achievements and current trends” by Noll (2002), and “The quality-of-life (QOL) research movement: past, present, and future” by Sirgy et al. (2005).

Because both of the authors of this review have been working in the field since its inception in the 1960s and we are probably as familiar as anyone else with the most recent work, we believe we have a somewhat unique perspective from which to view the field and we feel some obligation to provide a description of how it looks to us.

If there is one founding document from the United States of the social indicators movement of 50 years ago, it is the book entitled *Social Indicators* edited by Raymond A. Bauer and published in 1966. In Chapter 1, Bauer gave the following definition:

“This volume as a whole is devoted to the topic of *social indicators* – statistics, statistical series, and all other forms of evidence – *that enable us to assess where we stand and are going with respect to our values and goals, and to evaluate specific programs and determine their impact.*” (emphasis added)

It is worth noting that besides quantitative data, Bauer included “all other forms of evidence”. While it is true that social indicators researchers usually work with and emphasize quantitative evidence, Bauer apparently recognized the importance of other kinds of evidence as well. After all, good statistical analysis based on muddled conceptualization is hardly useful. His reference to evaluating specific programs is also worth noting because in the period of time (1980s) when some scholars thought social indicators research had decreased (Andrews et al. 1989; see the description later in this section), there was considerable work on evaluation research and the latter was fundamentally applied research on social indicators (Michalos 1992).

The Bauer volume contained chapters by Bauer (“Detection and Anticipation of Impact: The Nature of the Task”), Albert D. Biderman (“Social Indicators and Goals; Anticipatory Studies” and “Stand-by Research Capabilities”), Bertram A. Gross (“The State of the Nation: Social Systems Accounting”), and Robert A. Rosenthal and Robert S. Weiss (“Problems of Organizational Feedback Processes”). It was the product of an attempt, undertaken in the early 1960s by the American Academy of Arts and Sciences for the National Aeronautics and Space Administration, to detect and anticipate the nature and magnitude of the second-order consequences of the space program, specifically the effort to launch a manned space flight to the moon and back, for American society. Frustrated by the lack of sufficient data to detect such effects and the absence of a systematic conceptual framework and methodology for analysis, some of those involved in the Academy project, the authors of this volume chose to advocate the development of more, and better social indicators. Two themes in the volume stand out:

- (1) The need for better data with which to assess the second-order consequences of deliberative efforts and other major social and economic changes.
- (2) A feeling of inadequacy, if not envy, among other social scientists of the development by economists of macroeconomic indicators of economic trends and cycles and of the National Income and Product Accounts in the 1920–1960 period.

The appearance of the Bauer volume was not an isolated event. Several other influential publications in the USA in the late 1960s and early 1970s years commented on the lack of a system for charting social change and advocated that the U.S. government establish a “system of social accounts” that would facilitate a cost-benefit analysis of more than the market-related aspects of society already indexed by the National Income and Product Accounts.

The need for social indicators also was emphasized by the publication of the 101-page *Toward a Social Report* (U.S. Department of Health, Education, and Welfare) on the last day of President Lyndon B. Johnson’s administration in 1969. Conceived of as a prototypical counterpart to the annual economic reports of the president, each of its seven chapters addressed major issues in an important area of social concern (health and illness; social mobility; the physical environment; income and poverty; public order and safety; learning, science, and art; and participation and alienation) and provided an assessment of prevalent conditions. In addition, the document firmly established the link of social indicators to the idea of systematic reporting on social issues for the purpose of public enlightenment.

At the end of the 1960s, the enthusiasm for social indicators was sufficiently strong and broad-based for Duncan (1969) to write of the existence of a “social indicators movement.” This led to numerous developments, including:

- Several initiatives by the Russell Sage Foundation leading to *Indicators of Social Change* by Sheldon and Moore (1968), *Indicators of Trends in American Education* (Ferriss 1969), *Indicators of Change in the American Family* (Ferriss 1970), *Indicators of Trends in the Status of American Women* (Ferriss 1971), *The Human Meaning of Social Change* edited by Campbell and Converse (1972), and *The Quality of American Life* (Campbell et al. 1976).
- The establishment in 1972, with U.S. National Science Foundation support, of the Social Science Research Council Center for Coordination of Research on Social Indicators in Washington, D.C.
- The U.S. Office of Management and Budget produced *Social Indicators 1973*, a compendium of social indicators. In what was probably a rare event for such reports, in July 1975, 270 “upper level federal executives” received a questionnaire designed to measure its general use (Caplan and Barton 1978). Among other things, the authors of the evaluation found that:

“No more than four percent of our sample made use of it in connection with their work. Furthermore, only 22 percent of the sample expressed any degree of awareness of *SI’73*. By contrast, the use of social indicator data from other sources was comparatively high, with over one-third of the respondents reporting instances of policy-related applications of such information...No one reported that *SI’73* data played an important role in any policy-related decision. On the other hand, respondents cited numerous instances in which social indicator data from other sources had an impact on important matters of policy...The officials cited a variety of factors as responsible for the low level of *SI’73* use. Most prominent among these were: routine availability of identical or better data from other sources; narrowness of *SI’73*’s scope of information; obsolescence of *SI’73* data; lack of interpretation, especially with respect to time series data, and insufficiency of data on subjective matters involving attitudes, values, and personal aspects of social well-being. On the positive side, the graphics and the idea of a compendium were particularly well-liked” (Caplan and Barton 1978, pp. 444–445).

While it was disappointing to find so little impact for *SI’73*, since most of its statistics (then, as now) were reproduced from routinely collected and used administrative data sources and no new interpretations were offered, it is not surprising that the new compendium could not replace those sources. Six months after the appearance of the Caplan and Barton report, a whole issue of *Social Indicators Research* (volume 6, no. 2, April 1979) was devoted to ten assessments of several U.S. government-sponsored social reports and one assessment of Statistics Canada’s *Perspective Canada I* (1974). The Canadian series ended with *Perspectives Canada III* (1980), the ‘s’ added to ‘perspective’ to emphasize the diversity of the views presented. (A fairly exhaustive list of critical issues that all social indicators researchers must address may be found in Michalos et al. (2011a, pp. 10–11).

- Research efforts to define and develop a methodology for the measurement of indicators of subjective well-being as measures of the quality of life (Campbell et al. 1976) and *Social Indicators of Well-Being* (Andrews and Withey 1976).

- The initiation of several continuing data series based on periodic sample surveys of the national population (such as the annual National Opinion Research Center's (NORC's) U.S. General Social Survey or the Bureau of Justice Statistics' annual U.S. National Crime Victimization Survey).

While this activity was occurring in the United States, scholars and practitioners in other countries were pressing forward with their own research programs. The Swedish Level of Living Survey in 1968 was a pioneering exploration. According to its principal investigator, Sten Johanson (1973), in 1965 the Swedish Minister of Labor and Housing established a committee to consider ways to answer the question: "What kind of information is needed to give public discussion on low income problems and social policy an acceptable base?" The result of the committee's reflections led to three surveys, on income in 1966, income and purchasing power in 1967, and in 1968 the level of living survey. That "survey may be related to the (now) international 'social indicator movement', if that is understood as a push for improved and more relevant social statistics" (Johanson 1973, p. 212). It was structured around the "level of living concept" in some United Nations' publications such as the 1955 *International Definition and Measurement of Standards and Levels of Living and Standards of Living. The Concept and its Place in Economics* (Pipping 1953).

There were at least six fundamental characteristics of the level of living concept: (1) "it both directs and restricts information to the areas where the political mechanism is by some degree of consensus used to influence the living conditions through social policy", (2) it "organizes the information into areas or levels of living components, by the sector divisions used in social policy", (3) "a unitary measure of welfare, a GWP, is rejected in favor of separate indicators to be assigned relative weights through the political process", (4) "it is primarily concerned with the individual's command over resources with which he can act rather than with individual need satisfaction", (5) "*political resources* are included as a level of living component", and (6) "We would not attempt to specify 'a model for the good life', thus summarizing and making explicit all value premises in some neat formula from which we could then go on to specify indicators. Rather than such a 'utopian approach' we would follow a 'problem approach', specifying 'evil conditions' (note the plural)" (Johanson 1973, pp. 212–213).

Contemporary social indicators researchers will recognize familiar themes in the previous paragraph. The first two characteristics suggest that the level of living concept envisioned is narrower than the field that we now designate as research on the quality of life. Many topics that are important to the quality of our lives are not universally regarded as topics appropriate to manipulation through government's "political mechanism", e.g., love, friendship, aesthetic appreciation, arts, religion, fashion, sports and sexual activity. However, the list of the nine "components" adopted to capture the level of people's living was certainly less restrictive and more expansive than one might have expected. It included work and working conditions, economic resources, political resources, schooling, health and the use of medical care, family origin and family relations (social resources), housing, nutrition, leisure time and pursuits.

The third and sixth characteristic tell us that those using the level of living concept had no use for composite indicators or indexes, and no interest in philosophical speculations on the good life. Contemporary researchers can still be found in favor of, and opposed to, both of these characteristics. Depending on how one defines 'resources' (Michalos 1978), the fourth characteristic is more or less similar to Sen's (1987) concept of capabilities.

Although the Swedish approach became somewhat famous for avoiding survey questions getting at respondents' assessments of how well their wants or needs were being satisfied, they could not avoid some kinds of subjective indicators (Michalos 2014a). For example, instead of asking people how satisfied they were with their working conditions, they asked them about specific features of jobs. A job was regarded as "physically very heavy, if its occupant says that it is necessary to be able to lift 60 kilograms...mentally very heavy" if it is both "hectic and monotonous...very dirty if one gets greased with oil or similar. The noise is intense, if he says it is 'ear-shattering'...noise all the time" (Johansson 1973, p. 218).

As this paper is being written, inequality is a very popular topic of research, e.g., Piketty (2014) and Atkinson (2015). Using results from annual national surveys in Sweden from 1975 to 1995 based on a total of 156,000 interviews, Vogel (1999) was able to craft an Index of Material Inequality, and trace its levels and changes over the period for 10 different demographic groups. The Index included 11 indicators: absence of overcrowded housing, high standard of housing space, access to a daily newspaper and ownership of a dishwasher, car, second home, second car, caravan, boat, video, and freezer. The index measures the "difference in the percentage in each of the two groups having a certain good (e.g. a car)". Figure 1 shows, for example, that across the whole period the impact of household type in the form of single parents vs elderly couples without children became

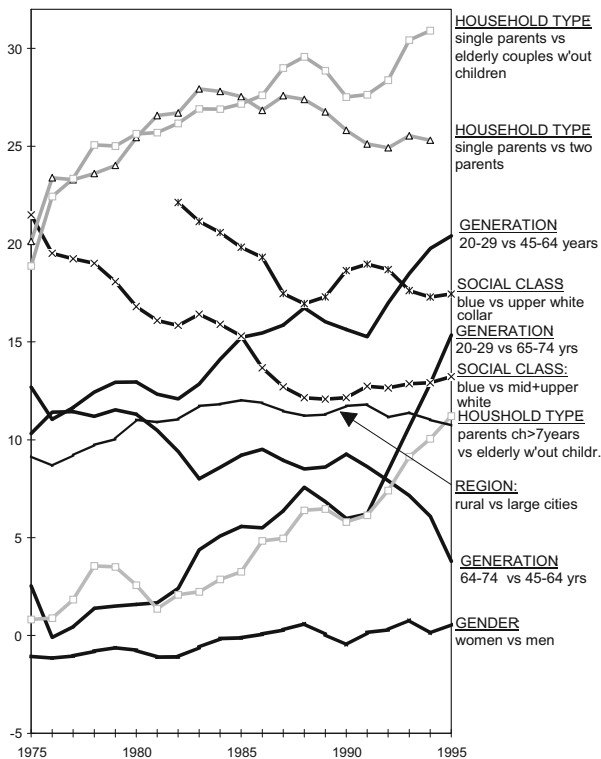


Figure 7E. Material inequality by social class, generation, household type and region. 1975–1995. Inequality (based on 11 indicators, see text). Pairwise.

Fig. 1 Material inequality in Sweden. Source Vogel (1999)

increasingly worse, likely a result of the relatively greater improvement of the material standard of the oldest group. (Using data from surveys by the Netherlands Institute for Social Research from 1974 to 2006, Boelhouwer (2010) crafted a Life Situation Index and produced six figures containing diverse measures of inequality along the lines of Vogel's index.)

The SPES Social Indicators System illustrates another pioneering effort to assess the quality of life in a single country. According to Zapf (1980), the System was “part of the larger SPES project (‘Social-Political Decision-Making and Indicators System for the German Federal Republic’) at Frankfurt and Mannheim Universities (see Krupp and Zapf 1977)”. Building on the work of Drewnowski (1970) at the United Nations Research Institute for Social Development (UNRISD), Allardt (1973), OECD (1973, 1976), and Abrams (1976), Zapf (1977) produced an assessment of the quality of life for the period 1955–1975 using about 200 indicators covering 10 “goal areas”. To obtain a simplified summary of the results of his exploration, for each indicator he determined if there had been some improvement (+), some deterioration (–) or no change/stagnation (=), and then he calculated the sum for each goal area. Table 1 shows his results. He concluded that “The SPES System shows for the German Federal Republic 1955–1975 that about half of the potential has been realized. (Full attainment would have been credited with ‘+’ marks in all the investigated areas”) (Zapf 1980, p. 257). His somewhat modest evaluation of his results was that although “at first glance” they “correspond to common sense”, the results are “also a function of the assumptions of the model: to disregard missing data and deviant years of observation; to give equal weight to each indicator, dimension and period; and to measure changes only ordinally and also equally. All these assumptions can be criticized and modified” (Zapf 1980, p. 259).

The first and most comprehensive attempt to assess the overall quality of life in Canada was undertaken in 1970 as part of a larger project comparing the quality of life in Canada with that in the United States in the period from 1964 to 1974. Ten years later, the first two of five volumes were published, with the last three coming out in the next 2 years (Michalos 1980a, b, 1981a, b, 1982). There were 13 areas of concern: population; death, disease and health care; housing; crime and justice; recreation; transportation and communication; education; science and technology; government and organizations; natural environment and resources; economics; religion; morality and social customs. Objective

Table 1 Overall quality of life assessments in terms of realized potential over two decades *Source* Zapf (1980)

Goal Area	Evaluation	Symbol
Population	No welfare evaluation	
Social status/mobility	Stagnation	=
Employment/working conditions	Improvements, slumps	+/-
Income/distribution	Stability, positive tendency	=/+
Consumption	Improvement	+
Transportation	Improvement/deteriorations	+/-
Housing	Improvements	+
Health	Improvements/deteriorations	+/-
Education	Improvements	+
Participation	Stability, positive tendency	=/+

and subjective indicators were drawn from public administrative data and private polling in both countries.

In order to get a comprehensive assessment of all data, a procedure was used that was somewhat similar to that used by Zapf. Michalos and Zapf were pleased to discover that they had each independently hit upon roughly the same scheme. Michalos called the percent change upward or downward of an indicator value its 'flow value' and its value at any point in time its 'stock value', e.g., an annual infant mortality rate (stock value) might be something like 20 deaths per 1000 live births and it might have an annual decrease or increase of 5% from some year to the next, which would be good or bad, respectively. The comparative quality of life for Canada and the USA was crudely measured by (1) for each usable indicator, scoring one point per year for every year to the country whose stock value was preferable, (2) one point per year for every year to the country whose flow value was preferable, (3) summing the points to obtain a final score for each country for all usable indicators, and (4) using the final scores as measures of the comparative quality of life in each country, and assessing the country with the highest score as having the highest quality of life.

The conclusion reached from this crude assessment was that on the basis of over 135 indicators and over 1659 indicator values, Canada scored 884 and the USA scored 775 points, respectively. So, it seemed fair to say that the quality of life in the 1964–1974 period was comparatively higher (i.e., better) in Canada than in the United States. Looking at the first and last recorded stock values for the useable indicators for each country independently of the other country, one can get a sense of the direction in which the two countries moved in that period. Interestingly, both countries looked worse on 44 indicators, while Canada looked better on 49 and the United States looked better on 48. So, on the basis of the broadest set of indicators available, it appears that both countries made progress over the period. (Selections from this treatise plus some new material appeared in *Perspectives Canada III* (Statistics Canada 1980).

In 1978 "the first major international meeting devoted to comparative studies of life quality" took place in Uppsala, Sweden at the Ninth World Congress of Sociology, sponsored by the International Sociological Association (Szalai and Andrews 1980, p. 1). A book edited by Szalai and Andrews (1980) contained 15 chapters based on papers from the conference plus a prologue by Szalai and an epilogue by Andrews. It is a mine of good information about the state of the art of social indicators and quality of life research in the 1970s.

Szalai (1980, p. 7) opened his prologue by writing that "Nobody seems to know who coined the term 'quality of life,' which designates a concept or topic that has lately achieved a remarkable popularity in public debate, private small-talk, and scholarly discourse alike." He regarded it as "on everybody's lips in France as 'Qualité de vie', 'Qualität des Lebens' in Germany, 'katchestvo zhizni' in the Soviet Union or as 'az élet minősége' in Hungary. Remarkably, he reported that.

"The 17-volume *International Encyclopedia of the Social Sciences*, published in 1968, shows no trace of it [the concept] either in its comprehensive index-volume, or anywhere in its articles and bibliographies on related issues. As a matter of fact, in an examination of 20 major encyclopedias and dictionaries published in five world languages between 1968 and 1978, I could not find a single entry having quality of life as its subject or making a direct reference to it. My sample included, of course, the latest editions of the *Encyclopedia Britannica* (30 volumes, 1974), *La Grande Encyclopédie Larousse* (21 volumes, 1971–1978), *Bolshaya Sovietskaya*

Entsyclopediya (30 volumes, 1970–1978), *Meyers Enzyklopädisches Lexikon* (25 volumes, 1971–1979), *Lessico Universale Italiano* (20 volumes, 1968–1978), *The New Oxford Illustrated English Dictionary* (2 volumes, 1976), and so forth. To be quite precise, I found just a sole *indirect* reference...[in] the great Larousse, where it is stated that the French Ministry of Environment has been renamed ‘Ministère de la Qualité de Vie’ in 1974” (Szalai 1980, p. 8).

One simple measure of progress since then is the fact that we now have an encyclopedia dedicated to quality of life research with over 2200 articles, and five major journals: *Social Indicators Research* (123 volumes, 3,696 articles), *Quality of Life Research* (24 volumes, 3401 articles), *Journal of Happiness Studies* (16 volumes, 830 articles), *Applied Research in Quality of Life* (10 volumes, 420 articles) and *Child Indicators Research* (8 volumes, 326 articles). Besides these standard publications, there are some comprehensive websites, e.g., Ruut Veenhoven’s *World Database of Happiness*, Richard Estes’ (2014) *Praxis: Resources for Social and Economic Development*, and Robert Cummins’ *Australian Centre on Quality of Life*, which has an excellent collection of measuring instruments.

Several authors in the Szalai and Andrews volume commented on the usage of different terms related to quality of life. Michalos (2015) sketched the early history of philosophical investigations of “the good life” showing that language used to identify and describe it has been quite diverse since at least the fifth century BCE. Bestuzhev-Lada (1980) thought that ‘standard of living’ involved an evaluation of life while ‘level of living’ was merely descriptive. He used ‘life activity’ to designate “the entirety of people’s life functions which include all forms of active attitude and behavior”, ‘quality of life’ for “an evaluation of gratification which people derive from the degree to which their material and mental needs are actually satisfied”, ‘life-style’ for “a rather vague sense [of] some characteristics of social life”, and ‘way of life’ “as a mode of living” that combined life activity, standard and level of living, and quality of life. Rezsóhazy (1980) used ‘life-style’ to designate “the overall structure of behavior (ways of acting)” and ‘ways of life’ for specific combinations of ways of acting. Solomon, et al. (1980) reserved the term ‘social indicators’ only for what we would now call ‘objective indicators’ and ‘quality of life indicators’ for what we would now call ‘objective and subjective indicators’.

In his epilogue, Andrews (1980, pp. 277–283) reminded readers that although his usage of the terms ‘objective’ and ‘subjective’ indicators was, like ours, intended to distinguish those referring to things readily agreed to by independent, well-informed, and unbiased observers from things reported from particular individuals’ perspectives, “in many cases these [objective] indicators are heavily dependent on someone’s judgment...and...may also be subject to significant measurement error...As the field of life-quality research matures, one would hope that there would be increasing consensus among investigators about fruitful concepts and methodological approaches”. In our view, while there has been some progress along these lines, there is still considerable diversity of usage, aims and methods. In a somewhat heroic effort to bring more precision than that displayed by ordinary language regarding these ideas, 52 contemporary and well-known scholars signed on to a document intended to at least eliminate some of the apparent fuzziness. Agreement was possible primarily because most of those scholars recognized the problems created by ordinary usage and most tried to accommodate the diversity of usage by insisting on qualifications. The following definition of ‘quality of life’ provides a good illustration of the whole set of proposed definitions.

“*Quality of life* usually refers to the degree to which a person’s life is desirable versus undesirable, often with an emphasis on external components, such as environmental factors and income. In contrast to subjective well-being, which is based on subjective experience, quality of life is often expressed as more ‘objective’ and describes the circumstances of a person’s life rather than his or her reaction to those circumstances. However, some scholars define quality of life more broadly, to include not only the quality of life circumstances, but also the person’s perceptions, thoughts, feelings and reactions to those circumstances. Indexes that combine objective and subjective measures, such as happy life years and healthy life expectancy have also been proposed” (Diener 2005, pp. 401–402).

Given the complexity of the issues involved in the field, the diverse backgrounds, disciplinary expertise, interests, aims and cultures of researchers and users, one should expect considerable variety. For more on this variety, see also Cummins (1996) and Michalos (2015).

The contribution of Solomon et al. (1980) in the Szalai and Andrews volume described “UNESCO’s policy-relevant quality of life research program”. The program was built on some standard principles of this international agency, in particular, that UNESCO should serve as a catalyst for activities and a disseminator of results undertaken by member-states, that different states have different levels of development, diverse needs, aims, resources and constraints, and that efficient progress for all is most likely aided by allowing states to proceed according to their own research designs, policies and programs. As Solomon et al. (1980, p. 225) saw it, “the adoption of the concept of the quality of life as a broad, inclusive approach to development appears all the more urgent in view of the relative failure of development policies which did not sufficiently take into account the complexity of defining ends that affect both man and society”. Research on the quality of life was, therefore, the means for “the continuation and broadening of the more than ten-year experience with the elaboration, application and promotion of the use of social and socioeconomic indicators for analysis and development planning”.

The idea of quality of life as a kind of umbrella notion that draws together previous UNESCO work also draws together more recent ideas of sustainable development and education for sustainable development. The report of the World Commission on Environment and Development (Brundtland Commission 1987, pp. 43–44) emphasized that “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs...The essential needs of vast numbers of people in developing countries...are not being met, and beyond their basic needs these people have legitimate aspirations for an improved quality of life”. The United Nations Decade of Education for Sustainable Development (2005–2014) was based on the idea that education for sustainable development would be an umbrella concept covering several other UN initiatives, including Environmental Education, Education for All, the Millennium Development Goals and the United Nations Literacy Decade (Michalos et al. 2012, 2015). Thus, at least from the 1960s–2015, UNESCO has been engaged in building and refining its commitment and programs for improving the quality of life for all people across the globe. What is most important to remember about this commitment is that it is precisely a good quality of life that we seek to obtain and sustain (Michalos 2011a).

Solomon et al. (1980, p. 230) supposed that their task was to outline a useful “four- or five-year programme of research activities, which will be flexible. The notion of quality of life itself should be defined in various ways from culture to culture”. For our purposes, the

most interesting feature of their paper was their list of “guidelines...suggested as a basis for the research to be undertaken initially”. Here is the list.

1. “Projects that study both the objective conditions of life and the subjective experience of life quality, and which study the inter-relationship between them;
2. Projects that go beyond description of conditions and experiences to seek structural relationships of interdependent factors;
3. Projects that study life-quality not only on the societal level but also on the group and individual levels, and which analyze interdependencies between these levels;
4. Projects that take into account the fact that individuals and groups not only experience life quality but also participate in creating their life quality;
5. Projects that study quality of life as a socio-historic phenomenon and as a dynamic process, rather than as a static state;
6. Projects that have research designs and use research instruments that allow cross-cultural comparisons; and projects that encourage collaboration among institutions and international organizations;
7. Projects that develop research designs and instruments that are likely to stimulate quality of life research in regions that have no research traditions in this field and are likely to strengthen their research capacity;
8. Projects that reflect upon their own value frameworks and cultural background; that recognize that other projects and other cultures may have different value systems; that learn from these differences and try to systematize this knowledge;
9. Projects that are interdisciplinary in design and scope;
10. Projects that consider the biophysical and social environment and their perception as basic components in the assessments of quality of life;
11. Projects that are policy-oriented, provide information and clarification to the public, and have relevance for decision-makers” (Solomon et al. 1980, pp. 231–232).

Reflecting on this extra-ordinary list of things for quality of life researchers to do, after 35 years, it is worthwhile to ask if there are steps that we have we failed to take, granting that there remains a very long journey before us. It seems to us that it would be easy to provide examples of studies satisfying each of the recommendations in these guidelines, although there has not been an equal distribution of efforts across the whole lot. In our penultimate section, we suggest some additional lines of exploration that would be fruitful to future researchers.

The final contribution from the Szalai and Andrews volume describes the early research programs of the OECD (Organization for Economic Cooperation and Development). According to Verwayen (1980), the OECD Social Indicator Development Program represented “a collaborative effort of OECD countries in measuring the quality of life”. The following paragraph is particularly interesting in the light of current events.

“The program was motivated both by the realization that existing statistics were in the main inadequate to measure trends in the quality of life even in countries with a well-developed statistical system, and by the growing dissatisfaction with measures of economic performance as indirect substitutes. These interests were captured in an OECD ministerial declaration in 1970, which stressed that ‘[economic] growth is not an end in itself, but rather an instrument for creating better conditions of life,’ from which followed the notion that quality of life should be given operational content so

that policies, including economic policies, could be geared towards it” (Verwayen 1980, p. 237).

Almost 30 years later, the second OECD World Forum on “Statistics, Knowledge and Policy” produced the Istanbul Declaration (2007), asserting that

“We, the representatives of the European Commission, the Organization for Economic Cooperation and Development, the Organization of the Islamic Conference, the United Nations, the United Nations Development Programme and the World Bank...reveal an emerging consensus on the need to undertake the measurement of societal progress in every country, going beyond conventional economic measures such as GDP per capita...to produce high-quality, facts-based information that can be used by all of society to form a shared view of societal well-being and its evolution over time”.

Then, two years later, Stiglitz, Sen and Fitoussi wrote, “...the time is ripe for our measurement system to *shift emphasis from measuring economic production to measuring people’s well-being*...This means working towards the development of a statistical system that complements measures of market activity by measures centred on people’s well-being and by measures of sustainability” (Commission 2009, p.12, reviewed in Michalos 2011).

The 1970 OECD plan of action proposed three phases, two of which were undertaken by the time of the 1978 meeting. Phase I produced a *List of Social Concerns Common to Most OECD Countries* (OECD 1973). For 20 of the 24 social concerns identified in this list, Phase II produced *Measuring Social Well-Being: A Progress Report on the Development of Social Indicators* (OECD 1976). Instead of a single committee engaged in designing projects for all concerns, a set of “Common Development Efforts” was crafted that assigned a particular area of concern to a few countries, e.g., “Healthfulness of Life” was assigned to the Federal Republic of Germany, United States, Finland, France, United Kingdom, Switzerland and the Netherlands; “Measurement of victimization” was assigned to Canada, United States, Finland and the Netherlands. The assumption was that each set of countries would produce “concrete proposals for indicators and data collection in the areas in which they [were] working in the course of 1978–1979” (Verwayen 1980, pp. 238–245).

In 1982 the OECD published its *OECD List of Social Indicators* and four years later *A Compendium of Social Indicators*. Queisser et al. (2014) reported that “no comprehensive compilation” of indicators from the 1982 list was produced after the 1986 compendium until *Society at a Glance: OECD Social Indicators* (2001), which continues to be produced. This “biennial overview of the social situation in OECD countries...aims to address the growing demand for quantitative evidence on social well-being and its trends across OECD countries”.

The most recent OECD activity is called the “Better Life Initiative”, beginning in 2011 (<http://www.oecd.org/statistics/better-life-initiative.htm>). There are two “core products”, each based on indicators for 11 areas of concern. One is *How’s Life? Measuring Well-Being*, which comes out every two years and “paints a broad picture of how life is in OECD countries and other major economies, by looking at people’s material conditions and quality of life” in the 11 areas of concern. The other is the Better Life Index, which is an innovative “interactive web-based tool created to engage people in the debate on well-being”. Indicators for the 11 areas of concern are updated every year and users are given the opportunity to assign different weights to each indicator in order to construct their own index. Then they can compare their results with alternatives created by themselves or others, for all countries. It is a delightful and truly engaging new instrument that is bound

to contribute to a greater understanding of issues related to quality of life measurement for those who take the time to use it. (Hagerty and Land (2007) is an excellent resource for decisions regarding differential weights. Most importantly, they show that the level of agreement among users for a set of weights in a quality of life index “is maximized by using the average weights from a survey of individuals’ importances”.)

Table 2 lists the 11 areas of concern and the rank orders for Canada and the United States among 36 countries compared for 2015. Both countries ranked above average for the 36 compared for every area except work-life balance. For the latter, Canada ranked higher than the United States. Canada also ranked higher than the United States in every one of the other 10 areas.

Another early international effort designed to measure something relevant to quality of life research without describing it as such or attempting to craft a composite index is the World Values Survey (www.worldvaluessurvey.org). The first of 6 waves of the survey appeared in the period 1981–1984 and the latest in 2010–2014, including 57 countries across the globe. The authors and editors of the survey regard it as “a global network of social scientists studying changing values and their impact on social and political life”. At one time or another, the survey has been conducted in “almost 100 countries” covering 90% of the world’s population. It is “the largest non-commercial, cross-national, time series investigation of human beliefs and values ever executed, currently including interviews with almost 400,000 respondents”.

The WVS website contains a “catalogue of findings” that gives a good overview of the sort of information that has emerged from the surveys. To begin with, it is reported that “human values between societies boils down to two broad dimensions: a first dimension of ‘traditional vs. secular-rational values’ and a second dimension of ‘survival vs. self-expression values’”. The Islamic societies of the Middle East illustrate traditional and survival values, while the Protestant societies of Northern Europe illustrate secular-rational and self-expression values. “A specific subset of self-expression values—*emancipative values*—combines an emphasis on freedom of choice and equality of opportunities. These values “involve priorities for lifestyle liberty, gender equality, personal autonomy and the voice of the people”, which makes them powerful influences for democratic forms of government.

In 1984, the German Institute for Economic Research (DIW Berlin) initiated one of the world’s most extensive, comprehensive and probably most used longitudinal panel studies

Table 2 Better life index rank ordering among 36 countries for Canada and the USA, 2015, 11 areas of concern. *Source* OECD better life index 2015

Area of concern	Canada’s rank	USA’s rank
Health status	2	1
Housing	2	1
Personal security	3	9
Income and wealth	7	11
Subjective well-being	9	12
Environmental quality	9	15
Education and skills	11	16
Jobs and earnings	11	18
Civic engagement/governance	13	19
Social connections	13	19
Work-life balance	24	29

ever, called the German Socio-Economic Panel (G-SOEP) (www.diw.de/soep). It covers about “11,000 private households in the Federal Republic of Germany from 1984 to 2013...and eastern German länder from 1990 to 2013”. The 30th wave was completed in 2013 with results reported in 2015. Broadly speaking, the survey examines “objective living conditions, values, willingness to take risks, current social changes, and the relationships and interdependencies among all these areas”. Besides the core surveys, there are additional surveys on, for example, immigrants, mothers, youth and the elderly. SOEP data are available to researchers for nominal fees.

In partnership with the U.S. Government Accountability Office, in 2003 the National Academy of Sciences convened “a forum to create a national system of indicators” that would contribute to “a more informed and accountable democracy”. This led to The Key National Indicators Act passed by the U.S. Congress in 2010. The system developed will be launched on an interactive platform along the lines of the OECD without any composite index, allowing citizens “to assess the state of our communities, cities and regions, states and provinces, our nation and our earth” (State of the USA, <http://www.stateoftheusa.org>).

In contrast to the 1970s, social indicators activities slowed in the 1980s in the United States, although, as we have just seen, important work continued in some countries and international agencies. At the end of the decade, Andrews et al. (1989) wrote “Whatever Happened to Social Indicators? A Symposium” which introduced an entire issue of the *Journal of Public Policy* devoted to this question. The concern was that the field had faded away—that the promise of the Social Indicators Movement had failed.

2 The State of Social Indicators/Quality-of-Life/Well-Being Studies in the 2010s

2.1 Where are we today? Can We See the Forest for All of the Trees?

Adapting the phrase historically attributed to the American author Mark Twain, “the rumors of the death of social indicators were greatly exaggerated.” For, shortly after the conclusion that some scholars came to in the late-1980s that the field had faded away, interest in social indicators revived and the field has been in an expansionary phase since the mid-1990s. Four key developments have occurred.

To begin with, the field has developed professional organizations that nurture its conceptual and empirical development. The International Sociological Association Working Group on Social Indicators and Social Reporting, was established in 1988 with the leadership (in the early years through 2002) of Alex Michalos, Heinz Herbert-Noll, Rudolf Andorka, Abbott L. Ferriss, Wolfgang Glatzer, Kenneth C. Land, Ruut Veenhoven, Bruce Heady, Thorbjørn Moum, Ramkrishna Murkherjee, and Joachim Vogel—all of whom are recognized today for their contributions to social indicators research and social reporting (Noll and Michalos 2014). This Working Group provided a focus for social indicators/social reporting work by organizing sessions at the periodic meetings of the ISA, and in 2008 made the transition to the status of International Sociological Association Research Committee 55: Social Indicators.

A second key part in the expansionary period of the past 25 years is a development that became vividly apparent in the 1990s, namely, the increasingly widespread political, popular, and theoretical appeal of the quality-of-life (QOL) concept. Szalai and Andrews would have been, and others of us at the 1978 meeting are, absolutely delighted by this

renaissance. As we have seen, this concept emerged and became part of the Social Indicators Movement in the late 1960s and early 1970s as doubts were raised in the highly developed Western industrial societies about economic growth as the major goal of societal progress.

The theoretical appeal of the QOL concept as an integrating notion in the social sciences and related disciplines is, in part, due to the perceived importance, especially among scholars who approach social indicators from a psychological perspective, of measuring individuals' subjective assessments of their satisfaction or happiness with various life domains and with life-as-a-whole (more about this below). As a goal of social and economic policy, QOL encompasses all (or at least many) domains of life and subsumes, in addition to individual material and immaterial well-being, such collective values as freedom, justice, and the guarantee of natural conditions of life for present and future generations. The social scientific and policy uses of the QOL notion have been paralleled in the private sector by the widespread use and popularity of numerous rankings—based on composite scales of multiple domains of well-being, e.g., Best Cities for Business (*Fortune Magazine*), Best Hiking Cities (American Hiking Society), Best Cities for Lesbian Persons (*Girlfriends Magazine*), Best Cities to Raise a Family (*Readers Digest*), Best Cities in the World (*Economist*), Best Places Overseas to Start a High Tech Firm (*Industry Standard Magazine*), and Best Cities for Inter-racial Groups (*Inter-Race Magazine*).

The focus of social scientists and policy researchers on social indicators through the QOL concept led to the organization in the mid-1990s of the multi-disciplinary International Society for Quality-of-Life Studies (<http://www.isqols.org>). Coupled with ISA Research Committee 55, the field of social indicators has an institutional base that undergirds continuing scholarly attention. In 1993, the International Society for Quality of Life Research (ISOQOL) was established “dedicated to advancing the scientific study of health-related quality of life (HRQOL) and other patient-centered outcomes to identify effective interventions, enhance the quality of health care, and promote the health of populations” (Reeve 2014). A critical review of the two research traditions that led to ISQOLS and ISOQOL may be found in Michalos (2004), and Michalos et al. (2011b) provides evidence that good health should not be regarded as identical to or a proxy for a good life.

A third key development in the field of social indicators that has revived attention in the 1990s and 2000s – the field entered a new era of the construction of composite or summary social indicators. (See Hagerty et al. (2001) for an evaluative review of 22 composite indexes.) Often these indices attempt to summarize indicators (objective and/or subjective) of a number of domains of life into a single index of the quality-of-life for the population or society as a whole or for some significant segment thereof (e.g., children and youth, the elderly, racial and minority groups, cities, states or regions within the nation, etc.). Today, numerous composite indices exist at all levels of analysis—from international comparisons to national-level indices to subnational/regional levels and for various sub-populations.

Composite indicators thus attempt to answer the questions that motivated the Social Indicators Movement:

- How are we doing overall in terms of the quality-of-life?
- With respect to our past?
- With respect to our societal goals?
- With respect to other comparable units (e.g., cities, states, regions, nations)?
- And, within our societies, how are specific segments of the population (e.g., children, the elderly, racial and ethnic minorities, immigrants) doing?

Many of the pioneers of the Social Indicators Movement in the 1960s and 1970s felt that the database as well as the theoretical foundations were not sufficient at that time for the development of composite indices and that efforts should, instead, be concentrated on conducting basic research on social indicators and the measurement of the quality-of-life and the development of a richer social data base. Since the 1960s, however, there has been a tremendous increase in the richness of social data available for many societies. There also has been an accumulation of studies and theoretical developments with respect to subjective well-being and quality-of-life studies. This has encouraged a new generation of social indicators researchers to return to the task of composite index construction. We now describe five illustrative examples.

2.1.1 *The Human Development Index*

At the level of the broadest possible comparisons of nations with respect to the overall quality of life, the *Human Development Index (HDI)* and the associated *Human Development Reports (HDRs)* (<http://hdr.undp.org/en/content/human-development-index-hdi>) have been developed, calculated, and published annually since 1990 by the United Nations Development Programme. The objective of the *HDI* is to rank countries of the world (the 2014 *HDI* ranks 187 countries) on a scale of human development conceptualized in terms of capabilities of humans within the countries to function. The concept of *capabilities* refers to what human beings can do and be, instead of on what they have, and is broadly conceived of as the abilities, the power of individuals to do certain things, to obtain what they desire, to achieve desired states of being, to utilize the resources they have in the way they desire and to be who they want to be—based on the conceptual work of Sen and Nussbaum (Sen 1987; Nussbaum and Sen 1992).

Operationally, the *HDI* is a composite indicator based on four population-level statistics for each country:

- life expectancy at birth,
- expected years and mean years of schooling combined into a single education index, and
- living standards as measured by Gross National Income per capita.

The 2014 *HDI* groups the countries ranked into quartiles labeled from high to low as: Very High Human Development, High Human Development, Medium Human Development, and Low Human Development. As a sample of the *HDI* values and Component Statistics from the 2014 *HDR*, Table 3 contains values for 25 Very High Human Development Countries based on data from 2012 or the most recent year available.

Continuing developments of the *HDI*, in response to various critiques and policy interests have led to the development and publication beginning with the 2010 *HDR* of three supplemental indices:

- the *Inequality-Adjusted HDI*, which adjusts the ranks of countries on the *HDI* for inequalities within the countries in the distributions of the living standards, health, and education components,
- the *Gender Inequality Index (GII)*, which addresses disadvantages facing women and girls, and
- the *Multidimensional Poverty Index (MPI)*, the objective of which is to give a “multidimensional” picture of people living in poverty that could help target development resources more effectively.

Table 3 The *Human Development Index* and its component statistics for 25 very high human development countries, 2014. Source <http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components>

HDI rank	Country	Human Development Index (HDI) Value, 2013	Life expectancy at birth (years), 2013	Mean years of schooling (years), 2012	Expected years of schooling (years), 2012	Gross national income (GNI) per capita (2011 PPP \$), 2013	Human Development Index (HDI) Value, 2012	Change in rank, 2012–2013
1	Norway	0.944	81.5	12.6	17.6	63,909	0.943	0
2	Australia	0.933	82.5	12.8	19.9	41,524	0.931	0
3	Switzerland	0.917	82.6	12.2	15.7	53,762	0.916	0
4	Netherlands	0.915	81.0	11.9	17.9	42,397	0.915	0
5	United States	0.914	78.9	12.9	16.5	52,308	0.912	0
6	Germany	0.911	80.7	12.9	16.3	43,049	0.911	0
7	New Zealand	0.910	81.1	12.5	19.4	32,569	0.908	0
8	Canada	0.902	81.5	12.3	15.9	41,887	0.901	0
9	Singapore	0.901	82.3	10.2	15.4	72,371	0.899	3
10	Denmark	0.900	79.4	12.1	16.9	42,880	0.900	0
11	Ireland	0.899	80.7	11.6	18.6	33,414	0.901	-3
12	Sweden	0.898	81.8	11.7	15.8	43,201	0.897	-1
13	Iceland	0.895	82.1	10.4	18.7	35,116	0.893	0
14	United Kingdom	0.892	80.5	12.3	16.2	35,002	0.890	0
15	Hong Kong, China (SAR)	0.891	83.4	10.0	15.6	52,383	0.889	0
15	Korea (Republic of)	0.891	81.5	11.8	17.0	30,345	0.888	1
17	Japan	0.890	83.6	11.5	15.3	36,747	0.888	-1
18	Liechtenstein	0.889	79.9	10.3	15.1	87,085	0.888	-2
19	Israel	0.888	81.8	12.5	15.7	29,966	0.886	0
20	France	0.884	81.8	11.1	16.0	36,629	0.884	0

Table 3 continued

HDI rank	Country	Human Development Index (HDI) Value, 2013	Life expectancy at birth (years), 2013	Mean years of schooling (years), 2012	Expected years of schooling (years), 2012	Gross national income (GNI) per capita (2011 PPP \$), 2013	Human Development Index (HDI) Value, 2012	Change in rank, 2012–2013
21	Austria	0.881	81.1	10.8	15.6	42,930	0.880	0
21	Belgium	0.881	80.5	10.9	16.2	39,471	0.880	0
21	Luxembourg	0.881	80.5	11.3	13.9	58,695	0.880	0
24	Finland	0.879	80.5	10.3	17.0	37,366	0.879	0
25	Slovenia	0.874	79.6	11.9	16.8	26,809	0.874	0

2.1.2 The Social Progress Index

Also at the cross-national comparative level, the **Social Progress Index (SPI)** is a relative newcomer among international comparative composite social indicators (Porter and Stern 2014). The *SPI* is the product of the Social Progress Imperative, a privately funded cooperative research organization (www.socialprogressimperative.org). The Imperative defines *social progress* as the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential.

Very much in the tradition of the construction of composite social indicators, the principles on which the *SPI* was developed are:

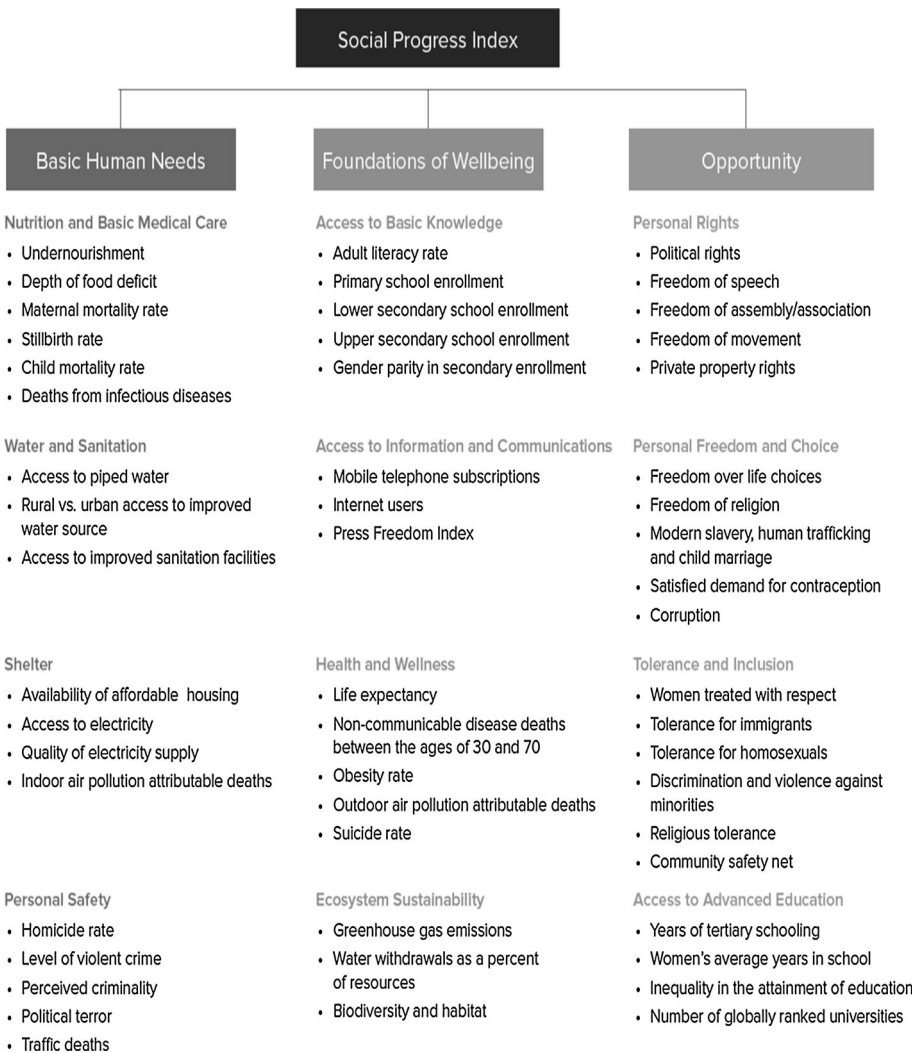
1. a focus on outcome (well-being) indicators rather than input measures;
2. a holistic framework consisting of three broad dimensions of social progress, which is the sum of four equally weighted components; and
3. the calculation of measures of each component as the weighted sum of a series of measures, with the weights determined through principal component factor analysis and the dimensional indices and overall *SPI* calculated as simple averages.

The three dimensions of the *SPI* were identified by posing three questions which, taken together, offer insight into the level of social progress of countries: Does a country provide for its people's most essential needs? Are the building blocks in place for individuals and communities to enhance and sustain wellbeing? Is there opportunity for all individuals to reach their full potential?

Table 4 shows the three dimensions of the *SPI* articulated in response to these three questions: Basic Human Needs, Foundations of Wellbeing and Opportunity. The table also shows the four components within each of the three dimensions, and the three to six indicators within these components for a total of 54 indicators. In brief, the *SPI* is very much in the tradition of the *HDI* in the sense that it seeks to measure the extent to which countries are facilitating individuals and communities "to do and be"—but with a more elaborate conceptual scheme, list of indicators, and statistical methodology for composite index construction.

The *SPI 2015* classifies the 133 countries for which sufficient data are available to calculate the *SPI* and its components into five categories: Very High Social Progress (10 countries), High Social Progress (21 countries), Upper Middle Social Progress (25 countries), Lower Middle Social Progress (42 countries), Low Social Progress (27 countries), and Very Low Social Progress (8 countries). Table 5 displays—for comparison with the *HDI 2014* ranks—the rank ordering of the top 25 countries by the *SPI* and the values of its component indices. These *SPI* values are based on data for the years 2005–2015 for any given indicator and country. The average year of data in the 2015 Social Progress Index is 2013. A small number of data points are from 2008 or earlier. The majority of these are from the obesity indicator, where all data are from 2008. It can be seen that many of the same countries appear at this higher end of the *HDI* and *SPI* indices. But there are some substantial differences in the relative ranks; for instance, the U.S. ranks 5 on the *HDI* and 16 on the *SPI*, Canada ranks 8 on the *HDI* and 11 on the *SPI*, and the United Kingdom ranks 14 on the *HDI* and 6 on the *SPI*.

Table 4 The *Social Progress Index* and Its Three Dimensions, Four Components, and 54 Indicators. *Source* Porter et al. (2015)



2.1.3 The Gallup-Healthways Well-Being Index

The Gallup-Healthways Well-Being Index for 2014 (<http://www.well-beingindex.com/2014-global-report>) was based on 146,000 interviews across 145 countries. It has 10 Likert-style questions ranging from 'strongly agree' to 'strongly disagree' in five categories. The questions are designed to provide information about "five elements of well-being", namely,

1. Purpose: liking what you do each day and being motivated to achieve your goals
2. Social: having supporting relationships and love in your life

Table 5 The *Social Progress Index* and gross domestic product per capital in purchasing power parity U.S. dollars for 25 very high and high social progress countries, 2015. *Source* Porter et al. (2015)

Rank	Country	Score	GDP per capita PPP
<i>Very high social progress</i>			
1	Norway	88.36	\$62,448
2	Sweden	88.06	\$43,741
3	Switzerland	87.97	\$54,697
4	Iceland	87.62	\$41,250
5	New Zealand	87.08	\$32,808
6	Canada	86.89	\$41,894
7	Finland	86.75	\$38,846
8	Denmark	86.63	\$41,991
9	Netherlands	86.50	\$44,945
10	Australia	86.42	\$42,831
<i>High social progress</i>			
11	United Kingdom	84.68	\$37,017
12	Ireland	84.66	\$44,931
13	Austria	84.45	\$44,376
14	Germany	84.04	\$43,207
15	Japan	83.15	\$35,614
16	United States	82.85	\$51,340
17	Belgium	82.83	\$40,607
18	Portugal	81.91	\$25,596
19	Slovenia	81.62	\$27,576
20	Spain	81.17	\$31,596
21	France	80.82	\$37,154
22	Czech Republic	80.59	\$27,959
23	Estonia	80.49	\$25,132
24	Uruguay	79.21	\$18,966
25	Slovakia	78.45	\$26,263

3. Financial: managing your economic life to reduce stress and increase security
4. Community: liking where you live, feeling safe and having pride in your community
5. Physical: having good health and enough energy to get things done daily”.

Each element of well-being is assigned one of three levels:

1. “Thriving: Well-being that is strong and consistent in a particular element
2. Struggling: Well-being that is moderate or inconsistent in a particular element
3. Suffering: Well-being that is low and inconsistent in a particular element”

The 10 highest well-being ranked countries are defined by their percent thriving in three or more elements. Table 6 lists the top ten thriving countries compared to the HDI 2014 and SPI 2015 top 10 rankings. There are no statistically significant correlations among the three indexes using the very small sample of nine countries, and the coefficients are also very tiny, i.e., the G-H to HDI correlation is 0.03, G-H to SPI is 0.05 and HDI to SPI is 0.02. Any one of these indexes might be telling us something important, but taking them together, it is far from clear what they tell us about comparative well-being or the quality of life.

Table 6 Rank order of top nine countries according to three indexes, 2014 and 2015 *Sources* Gallup-healthways index, human development index and social progress index

Gallup-healthways index	Human Development Index	Social Progress Index
1. Panama	65	41
2. Costa Rica	68	28
3. Puerto Rico*		
4. Switzerland	3	3
5. Belize	84	135
6. Chile	41	26
7. Denmark	10	8
8. Guatemala	125	79
9. Austria	21	13
10. Mexico	71	54

* Puerto Rico is a US territory, not in HDI or SPI

2.1.4 The Canadian Index of Well-Being

Work on the Canadian Index of Well-Being (CIW) began in 1999, sponsored by the Atkinson Charitable Foundation of Toronto in 1999, and its first version was published in 2011 Michalos et al. (2011a). The logo for the CIW includes a subtitle saying “measuring what matters”, which suggests a broad understanding of well-being, regarded by its developers as roughly synonymous with ‘overall quality of life’. Well-being is conceptualized in 8 equally-weighted domains: living standards, healthy populations, community vitality, democratic engagement, leisure and culture, time use, education, and the environment. Each domain is represented by 8 equally-weighted indicators.

The technical problem of constructing a unidimensional scale to reasonably represent a multidimensional construct of human well-being was solved by creating a mean percentage change rate ratios scale (percentage change scale, for short). Because percentage change scales allow trade-offs between deteriorations on some indicators to be compensated by improvements in others, they may be regarded as compensatory scales.

To create comparable index values from raw data values, the baseline value of each of the 64 indicators was set at 100 for the year 1994. Percent change increases from 100 indicate some improvement in some aspect of the quality of life and decreases indicate some deterioration. For negative indicators like crime rates, inverses of raw scores were created before percent changes were calculated. The aggregation function used for the index values for the eight indicators within each domain as well as for the composite index of the eight domains is a simple average or mean score.

Over the 15 year period from 1994 to 2008 there were 39 indicators showing improvements and 25 showing deterioration. Figure 2 shows that Canadians enjoyed an 11.0% improvement in their overall well-being.

2.1.5 The Child Well-Being Index

A fifth example of a composite social indicator is the *Child Well-Being Index (CWI)* developed for measuring changes over time in children and youth in the U.S. by Land and

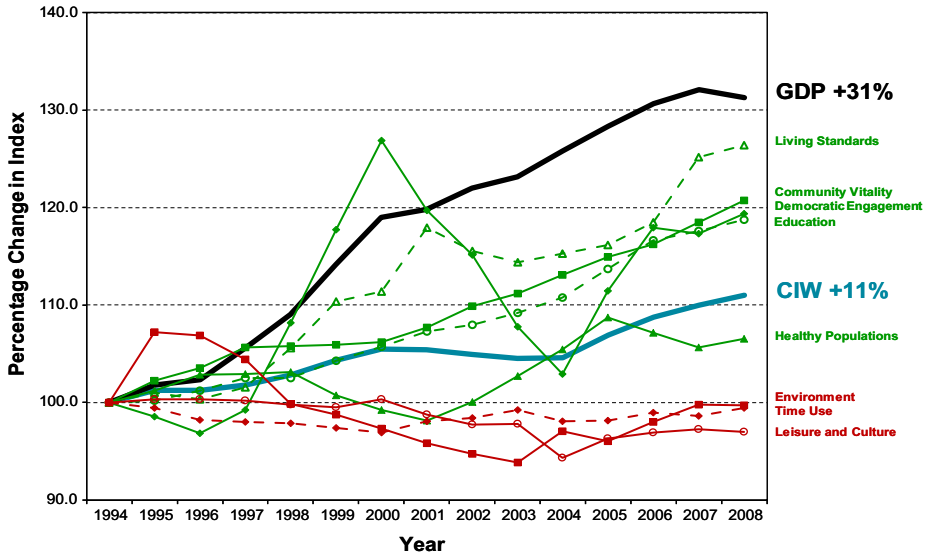


Fig. 2 Trends in the Canadian index of well-being with eight domains and compared with GDP, 1994–2008

associates (Land et al. 2001, 2011, 2012). The CWI is an index composed from 28 key indicators of child and youth well-being in the United States grouped into seven domains of well-being that have been identified in prior research on subjective well-being: family economic well-being, safe/risky behavior, health, social relationships, community engagement, and emotional well-being. The basic national CWI measures annual changes (improvements or deterioration) in well-being for America’s children ages 0–18 relative to values of its key indicators in a base year such as 1975.

As the graph in Fig. 3 shows, this measure of trends over the subsequent decades shows that child and youth well-being in the U.S.:

- went into a long recession from the mid-1980s to the mid-1990s
- after which it recovered to, or slightly above, 1975 levels in the early 2000s
- followed by a recovery in 2005–2007 and
- then a decline associated with the Great Recession of 2008–2009 and a slow recovery in 2010–2013.

While the trends in the CWI in Fig. 3 are based on objective social indicators, research has shown that trends over time in the CWI exhibit substantial positive covariation with trends over time in data on teenage life satisfaction. This is illustrated in Fig. 4 which compares trends in the CWI from 1975 to 2013 with those of smoothed data on overall life satisfaction for High School Seniors from the Monitoring the Future (MTF) Study. The MTF question, administered annually to 12th graders since 1975, is of the conventional global satisfaction with life form: “How satisfied are you with your life as a whole these days?” The answer range is a seven-point Likert rating scale: Completely Dissatisfied, Quite Dissatisfied, Somewhat Dissatisfied, Neither Satisfied or Dissatisfied, Somewhat Satisfied, Quite Satisfied, and Completely Satisfied. For comparisons with the CWI, the last two response categories are combined to calculate the percent of the 12th graders who respond that they either are Quite or Completely Satisfied in each year from 1975 to 2003.

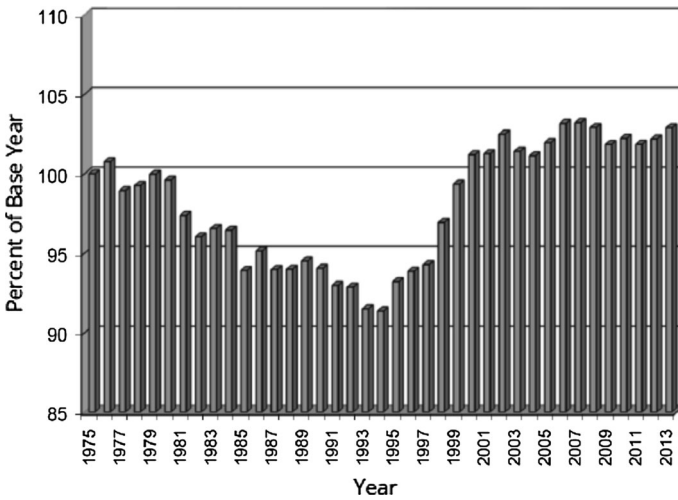


Fig. 3 U.S. child well-being index, 1975–2013. *Source* Land (2014b)

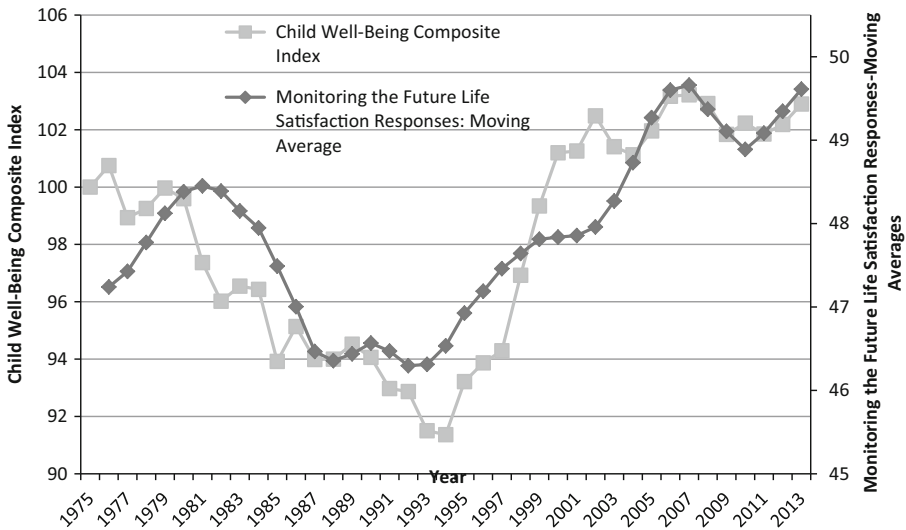


Fig. 4 U.S. National child and youth well-being index (CWI) and smoothed monitoring the future (MTF) life satisfaction trend for 12th graders, 1976–2013. *Source* Land (2015)

Because the annual MTF data are based on samples and the annual *CWI* is based on averages of numerous population and statistical averages, the latter varies more smoothly from year to year. Accordingly, in order to smooth out the MTF series to show its primary temporal trends, three-point moving averages were applied to the series three times.

In brief, Fig. 4 shows a striking similarity of trends over time of the *CWI*—which is based on objective statistical time series of social indicators—and the only continuous empirical data on trends in the subjective well-being of children in American society across the past four decades (the correlation of the two series is 0.86). In other words, the *CWI*

passes this external validity criterion as an indicator of trends in child and youth well-being in the U.S. In addition, Fig. 2 suggests that turning points and trends (ups and downs) in the CWI slightly lead the smoothed MTF life satisfaction data series.

At the national level, the *CWI* has been calculated by gender (males, females), race/ethnic groups (white, black, Hispanic), family income, native-born/immigrant status, three age groups (infancy and early childhood, ages 0–5), middle childhood (ages 6–11), and adolescents and teenagers (ages 12–18), and five quintiles of family income (Land 2012). And, while originally formulated at the national level, the *CWI* also has been calculated at the state-level for each of the 50 states in the US and for metropolitan areas/regions within the states (Lee et al. 2009).

As noted above, the foregoing five composite social indicators are only illustrative of the numerous composites that have been developed since 1990. Suffice it to say that the field of social indicators and quality-of-life research likely will see several decades of such index construction and competition among various indices—with a corresponding need for careful assessments to determine which indices have substantive validity for which populations in the assessment of the quality-of-life and its changes over time and social space. The review article by Hagerty et al. (2001) is an excellent resource for making such assessments.

A fourth key development in social indicators since 1990 is related to the central role of the QOL concept in connecting social indicators to the study of subjective well-being. In this approach, social indicators seek to measure psychological satisfaction, happiness, and life fulfillment by using survey research instruments that ascertain the subjective reality in which people live. The result is the class of *subjective well-being indicators*, which many researchers regard as ultimate well-being outcome indicators since they are based on individuals' assessments of their personal well-being.

This approach led to many methodological studies exploring the utility of various survey and analytic techniques for mapping individuals' feelings of satisfaction with numbers of aspects (“domains”) of their experiences. These studies examine domains ranging from the highly specific (house, family, etc.) to the global (life-as-a-whole). A large number of other studies applying subjective well-being concepts and techniques have appeared over the past three decades and continue to appear—one or more studies of subjective well-being indicators can be found in almost any issue of the journal *Social Indicators Research* and the *Journal of Happiness Studies*. The principle that the link between objective conditions and subjective well-being (defined in terms of response to sample survey or interview questions about happiness or satisfaction with life-as-a-whole) is sometimes paradoxical and therefore that subjective as well objective states should be monitored is well established in the social indicators literature. Normally, or what we might regard as the standard case, subjective and objective assessments are each necessary, and together they are jointly sufficient for making generally acceptable assessments. A Fool's Paradise is no more useful than a Fool's Hell for anyone interested in improving the quality of life for all. At some level, there should be some degree of systematic relationships between objective and subjective indicators of well-being (Michalos 2014b).

An example is the recent effort of *HDI*-related work on comparisons among countries with respect to levels of subjective well-being. In July 2011, the United Nations General Assembly passed a resolution that invited member countries to measure the happiness of their people and to use this to help guide their public policies. A series of *World Happiness Reports* (Helliwell et al. 2012, 2013) have been assembled in response.

In the 2013 *World Happiness Report*, Hall (2013) describes analyses of the relationships between the *HDI* and its components to country-specific subjective overall life evaluations measured using average national responses (averaged for the three years 2010–2012) to the

Gallup World Poll question (following Cantril 1965): Please imagine a ladder, with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?

The results (based on data from 124 to 152 countries depending on the variables used) are as follows:

- Higher life expectancy at birth is strongly correlated with average national life evaluations, with a correlation coefficient of 0.70.
- Expected years and mean years of schooling are correlated 0.69 and 0.63, respectively, with average national life evaluations.
- The logarithm of Gross National Income per capita is correlated 0.78 with average life evaluations.
- The correlation between the HDI and average national life evaluations is 0.77.
- After adjusting/controlling for the effect of Gross National Income per capita, there remains a strong correlation (0.67) between average national life evaluations and non-income HDI, that is, the life expectancy and education components.

These findings show that for cross-sectional, cross-national comparisons, the HDI is strongly correlated with subjective well-being and thus can be regarded as a surrogate subjective well-being/QOL index in the absence of subjective well-being data. Just as trends over time in the U.S. Child Well-Being Index were shown to have a close association with trends in data on overall satisfaction with life of American teenagers, these findings provide an external validation that the HDI is not just a purely arbitrary index based on objective indicators, but rather measures “well-being” as assessed by individuals’ subjective judgments and thus, to a first order of approximation, functions as a surrogate for average national life evaluations.

3 Agenda for the Future: Where Should Social Indicators/Quality-of-Life/Well-Being Research Go in the Years to Come?

The take-away message from the foregoing assessment of the state of the field of social indicators today, which could be greatly expanded and elaborated, is that, indeed, much of the early promise of the Social Indicators Movement to develop “statistics, statistical series, and all other forms of evidence—that enable us

- “to assess where we stand and are going with respect to our values and goals”
has been fulfilled, with some, but less, progress also on the goal of using these indicators
- “to evaluate specific programs and determine their impact.”

Scholarly research and development is an endless frontier that is never complete and finished. Therefore, the first thing we should do is continue to farm the fertile territory of social indicators/quality-of-life/well-being research—and we are doing this. Put simply, there are many, many possibilities for research on the QOL of many groups and individuals around the world and for contributions to numerous intellectual questions and puzzles pertaining thereto.

Solomon's et al. (1980) list of projects is as relevant today as it was 35 years ago. However, it is worth mentioning *some areas that have been significantly under-investigated*.

First, there has been a tendency for researchers to neglect human agency, i.e., the things people do wittingly or unwittingly, or try but fail to do, based on their attitudes, beliefs, knowledge, desires, aspirations, expectations, standards of comparison (individuals and groups), needs (imagined and real), hopes, fears, past experiences, and ideals (however fantastic or unrealistic). Over and over we have investigations in which the primary explanatory and/or predictive variables are demographic characteristics like age, income, gender, ethnic background or race, with relatively little explanatory power, e.g., Helliwell et al. (2013). Such variables may be resources or constraints for different individuals and groups in different circumstances making different decisions and behaving in different ways. So, without information about why and how individuals perceive, think, feel, and use their resources and constraints, it is impossible to get a clear and robust understanding of the quality of people's lives (Michalos 1985).

Second, we know that most individuals grow up in families of one sort or another, in some sort of community (rural area, small town to large city), in states, regions, countries with different social, economic, political and environmental features that have a variety of impacts on each other and on the quality of people's lives, but we have relatively few multi-level studies (Michalos 2008). Statistical techniques are available for exploring such relationships, but such techniques are rarely used.

Third, we know that people live in real time, but very few investigations are undertaken with continuous time analysis. The relatively few longitudinal panel studies available involve replications at set periods of time, yearly for example. But the speed with which predictors influence dependent variables varies across time to such an extent that it is possible that variables that are causal in one period of time might be effects in another (Oud and Delsing 2010). In the future, such temporal complications will have to be accommodated by quality of life researchers.

Fourth, although the concept of a scientific theory is still somewhat contested (Michalos 2006), *it is fair to say that compared to other research fields, social indicators researchers have shown little interest in theory building*. Most of the theories employed were developed by scholars solving problems arising in standard disciplinary research, e.g., see Sirgy (2012) for a fine review of theories arising out of psychology.

Beyond carrying on and further developing the existing agenda, we need to recognize the substantial changes in the social and economic organization of contemporary societies as compared to the mid-1960s launch period for the Social Indicators Movement. Here a good starting point is the work of Daniel Bell's (1973) treatise *The Coming of Post-Industrial Society*. Bell posited that the U.S. in the late-1960s was transitioning from an industrial form of society to a post-industrial form characterized by three key elements:

- a shift from manufacturing to services;
- the increasing importance of theoretical knowledge and centrality of new science-based industries;
- the rise of new technical elites and the advent of a new principle of stratification that will emphasize the dominance of the professional and technical classes.

This post-industrial transition has been a major force in the U.S. and many countries around the world over the past four decades, as the percentages of labor forces:

- employed in the Primary Sector (Agriculture, Mining, Fishing, Timber, Oil and Gas Extraction) have shrunk to less than 5 percent;
- employed in the Industrial/Secondary Sector (Goods-Producing, Manufacturing, Durables, Non-Durables, Heavy Construction) have shrunk to 25 percent or less;
- while those employed in the Services Sector (Tertiary (Transportation and Utilities), Quaternary (Trade, Finance, Insurance, Real Estate), and Quinary (Health, Education, Research, Government, and Recreation)) have increased to 50 percent or more.

There are, however, three other major societal transforming forces evident over the past four decades that Bell did not fully take into account in his thesis:

- The first is Globalization of the World's Economy, especially evident since 1990, as measured by increasing economic integration, political engagement, and social globalization of national economies.
- The second is the extent to which Digital Electronic Engineering would facilitate Computerization and Robotization of all forms of work in the Primary, Industrial, and Services Sectors of national economies.
- Third is the growth and influence of a variety of social media linking people with greater scope and speed than ever before.

In brief, the world of 2016 for which we need to construct and analyze social indicators, as contrasted to that of 1966 is not just a post-industrial world. It also is a much more globalized world and an increasingly digitized-computerized-roboticized world. And while the initial waves of digitization-computerization-robotization in the 1980s and 1990s affected blue collar segments of the occupations structure (e.g., longshoreman's jobs that disappeared as ports embraced shipping crane technology; automobile and other industrial manufacturing jobs that were displaced by welding and other robots), since the late-1990s the jobs affected have been increasingly white collar and professional (e.g., airline kiosks for automated check-in so that airline-counter employees now are trouble shooters; surgical robots that can perform complicated procedures).

What are the implications of these changes in "major social frameworks" (Daniel Bell's term) for contemporary societies and social indicators research? A first implication is that the social stratification of occupations and incomes is very much, and increasingly, closely associated with command over theoretical and technical educations/degrees, knowledge, and skills. In the U.S., for example, this has created a class structure in the early 21st century that can be termed the 70–30 structure, as illustrated in Table 7. In brief, the class structure of American society in the early 21st century, which, to some extent, is evident also in many other contemporary societies, is that of the English sociologist Michael Young's (1958) fable, *The Rise of the Meritocracy, 1870–2033*. This book purported to be a "manuscript" written in the year 2033 in which the theme is the transformation of English society, by the turn of the 21st century in concordance with the victory of the principle of achievement (in education and the economy) over that of ascription (the gaining of place by assignment or inheritance). Thus, one implication of the post-industrial societal form and its associated increasing dominance of the meritocracy form of class structure is an increasing correlation/closeness of association of occupational and income achievement with the acquisition of educational and technical training and credentials. This changing association of achievement with education/technical training should be monitored and its implications for QOL should be studied by social indicators researchers.

A second implication of the transformations cited above pertains to the shares of national incomes going to the upper 1 percent of the income distribution, and, specifically,

Table 7 The class structure of the USA in the early 21st century

The Upper 30 Percent	The Upper Class—which saw all real (inflation-adjusted) income growth in 2002–2014	The Upper 1 Percent—Generally have university degrees and hold entrepreneurial, CEO/corporate officer, centralized banking, finance, entertainment, media, or sports positions
	The Upper Middle Class—flat real incomes in 2002–2014	The Next 9 Percent—Generally have Post-Graduate Professional or Academic Degrees
The Bottom 70 Percent	The Traditional Working/Middle/Low-Level Servic Class—flat or declining real incomes in 2002–2014	The Next 20 Percent—Generally have BA/BS Degrees
		The Next 25 Percent—Generally have High School Diplomas Plus Some College or Technical Skills
	The Poverty Class—flat or declining real incomes in 2002–2014	The Next 30 Percent—Generally have High School Diplomas Only
		The Bottom 15 Percent—Generally have less than High School Educations

to the upper 1 percent of the that group, that is, the upper 0.1 percent of the income distribution. As documented by Piketty (2014) and Atkinson (2015), this 0.1 percent of the income distribution, largely populated by Chief Corporate Officers (Piketty’s term: “supermanagers”) and successful finance/banking sector personnel (e.g., hedge fund officers), has benefited most in terms of increasing shares of national income and net assets/wealth since the 1980s.

In his historical analysis of trends, Piketty (2014, pp. 271–376) specifically finds that this concentration of income gains and wealth to the upper 0.1 percent is most evident in the Anglo-Saxon countries, especially in the U.S. and the U.K. In personal communication with Piketty, Land (2014a) pointed out that the following factors help to explain this:

- the U.S. and the U.K. have a greater representation of multinational corporations that have benefitted from globalization of the world’s economies; these are the corporate forms in which the supermanagers are most likely to exist;
- changes in compensation packages for Chief Corporate Officers from large salaries to salaries plus corporate stock beginning in the 1980s; and
- demographic cohort replacement in the 1970s/1980s of the children of the Great Depression/WWII (characterized by an ethic of “we are all in this together”) with War Babies and Baby Boomers (characterized by an ethic of “self-expression, self-actualization, and fulfillment”).

In his summary of research on this increasing concentration of income at the upper tail of the distribution, Atkinson (2015, p. 82) similarly cites globalization of the world’s economies, technological change (information and communications technology), growth of the finance sector of economies, changing pay norms, reduced power of trade unions, and a scaling back of redistributive tax-and-transfer policies. This trend of concentration of the income and wealth distributions towards their upper 0.1 percent should be monitored and studied for its impacts on QOL by social indicators researchers. More generally, the increasing dispersions of these distributions should be monitored and studied.

A third consequence of globalization of the world's economies is higher levels of international mobility of labor migration—legal immigrants. In addition, with large gaps in income and living standards between developed and developing countries—and, with the greater availability of information about these gaps available today through worldwide electronic communication media, there are increasing levels of undocumented migrants from developing to developed countries—with many associated problems therewith in the receiving countries. In general, the international mobility of labor is good for economic productivity and international relations. However, each society has a threshold of tolerance for levels of foreign-born residents, especially undocumented migrants. Beyond the societal threshold, natives begin to feel that “this country is no longer ours” and resentments/social backlashes against migrants begin to occur. Social and political disagreements also may rise as interest groups and political parties vie for and against migrant-friendly policies; political gridlock may result. Levels of both documented and undocumented migrants and societal reactions thereto should be monitored and the impacts of the migration on the QOL of both the migrants and the receiving populations studied by social indicators researchers. As well, levels of social consensus/disagreements over values, norms, and policies among receiving populations also should be monitored and studied in relation to levels of documented and undocumented migration.

Fourth, topics for social indicators/quality-of-life/well-being research related to the societal, globalization, and technological changes identified above include:

- the extent to which the increasing concentrations at the tops of the income and wealth distributions are related to labor unrest and social protest movements;
- the question of whether the post-industrial societal form leads to a dominant “cognitive class” of individuals who can obtain the advanced education and skills of the upper middle and upper classes, and
- given the rapid developments in genomic knowledge and associated gene editing/splicing technologies, the question of whether these classes can perpetuate themselves, not only by providing better home environments, educational opportunities, and other inheritances, but also by genetically engineering children of superior physical appearances and cognitive and athletic abilities.

An example of an emerging theoretical perspective on social indicators/quality-of life/well-being research that addresses many of the theoretical desiderata and societal transforming forces cited above is the recently developed focus on world suffering and negative quality-of-life indices and trends. Glatzer (2015) pioneered the conceptualization of negative quality of life, focusing on worry especially counter-productive worry. He also reviewed negative affect such as unhappiness, depression and fear. Recent research on suffering and the quality of life (Anderson 2015), including physical and mental pain, global wealth inequality and extreme poverty, violence, human dignity, environmental degradation, and refugee populations, has shown that viewing suffering as extremely negative points on a continuum of QOL can be very useful and will lead to the development of negative well-being indicators and suffering indices that complement existing positive well-being and thriving indices.

4 Summary and Conclusion

In summary:

- (1) Much of the ambitious agenda of the Social Indicators Movement of the 1960s–1970s has been realized, although, as with all scholarly endeavors, it remains a work in progress that must be constantly maintained, improved, and extended.
- (2) Since 1990, we, as a professional interest group, have developed several key organizational structures towards this end. We also have taken quality of life as a central organizing construct, developed composite social indicators, and studied the subjective well-being aspects of quality of life.
- (3) The societal form of the U.S. and many other developed countries in 2014 is very different from that of 1966 in that it is post-industrialized, globalized, and digitized-computerized-roboticized. These societal features have many implications for the social organization of 21st century societies and the quality of life of their members that should be studied by social indicators researchers.

Giving the last words to Szalai (1980, p. 21),

“Perceptions of life and ideals of a good or at least somewhat satisfactory life seem to differ radically...[across cultures and time] Comparative research on the quality of life has an important mission in the clarification of this situation. It may have something to contribute to the improvement of the lot of mankind. And perhaps our whole concept of the quality of life and of the various levels and forms of well-being will have to be changed, revised, or reconstructed in the course of the accomplishment of this mission.”

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