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Quality of urban life & environmental sustainability studies: Future linkage opportunities☆

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ABSTRACT

Throughout much of the world, cities are growing at an unprecedented rate presenting major challenges for national and local governmental officials. Not only must they cope with growing populations and an expanding infrastructure to accommodate growth, governments have to satisfy the changing needs of their existing populations. The challenge is particularly formidable for policy makers and planners. Research that addresses the *quality of life* (QOL) of urban residents can be helpful in meeting this challenge. In particular, research that measures and monitors the *quality of urban life* (QOUL) can inform policy makers and planners. Such research can also examine the culture of sustainability among urban residents, an increasingly important concept in the planning and management of cities. This paper offers operational definitions of QOL and QOUL. It then briefly reviews QOUL studies conducted in selected world cities during the past decade. Next, several types of measures are described as well as the conceptual models used to test relationships between the measures. Finally, measures covering the culture of sustainability among urban residents are suggested as part of QOUL studies. Such studies can be instrumental in the development of City Prosperity Indexes.

In late 2012, the world established a milestone when the official population estimates reached 7 billion people. This phenomenon was well covered in the media but what was not well publicized was that much of the population growth had taken place in cities. Just a few years earlier, the UN reported that the world had reached a tipping point where more than half the world's population was living in cities. According to a 2011 editorial in *Scientific American*, cities grew by more than 10-fold during the 20th century reaching 2.8 billion people by 2000, The UN predicted that by 2050, the number of urban dwellers is expected to surpass 6 billon. Furthermore, two out of every three people born during the next 30 years is likely to live in cities (Editors, 2011).

While the size of cities will surely become larger, it is unclear how conditions in these larger cities and the *quality of life* for their inhabitants has changed and will be affected in the future. As researchers and professionals interested in cities, we can generally agree what is meant by the urban condition. Some of us might think about the physical layout of the city, its morphology, or specific attributes contributing to it esthetic quality, its vitality, or its functionality. Others may think about urban infrastructure and the array of physical characteristics or its social and cultural mix and the inequities that exist. Still others will consider the sustainability of cities as climate change impacts the way cities are built and the daily lives of urban residents.

But what do we mean by quality of life (QOL)? QOL is certainly a multi-faceted concept that is frequently used in the media and by politicians but defies precise definition. Often it is difficult to differentiate between the notions of *QOL*, *well-being*, *satisfaction*, and *happiness*. Over the years the study of QOL has attracted the attention of researchers from a wide range of academic disciplines as well as interest among policy makers and, planners in places ranging from small villages to cities and states to national governments and international bodies. The concept is multi-faceted and increasingly recognized as warranting an interdisciplinary perspective.

This paper reviews the meaning of QOL and its dimensions that are of particular interest to policy makers, urban planners and those who manage cities. Those dimensions are referred to as *quality of urban life* (QOUL) and encompass the places where people live, work, and play. Next, the process by which we can determine whether QOL/QOUL are improving (or not) is discussed as is the

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value of QOUL studies in informing urban policy and planning. Following a brief review of approaches used to investigate QOUL, a sampling of QOUL measures or indicators along with models used to analyze and interpret the meaning of the indicators are presented. Sustainable cities and the need for tracking sustainability indicators within cities are then discussed. Next, the collection and use of environmental and cultural sustainability indicators at the University of Michigan is reviewed. Finally, a proposal for collecting both types of indicators as part of QOUL research is introduced.

Quality of life and living environments

Historically, QOL studies have tended to examine objective indicators reflecting the human condition such as their employment data, the incidence of mortality and morbidity, and crime rates. These studies were launched during the social indicators movement in with 1970s and recently summarized in *Investigating Quality of Urban Life: Theory, Methods and Empirical Research* (Marans & Stimson, 2011). During the past half century, however, a handful of scholars have argued that 'quality' of any entity has a *subjective* dimension that is *perceptual* as well as having an *objective reality*. In their comprehensive book on well-being, Kahneman, Deiner, and Schwartz (1999: p. x) indicate that the *quality of life experience* of individuals is embedded in the social and cultural context of the evaluator. The authors also suggest that the objective characteristics of society – such as poverty, crime rates and pollution – contribute predominately to peoples' *judgments* of their lives. *This assertion recognizes that QOL has both an objective and a subjective* component and, requires an understanding of both components and relationships between them.

The quality of our lives has many dimensions including our families, our jobs, our financial situation, our health, our faith, and our leisure. Those of us interested in cities and in the environment generally are well aware that we live in different *places*, each of which has numerous environmental attributes and these places are also important to our quality of life. We can think about places ranging in size or scale from the individual dwelling to the local area or neighborhood, to the city, to the broader region, or even to the state or nation – and it has been documented that where people live will influence their overall life satisfaction or QOL (see for example, Marans & Kweon, 2011). As such, a fundamental assumption underlying many approaches to planning is that places may be designed to enhance the quality of people's lives. As noted, most people are expected to live in neighborhoods within cities and metropolitan areas and therefore, it seems important to examine the relationships between the characteristics of these places and the perceived QOL of the residents. These types of studies have been referred to as quality of urban life (QOUL) studies and a number of examples of urban quality of life in places like Detroit, Brisbane, Istanbul, Dhaka, and Salzburg have recently been documented (Marans & Stimson, 2011).

So quality of life is a composite on an individual's psychological and physical well-being and closely linked to concepts like satisfaction, human development, happiness, and wellness. And while it consists of many aspects of an individual's life that are the focus of extensive research by social and medical sciences, the aspect dealing with *place* including cities is commonly reference to as quality of urban life.

How do we know if QOUL is in a particular place is good?

And more importantly, how do we know if the QOUL is improving, staying the same or declining? In order to answer these questions, we need to systematically measure conditions in that place using a variety of approaches and at different points in time. Historically, there have two basic approaches to examining QOUL (and QOL).

(a) The first involves monitoring QOUL/QOL through a set of *indicators* – usually over time-derived from *aggregated spatial data* using official sources – such as the census – that are considered to be related to perceived QOUL/QOL (for example, level of household income, crime rates, pollution levels, housing costs, and so-on).
(b) The second involves the use of sample surveys that measure of peoples' *subjective assessments* of QOL domains including place. This approach typically measures *satisfaction* with specific phenomena and with life as a whole and in more sophisticated studies individual, survey questions are often combined to create indices, metrics, or indicators having greater reliability.

While the literature covering each of these approaches is extensive, few studies exist that use both approaches (see Marans & Stimson, 2011). Those studies that do so reveal a more complete picture of both QOUL and QOL. In addition to offering a comprehensive view of QOUL/QOL, the combined approach provides opportunities to examine relationship between both sets of measures/indicators. This ability to analyze relationships not only has theoretical/scientific value but it can also inform policy makers. That is, knowing about what and how objective (environmental) conditions impact people's subjective and other responses (their QOL) can determine how those conditions are planned for and managed.

QOUL measures/indicators

Tables 1 and 2 provide examples of quality of life measures/indicators used in several cities. These are classified as objective, subjective and behavioral.

Models

Given this range of objective, subjective, and behavior indicators, one wonders how they can be used and considered as a totality. In fact, it might appear difficult to incorporate such a complex set of measures or indicators within a single model. But several years ago, Willard Rodgers and I proposed a model of satisfaction with residential environments that was adapted from a QOL model proposed by Campbell, Converse, and Rodgers (1976).

Table 1
Sample QOUL objective and subjective urban indicators.

Sample QOUL measures/indicators	
Objective indicators	Subjective indicators
Employment rates	Housing & neighborhood satisfaction
Educational attainment	Desire to move
Per capita income	Perceptions of crime
Crime Statistics	Perceptions of school quality
Domestic violence	Perceptions of health care services
Death rates	Feelings about neighbors
Incidence of chronic diseases	Feelings about rubbish collection
Air quality	Feelings about congestion & crowding
Residential density	Feelings about government
Housing vacancy rates	Satisfaction with health
Amount of parkland	Satisfaction with family, friends, job, etc.
Number of public transit riders	Life satisfaction, overall happiness (overall well-being)
Distance to transit stop	
Availability of grocery/food stores	
Vehicle miles traveled	