

QUALITY OF LIFE RESEARCH: AN ANNOTATED BIBLIOGRAPHY

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Introduction

One of the five long term objectives set out in the Strategic Plan of CMHC is: "to promote the orderly and timely development of Canada's urban, rural and remote areas to provide an enhanced quality of life for Canadians through improved living environments."

As part of CMHC's efforts to achieve this goal, the Corporation has commissioned The Institute for Social Research (ISR) at York University to undertake a feasibility analysis on modelling quality of life indicators in Canada. The project has three inter-related parts: an annotated bibliography of major studies dealing with quality of life; development of a quality of life model appropriate to the municipal level; and, exploration of available data for the model and identification of gaps in data.

This review of Quality of Life (QOL) literature is the first phase of that investigation. The review was undertaken with several goals in mind. These included: gaining a better understanding of how quality of life has been conceptualized and how QOL definitions have changed over time; identifying the areas or domains commonly examined and the indicators or measures most often used in each domain; and, reviewing the relationships between objective and subjective indicators found in previous studies.

While the review is wide ranging, it is not exhaustive of all QOL research and publications. The items that have been annotated cover a range from the early 1970s to the present and deal with various approaches to quality of life research. The decision to include or exclude materials was guided by several criteria, which taken together, make the review a useful background document for the purposes of modelling QOL indicators.

One of the criteria for inclusion was currency; most of the materials focus on work done in the 1980s rather than on earlier research. While some of the classic studies of QOL from both objective and subjective perspectives and several works summarizing the methodologies and findings of social indicators and QOL research during the 1970s are included, there is an emphasis on work done in the 1980s.

Another criteria was Canadian content. An attempt has been made to include all major Canadian studies. Classic, major or especially relevant research from the United States and the United Kingdom has been included but coverage here is not exhaustive. By and large, social development research and models for developing countries have been excluded.

A third criteria dealt with scale. Studies at the national or international level were included only if they contained implicit or explicit models relevant for smaller geographic units of analysis. Most of the materials reviewed are at the urban or intra-urban levels.

A fourth criteria is directly related to CMHC's mandate to enhance quality of life through improvements to the living environment. There is a vast literature in the academic journals dealing with the relationships of well-being to value structures, affective and cognitive processes, personal relationships and family relationships. While certainly important for understanding QOL at the individual level, much of this literature has been

excluded in favour of works dealing more directly with quality of place, both objectively and subjectively defined.

In preparing the review, several data sources were examined. These included:

Articles (from 1980 onwards) in Social Indicators Research and the major journals of Sociology, Urban Geography and Planning,

Books in York University's library referenced through an on line search for the categories "quality of life" and "social indicators",

Canadian and US government publications referenced through an on line search for the categories "quality of life" and "social indicators" or identified by research librarians in the area,

Studies identified in CMHC's background paper, "Quality of Life: Issues and Directions for CMHC",

Studies housed in the Institute's social science data archives, and,

Bibliographies from major reviews of QOL and Social Indicators Research.

Each reference has been annotated to include five basic pieces of information: the purpose or type of study; temporal and geographic coverage; QOL definition used; types of indicators employed (including objective and subjective data sets); and, the study's contribution to understanding quality of life.

Entries are presented in chronological order, beginning with works published in the 1970s and proceeding to the present. This ordering is valuable for understanding how QOL research has developed and for identifying the major definitional, methodological and measurement issues that must be addressed in attempts to conceptualize QOL indicators.

Quality of Life

1. Dickinson, Joshua C. III, Robert J. Gray and David M. Smith. 1972. The "Quality of Life" in Gainesville, Florida: An Application of Territorial Social Indicators. Southeastern Geographer. XII:121-132.

This is a case study of intra-urban social indicators in Gainesville, Florida (population=80,000). Quality of life is defined as "a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgements about the conditions of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction, while other things remain equal, things will have gotten better, or people are 'better off'" (from 1969 national social report). The study used 17 variables (6 from census data and 11 from local agencies). Five domains were covered (housing, home and family, crime, health and poverty/welfare). The data were collected for 43 Enumeration Districts (EDs) (similar to census tracts) as defined by the 1970 census. Experiments were undertaken with various methods of scaling including principal components, z scores and McHarg map-overlay. All produced much the same result. The method selected was "...a linear scale transformation of the original scores on each variable to a range from 0 to 100 where 0 represented the value in the ED with the lowest incidence of the condition and 100 represented the highest incidence." This method was selected instead of z scores because many variables were highly skewed. Variables were weighted equally except "families on welfare" which was given twice the weighting of other variables because of its importance and the fact that it was the only direct measure of poverty. The scores for each domain were summed to provide a measure for each criterion of social well-being and the five scores were summed to provide an overall "quality of life" index for each ED. The five scores for individual domains were highly correlated with the overall QOL index but not all five scores overlapped in all areas of the city (e.g., public housing areas had good performance on housing, health and crime but poor on family - female parent - and poverty). A separate analysis showed a high correlation between the QOL scores and racial composition of the ED. The authors point to the limitations of their study (representativeness of the variables, accuracy of measurement, effect of scale transformations and arbitrariness of weighting) and suggest additional research (more data on environmental quality, survey research to determine how individuals in different parts of the city perceive their QOL, and more consideration of the functional relationships between variables). This often quoted study is one of the first applications of objective social indicators to small areas within the cities.

2. Flax, Michael. 1973. A Study in Comparative Social Indicators: Conditions in Eighteen Large Metropolitan Areas, pp 244-290 in US Environmental Protection Agency, Office of Research and Monitoring, The Quality of Life Concept: A Potential New Tool for Decision Makers. Washington, D.C.: US Environmental Protection Agency.

An early example of comparative social indicators research in the United States using objective indicators available on a yearly basis. The goal of the study was to meet a need for a simple set of urban quality measures presented in a format amenable to non technical users such as policy makers. The "ground" rules used in selecting categories and indicators were as follow: inclusion of a wide cross section of urban quality considerations both objective and

subjective; inclusion of quality considerations for which there is a general consensus relative to their importance and desirable direction of change; for simplicity, to select only one indicator for each consideration; selection of indicators to be based on availability (this is the rationale for the metropolitan spatial scale); selection of output rather than input indicators. The quality categories (domains) included: unemployment, poverty, income, housing, health, mental health, public order, racial equality, community concern (measured via contributions to charity), citizen participation, educational attainment, transportation, air quality and social disintegration (measured by proportion of drug addicts in population). The study is useful because it has been replicated by Palys (1973) for major Canadian cities.

3. Joyce, Robert E. 1973. Systematic Measurement of the Quality of Urban Life. Prerequisite to Management, pp 226-243 in United States Environmental Protection Agency, Office of Research and Monitoring, Environmental Studies Division. (1973) The Quality of Life Concept: A Potential New Tool for Decision-Makers. Washington D.C.: US Environmental Protection Agency.

A description of the work of the Community Analysis Bureau, City of Los Angeles in the US which monitors 65 community areas in that city. The report measures urban plight using 20 criteria related to public safety, education, housing and neighbourhood and income production. An expanded set of measures also includes accessibility, law enforcement, fire protection, health care, and recreation. The 40 resulting measures are classed into attitudinal, societal, political, economic and physical manifestations or aspects.

4. Palys, T.S. 1973. Social Indicators of Quality of Life in Canada: A Practical/Theoretical Report. Winnipeg: Manitoba Department of Urban Affairs.

An attempt to replicate the Flax study using 10 Canadian urban centres: Calgary, Edmonton, Hamilton, Montreal, Ottawa, Quebec City, Regina, Toronto, Vancouver and Winnipeg. While the replication is made, the paper constitutes a severe critique of its measurement inadequacies. Health indicators are marred by multiple data sources with uneven quality. Housing measures based on inter-city indexes of household operations and retail price differentials are hard to interpret. Crime rates are based on unreliable record keeping. Community concern is too narrow a measure. Citizen participation measure ignores saliency of political issues. Transportation measures are too abstract. Income measures are not adjusted for the cost of living and averages mask local variations. Unemployment statistics have a very high error rate. Poverty measures are too simplistic and ignore savings and situational hardships. The report advocates (1) smaller units of analysis with census tracts being the most advisable despite the inability to allow city/suburban breakdowns; (2) the use of perceptual data for each geographical unit to define the units particular reality (3) development of social indicators predictive of these realities (4) selection of indicators on the basis of OECD "social concerns", and their ability to be quantified. Data tapping these concerns is usually not available and extensive survey work is required to develop such data. Despite the costs and time required, such effort is preferable to premature, nontheoretical approaches like Flax using only easily available objective measures. The paper's criticism of objective quality of life indicators has been made by many other authors. Of particular interest for practical purposes is how Palys was able to replicate measures developed by Flax

using US data in the Canadian urban context. Unemployment, health, mental health, public order, community concern and citizen participation measures were directly amenable to the Canadian situation. Timely Canadian data on racial equality, educational attainment and social disintegration were not available (Census education data are available every 10 years, too long a gap for trend analysis). Income was measured as per capita money income. Poverty was measured as the percentage of individual tax returns with reported incomes of less than \$2,000 and by the percentage of the population supported by welfare. Housing and transportation costs were measured by actual dollar expenditures and retail price differentials. Air quality was measured by average yearly concentration of lead in the air and by amount of dust fall.

5. Smith David M. 1973. The Geography of Social Well-Being in the United States: An Introduction to Territorial Social Indicators. New York: McGraw-Hill.

This book (144 pages) is both a review of the literature on territorial social indicators and a description of three original studies by Smith (analyses at the inter-state, inter-metropolitan and intra-metropolitan levels). Smith suggests three issues associated with the social data matrix (the periodicity of reporting, the spatial filter and the relevant domains). The focus is on the last two. Selection of an appropriate spatial filter is a compromise between concept and data availability. National surveys are often not suitable for spatial disaggregation because of small sample size. A review of the literature on social indicators (much of it national in scope) suggested complete agreement on the inclusion of four domains (income and wealth, employment, health and education), considerable agreement on a further four (social status and mobility, public order and safety, the state of the family, and the living environment), and some agreement, but in not more than half of the literature searched, for several other domains (science and technology, participation and alienation, leisure and recreation, social disorganization, the natural environment, access to services and culture and the arts). From this review, Smith suggests 7 major domains that should be included in territorial social indicator studies.

1. Income, wealth and employment (income and wealth, employment status, income supplements)
2. The living environment (housing, the neighbourhood, the physical environment)
3. Health (physical and mental health)
4. Education (achievement, duration and quality)
5. Social order (personal pathologies, family breakdown, crime and delinquency, public order and safety)
6. Social belonging (democratic participation, criminal justice, segregation)
7. Recreation and leisure (recreation facilities, culture and the arts, leisure available)

Smith also distinguishes between absolute, relative and autonomous indicators. An absolute indicator is when "...there is a scientifically established maximum or minimum level for a certain condition [but, what is a reasonable minimum standard] ...relative indicators measure the relative position of communities by things like crime rates ...and autonomous indicators refer to conditions specific to particular areas..." At the inter-metropolitan level of analysis, Smith reviews 3 main studies (Jones and Flax, 1970; Coughlin, 1970 and his own). Smith's study is based on 109 SMSAs, all above one-quarter million population. The data were

obtained from the Metropolitan Area Statistics section of the Statistical Abstract of the United States (1969). Thirty-one variables were selected under 5 headings (material living standards, welfare, health, education, and social order). Thus, not all domains listed as desirable were included (e.g., social disorganization, alienation, and participation). A general social indicator was obtained by standardizing the variables and summing the standard scores. The data were then factor analyzed resulting in two major factors, affluence and crime. Affluence was associated with large metropolitan areas, a small proportion of non-whites and high in-migration ($R^2=.51$). Low crime areas were associated with a small proportion of non-white population, a high proportion employed in manufacturing and population stability ($R^2=.60$). The intra-metropolitan analysis was undertaken for Tampa (population=300,000). Forty-seven variables were derived by census tract using a variety of data sources (e.g., 1970 census, planning commission, public works commission, pollution control commission, health department, police department). The data relate to 6 major domains: Economic status (income, employment, and welfare), Environment (housing, streets and sewers, air pollution and open space), Health (general mortality, chronic diseases), Education (duration), Social disorganization (personal pathologies, family breakdown, overcrowding public order and safety, and delinquency), and Participation and equality (democratic participation and equality - racial segregation and income distribution). Smith laments the lack of suitable data "...A great deal of effort is required to go beyond census data, converting local agency records into a suitable form, and in some cases the task was too great." The analysis was similar to the inter-metropolitan study. First, the data were standardized and summary scores obtained for each of the 6 domains. Then, the data were factor analyzed to obtain factors of intra-metropolitan well-being. Four major factors were derived: social problems (mortality, crime, delinquency, low education), socio-economic status (income, education, occupation), racial segregation (race, crowded dwellings), and social deprivation (unemployment, tuberculosis cases, inadequate plumbing, narcotics violations). The scores for each factor were mapped. Although there is some overlap of the spatial patterns, Smith concludes that "...the spatial expression of problem incidence is certainly not simply a reflection of wealth, class, status, and race." Given the weak association between physical environmental quality and many social problems Smith also questions the value of the Model Cities program emphasis on "face lift" projects. Smith wanted to include attitudinal data on perception of life quality and local problems in the Tampa study but the cost of obtaining sufficient interviews, stratified at the census tract level, was too much. In conclusion, a number of limitations of the social indicators approach are noted: lack of social theory to guide the selection of variables, shortage of suitable data - particularly attitudinal surveys, how to determine what is better or worse. But the major problem is how to turn the results into an action oriented model... "Geography places too much emphasis on describing and explaining our sorry reality and too little on improving it." This book was the first analysis of social indicators at a variety of spatial scales and remains a classic in the field. The issues associated with the development of territorial indicators are discussed in detail. The Tampa study is particularly thorough. Although dated, it is still one of the best studies of intra-metropolitan social indicators and points to the problems of aggregating non-census data to the census tract level of analysis.

6. United States Environmental Protection Agency, Office of Research and Monitoring, Environmental Studies Division. 1973. The Quality of Life Concept: A Potential New Tool for Decision-Makers. Washington D.C.: US Environmental Protection Agency.

A report of a symposium on the quality of life concept which attempts to specify and measure the concept. It discusses the variability and imprecision of attempts to define quality of life and looks at the conceptual and methodological problems involved in developing QOL indicators. There is agreement on five basic features of QOL indicators. They should be classified into groups of factors; each factor should be measured; measures need to be properly weighted; a QOL index should be obtained by aggregating the results of selected groupings. Measures of environmental quality, health status, socio-economic development and quality of urban life are proposed.

7. Bederman, Sanford H. 1974. The Stratification of "Quality of Life" in the Black Community of Atlanta, Georgia. Southeastern Geographer. XIV:26-37.

This is a study of the application of social indicators to census tracts in Atlanta using almost the same approach as Dickinson, Gray and Smith (1972) for Gainesville. The data included 11 variables for five domains (health, public order, housing quality, socioeconomic, and density). The data were obtained from the 1970 census and local agencies for 112 census tracts. The variables were weighted equally. Each variable for each tract was compared to the Atlanta average and a standardized value (negative or positive) was obtained. The five domains were weighted on the basis of the number of variables included in each domain and an overall QOL index was computed for each census tract. The authors experimented with other methods of standardization and discovered little variation in results. A separate analysis was undertaken comparing the QOL index to the racial composition of each tract. The authors suggest numerous possibilities for future research (better definition of QOL, more research on variable weighting including survey research, more data on "social awareness and involvement"). The authors also make the important point that the index is only relative to census tracts in Atlanta. If the same methods were applied to another city, different index values would be obtained because the average values would likely be different from Atlanta. For example, a different procedure would be needed to compare the QOL of a tract in Atlanta with a tract in Minneapolis. The authors also claim that the standardized numbers used in their study are easier to interpret than those used by Dickinson, Gray and Smith (1972). This is because the values in Atlanta are expressed relative to values for the city as a whole.

8. Andrews, Frank M. and Stephen B. Withey. 1976. Social Indicators of Well Being: Americans' Perceptions of Life Quality. New York: Plenum.

One of the classic studies of perceived well-being. The work is premised on the need for indicators of subjective elements in the notion of quality of life. Well-being is defined by how people evaluate various aspects of their lives. A seven-point delighted-terrible scale is the primary measure both of global well-being and of specific aspects of life or concerns. Concerns are divided into domains (such as housing, job, family) and values (such as safety, fun, freedom). Multivariate and other analysis of data from four US national sample surveys,

a local level survey and re-interviews of a sample from one national survey reveals that self efficacy, family, money, fun and housing explain almost half of the variance in global well-being with national government, job, health, spare time activities, things done with family, consumer index and time to do things also of importance. Evaluations of specific life concerns were only weakly related to reported behaviour and objective life conditions but in the expected direction. The study argues the need for both objective indicators of external or environmental conditions and subjective evaluations. The work is a major contribution to methodological and analytical issues in the area of perceived quality of life and offers insights into useful measures in this area.

9. Campbell, Angus, P.E. Converse and W.L. Rogers. 1976, The Quality of American Life: Perceptions, Evaluations and Satisfaction. New York: Russell-Sage.

This is one of the classic studies of perceived well-being. It is based on data from a representative national sample of American adults conducted in 1971 and from re-interviews with a small subset of the original respondents. The survey was intended to be one in a series to examine quality of life over time. The conceptualization of quality of life is focused on the experiences, rather than the conditions of life, and life quality is measured by level of satisfaction rather than happiness. Level of satisfaction is defined as the perceived discrepancy between aspirations and achievement and the authors argue persuasively that satisfaction measures are preferable to happiness measures. One component of the argument is that since human welfare is a matter of need-satisfaction, measures of satisfaction-dissatisfaction are easier to translate into policy terms than are measures of affect (or happiness). A seven-point satisfaction scale, semantic differential scales, a composite Index of General Affect (derived from selected semantic differentials) and an Index of Well-Being (the satisfaction scale combined with 8 core semantic differentials) were derived. The thrust of the investigation is an evaluation of 12 domains of life experience, their relationship to one another and their respective contributions to overall quality of life. The book begins with a presentation of a conceptual model wherein a persons evaluation of a particular attribute within a domain depends of their perception of the attribute in relationship to internal standards of comparisons, aspirations, expectations, etc. In turn, the perception of an attribute is dependent on, but distinct from the objective environment. All stages in the process are mediated by personal background characteristics such as age, gender, race, and socio-economic status. Part I of the book deals with the measures used, their strengths, weaknesses and interrelationships. Part II focuses on the domains and the relative importance of their unique features or attributes. Part II disaggregates the data to examine quality of life with respect to race and gender. The study's discussion of appropriate subjective measures, their validity and reliability and the specification of those domains most critical to overall life quality are of enduring importance. The work concludes with a discussion of policy implications of social research and suggests that such research ought to inform rather than determine public policy.

10. Knox, Paul L. 1976. Social Well-Being and North Sea Oil: An Application of Subjective Social Indicators. Regional Studies. 10:423-432.

"This paper attempts to demonstrate the utility and problems associated with the use of subjective social indicators against the background of a regional case study. A series of "soft" indicators of satisfaction and attitudes is used to illuminate and compare the social well-being of two Highland communities and to indicate their response to the powerful social and economic stimuli associated with the exploitation of North Sea oil. The communities in NE Scotland are small: Alness=4,000 population, Cromarty=500. The study is based on random samples of 298 respondents in Alness and 40 in Cromarty. Using an 11 point self-anchoring scale, respondents were asked about past, present and expected satisfaction with "life in general". Then, they were asked about their past and present levels of satisfaction on 8 domains (bus services, health services, educational facilities, housing conditions, entertainment, recreational facilities, freedom from crime, and employment opportunities). Two regression models were evaluated: (1) present levels of satisfaction with the 8 domains were used as independent variables to predict present levels of satisfaction with life in general and (2) past levels of satisfaction with the 8 domains were used to predict past levels of satisfaction. The explanatory power of the models was not high (30% for present level of satisfaction and 34% for past level of satisfaction). The poor results are attributed primarily to the exclusion of some important domains (Knox does not mention what these are). Finally, respondents were asked a number of questions about attitudes to life in the Highlands (e.g., government policies have done a lot to help raise the standard of living in the Highlands) and the probable impact of North Sea oil (e.g., In a few years' time when all the rigs are made, the new jobs created by the oil developments will disappear, and we'll all be back where we started). The author concludes with an evaluation of subjective social indicators. There are two major advantages. Subjective indicators allow direct comparisons between different domains, something that is not generally possible with objective indicators, and subjective indicators provide a more comprehensive evaluation of well-being. There are also disadvantages. Individuals and communities may evaluate domains in different terms (e.g., educational facilities might be thought of as bricks and mortar or quality of instruction). Also, different people may place different meaning on words such as satisfaction (differential cognition) and there is the further problem of the "halo" effect (people give what they think are the right replies). This is one of the first studies of subjective social indicators at the community level of analysis. It is a good overview of the advantages and limitations of subjective indicators.

11. Liu, Ben-Chieh. 1976. Quality of Life Indicators in U.S. Metropolitan Areas: A Statistical Analysis. New York: Praeger.

The objectives of this study were to develop a theoretical framework of QOL and undertake an empirical analysis of QOL for 243 SMSAs in the U.S. Liu developed an elaborate economic production model based on physical and psychological characteristics as inputs and individual QOL as output. Since psychological inputs are impossible to measure without attitude surveys, Liu assumes these are constant and proceeds with an analysis of objective indicators. The study assumes 5 major domains (economic, political, environmental, health and education, and social). Overall, 123 variables were incorporated in the study. In particular, good data were obtained for environmental conditions (e.g., air pollution, visual

pollution, noise, solid waste, and water pollution) and relatively sophisticated measures of racial, sexual and income inequality were calculated. The SMSAs were disaggregated by size into large, medium and small. QOL indexes were developed for each domain and each category of metropolitan size. Variables were weighted equally although Liu recognized the potential for unequal weightings based on attitudinal studies (a very costly method). The original variables were standardized, weighted according to the number of variables in a subcategory and the values summed to obtain an index for each major domain. In reality, so-called adjusted standardized values were summed rather than Z scores. This additional procedure was undertaken to avoid the effect of extreme scores. The QOL in individual SMSAs was rated as Outstanding, Excellent, Good, Adequate and Substandard according to values in standard deviation units above and below the mean for each domain and size category of SMSA. The results suggest considerable variation in QOL by SMSA and location of SMSAs. It is concluded that the major disparities in QOL are more concentrated in the social, health and education, and to a lesser degree, environmental domains than in the economic and political domains. Liu mentions the possibility of conducting a factor analysis of the data but does not describe such an analysis in detail. Conceptually, Liu finds the adjusted standardized value more satisfying. He also points out that Smith (1973) found a correlation of .91 between indexes based on (1) the sums of Z scores and (2) factor scores for his interstate analysis. Liu's study has been justifiably praised for its methodological rigour. This shows up most clearly in his development of special indexes of disparity. The model is also rigorous but difficult to operationalize. There is a considerable gap between theory and practice in this study.

12. Zehner, Robert B. 1977. Indicators of the Quality of Life in New Communities. Cambridge, Mass: Ballinger Publishing.

The purpose of this study was to evaluate QOL in 13 U.S. comprehensively planned new communities and make comparisons with the QOL in nearby conventionally developed communities. The study deals primarily with subjective indicators at 4 levels: general (global), community, neighbourhood, dwelling. Face-to-face interviews were undertaken with 2619 residents in the planned communities, 1321 in the comparison areas. In addition, 274, 131, and 577 residents were interviewed from subsamples of subsidized housing residents, blacks and young adults respectively. The questionnaire and details concerning the sampling and interview procedures are provided in appendices. Respondents were first asked what their QOL depended on. The most important responses, in rank order, were economic security, family life, personal strengths (e.g., honesty), friendship, and quality of environment. In a regression analysis, standard of living, use of leisure time, and family life were found to be the most important predictors of overall life satisfaction. Dwelling unit was 7th, neighbourhood 9th and community 10th. The limited effect of residential environment variables on individual happiness and life satisfaction confirms previous findings. There was also no difference between new and conventional communities on life satisfaction. The expected differences between highly planned and more conventional environments began to appear when respondents were asked about community and neighbourhood satisfaction. More people rated planned communities as "excellent" and a "particularly good" place to move to. The key factor in community satisfaction was satisfaction with the immediate neighbourhood followed by dwelling and recreation facilities. (Immediate neighbourhood was defined as the "area near here you can see from your front door - that is, the five or six

homes nearest to yours around here") In a regression analysis, neighbourhood satisfaction was found to be most accounted for by maintenance levels followed by convenience, privacy and friendliness. Interestingly, high densities did not decrease owners level of satisfaction but did so for renters. At the level of the dwelling, satisfaction seems to relate most closely to privacy and space - both indoor and outdoor. This case study is of interest because it reinforces the previously found lack of relationship between the residential environment and life satisfaction. It does, however, point to some important factors concerning satisfaction at the community and particularly the neighbourhood levels. It should also be noted that the highly planned communities were relatively small - 7,000 to 35,000 population. Methodologically, this is a carefully designed study and the questionnaire will be of interest to researchers contemplating similar studies elsewhere. However, this was probably an expensive study to undertake.

13. Knox, Paul L. and Andrew MacLaran. 1978. Values and Perceptions in Descriptive Approaches to Urban Social Geography. pp 197-248 in D. T. Herbert and R. J. Johnston (Eds.) Geography and the Urban Environment. Volume 1. Wiley.

This study had several objectives. For neighbourhoods in Dundee, Scotland the study attempted to (1) develop a set of objective values for 11 QOL domains measured by 50 variables (2) determine the importance of the domains (3) determine levels of satisfaction for the domains and (4) compare objective and subjective QOL. A major assumption of the study is that the domains of QOL vary between different groups, classes, and communities (communities because groups and classes are segregated residentially). For example, the poor are less likely to value environmental quality because they have more important needs such as health, housing and welfare. The study has several distinct stages of analysis (1) Ecological Context: 533 census enumeration districts were clustered into 14 neighbourhood types based on 17 social, demographic, housing and household characteristics. (2) A survey was undertaken of about 35 households in each of the 14 "neighbourhoods". The households were selected randomly from the valuation roll but no additional information is provided on sample design (3) Objective Conditions: From the survey, information was collected for 11 domains: health, housing, employment, education, personal security, family and neighbourhood stability, consumption/finance, leisure, participation, access to urban amenities, environmental quality. Fifty variables were used (e.g., for the health domain, 2 questions were asked; disabling illness in past 6 months, and visits to general practitioner due to illness). The scores were averaged for each domain and the domain scores aggregated to form a QOL index. The results indicate considerable variation between neighbourhood types for most domains. (4) Local Values: a measure of the importance of each domain on a score from 1 to 10. Health, stability, employment, housing, and environmental quality were the most important in rank order. There was general consensus between neighbourhoods on these 5 domains but not much agreement on the remaining domains. (5) Satisfaction of Neighbourhood Types: satisfaction for 10 domains was measured on an 11 point scale (0 to 10). As with the objective indicators, there was considerable variation between neighbourhood types, both for individual domains and an aggregate index of perceived level of living. (6) Association Between Objective and Subjective Indicators: In general, there were positive and statistically significant correlations (although in some cases not particularly high) between the objective and subjective scores, both for individuals and by neighbourhood types. However, there were some contradictions for correlations within neighbourhood types for each domain. The authors conclude that "...for the purposes of generally describing or

evaluating ecological disparities in well-being, conventional 'hard' data are as good a surrogate as any. Having said this, however, it is plain that even a crude consideration of values and perceptions can considerably enhance our appreciation of the nature and extent of these disparities." (7) Model of Perceived Well-Being: the authors present a useful flow chart model of objective and subjective QOL. This is an excellent case study that points out clearly the importance of the spatial scale effect on QOL. It illustrates the importance of obtaining data at a relatively local spatial scale when measuring the QOL within cities. It also suggests that there may be a stronger association between objective and subjective indicators than some researchers have suggested. In practical terms, this suggests that although subjective indicators are important enhancements to QOL studies, the cost of collecting this information may outweigh the additional insights. Although not mentioned by the authors, the questionable part of the research design is the relatively low sample size. This may have affected the reliability/stability of analyses within neighbourhood types.

14. Kuz, Tony J. 1978. Quality of Life, an Objective and Subjective Variable Analysis. Regional Studies. 12:409-417.

This study compares objective and subjective indicators for 77 urban centres in Southern Manitoba for 1971. The centres ranged from 500 to just over 30,000 population, but the majority were small (around 1,500). The data derive from special studies of the Manitoba Dept. of Industry and Commerce, including a questionnaire survey of about 5% of households in the study areas (based on questions from Miller, 1975, Handbook of Research Design and Social Measurement). The objective of the original study was to identify potential growth centres that might stem the tide of migration to Winnipeg and out of Manitoba. The selection of variables was based on theory (e.g., Andrews and Withey, 1974; Campbell and Converse, 1976) and data availability. Kuz notes that variables should be output descriptive (e.g., measuring the end product of social processes - infant mortality rather than expenditures on prenatal care) and absolute (e.g., the upper and lower levels for certain conditions - minimum income needed to keep a family out of poverty). The indicators used in this study are entirely relative and measure both input and output (e.g., education facilities index and % adult population with no schooling). In total, 34 variables were used, 21 objective and 13 subjective. Objective domains included housing, education, income, employment, health, leisure, social security and community infrastructures. Subjective domains included community involvement, community interaction and alienation and community leadership. The data were factor analyzed. Seven rotated factors explaining 75% of the variance were interpreted; the objective and subjective variables formed distinct factors therefore indicating little association between the two types of variables. Three level of living indexes (total, objective and subjective) were calculated using the variables with the highest loadings on each factor. The correlation between the objective and subjective indexes was .07, again indicating little association between objective and subjective indicators. This is an important study because of its attempt to measure the relationship between objective and subjective indicators and its Canadian content. Two points should be noted. First, most variables were specially derived (probably at considerable cost) by the Manitoba government. Second, the subjective indicators are heavily oriented towards one theme - degree of community interaction (e.g., interact with other groups, serve on committees, belong to an organization, attend meetings).

15. Shulman, Norm and Wayne Bond. 1978. Urban Indicators: Statistical Profiles of Quality of Life for Canadian Cities. Ottawa: Human Environment Directorate, Ministry of State for Urban Affairs, Revised Edition.

This is a revision of an earlier 1975 edition. The main objective of this monograph is to provide a set of quality of life indicators for the 22 Canadian Census Metropolitan Areas (CMAs). Indicators were selected on the basis of comprehensiveness, availability of data, reliability and accuracy, validity, and topicality. The 36 indicators represent social development (crime, education, ethnicity, cultural opportunities, and voter turnout), economic development (income, occupation, unemployment, strike days) and physical development (housing costs, affordability, tenure, type, quality, vacancy rates, density, public transit ridership, air quality, and fire and automobile hazards). Each indicator is discussed under the following headings: aspect measured, areal coverage, temporal coverage, other coverage, incompatibilities, collection, computation, other measures (alternatives), and source. Histograms showing the incidence of each indicator for each CMA are also shown (from west to east and rank ordered). Correlations were calculated between each indicator and every other indicator and a factor analysis was undertaken. Although there were some relatively high correlations, the general conclusion was that there was no overall summary measure of quality of life for the CMAs. There was also relatively little association between the indicators and city size or growth rate. The authors suggest the following extensions to the study: (1) Extension of coverage to intermediate and smaller communities, (2) Extension of within-city coverage because .. "Conditions may vary as much within a given city as between cities", (3) Addition of a temporal measure, (4) Standardizing data for demographic structure, employment structure etc., and (5) Adding national, urban, and metropolitan averages. Most importantly, the authors suggest a longer-range project. This is one of the few studies that has attempted to provide a standardized set of objective indicators for all CMAs in Canada. Of particular interest is the compilation and use of a considerable amount of non-census data (much of which was compiled by Statistics Canada).

16. Atkinson, Tom. 1979. A Study of Urban Concerns. Toronto: Institute for Behavioral Research, York University.

An initial report from the "Survey of Urban Concerns" conducted in 1978 - 1979 by Norman Shulman, Tom Atkinson and Peter Pineo for the Ministry of State for Urban Affairs. The survey drew samples from 23 Census Metropolitan Areas (CMAs) across Canada stratified by zone (Inner City, Mature Suburbs, New Suburbs and in the largest centres, Exurbs). Over 11,000 Canadians responded to a questionnaire composed of several segments designed to address general issues of urban concern and specific policy questions. The segments included: evaluation of the city, evaluation of neighbourhood, public transportation usage and travel to work; priorities of urban and national problems, perceptions of crime, energy use and conservation, perceptions and use of the downtown area, evaluations of government performance, and housing preferences, costs and mobility. While the study did not address quality of life per se, its two fold aim (to assess residents' response to policy issues of particular importance in urban areas and to determine those aspects of the urban environment which affect policy preferences and social potential) is directly related to the topic. As Atkinson phrases it, "An understanding of the linkage between features of urban ecology and policy relevant attitudes and behaviours directs our attention to those attributes

which should become the focus of policies designed to improve the urban condition" (1979:1). The report is also useful for its description of several subjective Indices. The Index of City Liking is the sum of three standardized evaluation items: absence of negative aspects of the city, satisfaction with the city and the city as an ideal place to live. An Index of Neighbourhood Liking contains two general evaluation measures; areas as a good place to bring up children and satisfaction with area as a place to live; and two specific assessments; things liked least and an index of evaluation of 15 neighbourhood aspects (streets, parks, recreational facilities, houses, schools, playgrounds, health facilities, air quality, noise level, shopping facilities, privacy, safety from crime, traffic safety, neighbours and public transportation). In addition to examining perceptions of the city and evaluating neighbourhoods, the report also discusses policy priorities in urban centres, fear of crime, evaluations of government, policy implications of public transportation and housing. Although dated, this is a major survey of large Canadian urban centres and concerns. A project description of the survey was also published by the Institute for Social Research in 1982.

17. Michalos, Alex C. 1980. North American Social Report. A Comparative Study of the Quality of Life in Canada and the USA from 1964 to 1974. Dordrecht, Boston and London: D. Reidel Publishing Co. (Volume One: Foundations, Population and Health. Volume Two: Crime Justice and Politics. Volume Three: Science, Education and Recreation. Volume Four: Environment, Transportation and Housing. Volume Five: Economics, Religion and Morality.)

A comparative study at the national level using existing social indicators in thirteen areas of concern. Indicators are either positive, negative or unclear and are given stock value (measure at a point in time) and flow value (change over time). Points are awarded for each stock and flow value for all indicators and the points are then summed to create a single national score which is the quality of life. QOL is defined both descriptively (the situation at a point in time) and evaluatively (whether this is good or bad in the opinion of most citizens). Indicators are varied.

18. Solomon, Erwin S., Nacuer Bouchouchi et al. 1980. UNESCO's Policy-Relevant Quality of Life Research Programme, pp 223-234 in Alexander Szalai and Frank M. Andrews, (Eds.) The Quality of Life: Comparative Studies. London and Beverly Hills: Sage Studies in International Sociology.

A brief description of UNESCO's broad research program in quality of life research which advocates different quality of life definitions from culture to culture and decentralized research activities. The program's goals or themes were to compile a comprehensive listing of human needs; to list the satisfiers of those needs as well as their delivery systems; to measure the levels of satisfaction that people have from available satisfiers; to examine the patterns of satisfiers and levels of satisfaction as well as their causes and effects; to examine the decision power in the society that shapes the distribution patterns.

19. Shulman, N., W. Bond and M. Nelson. 1980. Quality of Life Measures for Medium-Sized Canadian Cities. Ottawa: Canada Mortgage and Housing Corporation.

A companion study to the 1978 monograph on Urban Indicators. The primary objective is to provide a set of QOL indicators for the 112 Canadian municipalities with populations between 10,000 and 100,000. Indicators were selected on the basis of "(1) their relevance to the quality of life in medium-sized Canadian cities and (2) their availability at appropriate levels of coverage and aggregation." The 41 measures represent contextual data (population size, change, and composition, precipitation and temperature, and economic variables), physical development (housing, transportation), social development (educational services, health facilities, recreation, criminal activity, traffic injuries and violations, police, fire, community media), and economic development (income and labour force). Relatively few indicators correspond with those used in the 1978 study. Most indicators are discussed under four headings: aspect measured, difficulties of interpretation, urban pattern, and other measures. The sources and problems of obtaining the variables are discussed in technical notes. Each indicator is summarized in raw form in a table and transformed into Z score form for presentation in a bar chart. Considerably more interpretation is provided for each variable than in the 1978 monograph. This is the only study that has provided a standardized set of objective indicators in the "places rated" tradition (e.g., Boyer and Savageau, 1981 and 1985) for medium sized Canadian cities. It also provides useful details about the source of information for a number of non-census variables.

20. Verwayen, Henri. 1980. The Specification and Measurement of the Quality of Life in OECD Countries, pp 235-247 in Alexander Szalai and Frank M. Andrews, (Eds.) The Quality of Life: Comparative Studies. London and Beverly Hills: Sage Studies in International Sociology.

A brief description of the OECD Social Indicator Development Program. Although geared to the national level, the goals of the program phases and the difficulties achieving them have relevance for attempts to measure quality of life at the municipal level. Phase I concentrated on developing a list of 24 social concerns common to most OECD countries. Phase II centred on the specification of indicators for the human concerns. Phase II deals with effective implementation and use of the design. The program takes the position that the development of data should follow the development of indicators rather than the other way around.

21. Boyer, Richard and David Savageau. 1981 and 1985. Places Rated Almanac: Your Guide to Finding the Best Places to Live in America. New York: Rand McNally (first and second editions).

A collection of information about 333 metropolitan areas in the United States. It rates and ranks areas on nine factors including cost of living, job outlook, crime, health care, transportation, education, the arts, recreation and climate and provides a cumulative score for each area. The best place to live is determined by matching these scores with an individual preference inventory of the most important location choices. Meyers (1987,1988) terms studies of this sort "livability comparisons". The advantage of such studies lies in the provision

of information for business and individuals looking at prospective new locations and the provision of information to local government and planners to aid marketing efforts to attract economic growth. Such studies are grounded in the earlier work of researchers such as Flax (1972) and Liu (1976) but have a simplified methodology. However, Meyers and others (for example, Cutter, 1985) have critiqued livability studies on several grounds including neglect of subjective data, biased indicator selection and weighting, poor availability of comparative data and poor attention to unique local characteristics. The charge is that livability studies use the researchers' assumptions to create an implicit definition of quality of life based on ad hoc use of available data.

22. Carley, Michael. 1981. Social Measurement and Social Indicators: Indicators of Policy and Theory. London: George Allen & Unwin.

An excellent summary and critique of social indicators research covering the methodological issues of quantitative social indicator construction; the relationship of theory to the policy making process; and various attempts at developing social indicator systems such as the OECD programs. Many of the definitions and issues examined in the book are of importance for attempts at modelling quality of life. These may be summarized as follows. A social indicator is defined as a measure of observable traits which establishes the value of different non observable traits. Carley identifies two major problems confronting social indicators research and attempts at modelling. The first problem is political. Indicators are normative and hence their selection involves value judgemental aspects and the spectre of potential misuse. The second problem is methodological. It is difficult to correlate the measures with the unmeasurable things they tap and the development of indicators has usually been non theoretical and non systemic. The book calls for two ways to remedy these problems. First, indicators should be classified according to their policy use. They may be information indicators describing a system on a time series basis, they may be predictive, problem oriented or program evaluation indicators, monitoring progress. Second "What is obviously called for is some combination of objective measures with indicators of perceptions in a rigorous and systematic framework" (p.13). Social indicators have been used in a variety of ways but there is usually an emphasis on their normative nature and on output rather than input measures. Carley sees input, throughput and immediate output (measures of the results of specific activities) measures as usually objective with final output measures of concepts such as "healthy population" or "better environment" as usually subjective. The book treats quality of life measures as particular types of social indicators with quality of life research defined as "the specific study of well-being as defined by subjective social indicators". The primary utility of QOL subjective social indicators for policy matters is at a domain specific level disaggregated by relevant variables.

23. Loetscher, L. 1981. The Quality of Life in Canadian Metropolitan Areas: Conceptual Framework for a Comparative Study. Urban Studies Working Paper No. 4, York University.

An extensive review of various perspectives on QOL including objective indicators, subjective indicators, lived space and living space. There is also a lengthy section reviewing Canadian studies that relate in some way to QOL in urban areas. Finally, the author presents a conceptual model for undertaking a comparative study of QOL in Canadian metropolitan

areas: The model extends the work of Campbell, Converse and Rogers (1976) and Atkinson (1979) to incorporate public decision makers (politicians, planners), private decision makers (developers, real estate agents, financial institutions), and the urban population (community action, citizen groups). The focus is on "...the impact of decision makers' (or elites') behaviour in determining environmental conditions and in influencing the populations perceptions and standards of comparisons." An empirical study using data from the Urban Indicators study (Shulman and Bond, 1978) and the Urban Concerns study (Atkinson, 1979) and interviews with key decision makers in Montreal, Toronto, Calgary and Vancouver was undertaken and published in German (Lötscher, 1985).

24. Institute for Behavioral Research. 1982. Urban Concerns Survey: Project Description, Guide to Sample and Codebook. Toronto: Institute for Social Research, York University.

A detailed project description of the sample and questionnaire of the Survey of Urban Concerns sponsored by the Ministry of State for Urban Affairs in 1978 and 1979. (See Atkinson, 1979).

25. Greer-Wootten, Bryn and Stavros Velidis. 1983. The Relationships Between Objective and Subjective Indicators of the Quality of Residential Environments: Toronto C.M.A., 1981. Report Submitted to Canada Mortgage and Housing Corporation.

This is a detailed study of residential QOL in the Toronto area. The major purpose was to explore relationships between objective and subjective indicators for a sample of households. Subjective data were obtained from the 1981 QOL study conducted by York-IBR (now ISR). Objective data were obtained from a 1983 survey of the observed conditions of dwellings and neighbourhoods for households who had been interviewed in 1981. The sample for the York-IBR study was derived from a multi-stage sample: (1) Using census data for enumeration areas and a factor/cluster analysis, 15 strata or neighbourhood types were defined (2) A sample of enumeration areas was selected from the neighbourhood types, and (3) A sample of households was selected within the enumeration areas. A total of 555 dwellings/households were matched for the objective-subjective comparison. Initial analyses indicated the importance of personal characteristics (age, tenure, income) in accounting for variations in both dwelling and neighbourhood satisfaction. Also, there was a discrepancy between residential quality and residential satisfaction. Quality was associated with location (city, suburb, fringe), satisfaction was not. Five different factor analyses were undertaken for (1) dwelling characteristics, (2) neighbourhood characteristics, (3) subjective evaluations of the dwelling, (4) subjective evaluations of the neighbourhood, and (5) overall life satisfaction. A series of regression analyses were performed using overall housing satisfaction as the dependent variable (an arbitrary choice). The first analysis incorporated factors summarizing objective measures of the dwelling. The three most important factors, property quality, housing type (older single vs. recent apt.), and crowding accounted for only 10.8% of the variance in overall housing satisfaction. The inclusion of neighbourhood factors based on objective indicators added little explanation to the model, but general life satisfaction accounted for almost 36% of the variation in housing satisfaction. The authors conclude that (1) there is need for both objective and subjective indicators, (2) information for these should be collected simultaneously, and (3) there is need for better indicators. This is a rigorous

study that deals in depth with one aspect of QOL. It is also the only study in Canada that deals with the objective-subjective indicators debate at the intra-metropolitan level.

26. Hankiss, Elemer. 1983. Cross Cultural Quality of Life Research, pp 11-48 in UNESCO, Quality of Life: Problems of Assessment and Measurement. Socio-economic Studies. Paris: UNESCO.

A theoretical paper within UNESCO's informal network of institutions engaged in quality of life research that considers the conceptual framework and methodological issues of quality of life research and proposes a systems model as appropriate to measure welfare and well-being on an international level. The paper is interesting for its definitions of indicators and for its stress on the need for an integrated approach to quality of life research that pays attention to the measurement of various "filters" that intervene between input and outputs. Economic indicators monitor economic processes, are based on data provided by institutions and analyze the economic conditions of social welfare. Social indicators monitor social processes, are based on surveys and social statistics and analyze the objective conditions of social welfare. Quality of life indicators monitor the subjective reactions to economic and social processes and are based on individual level data. Filters are diverse and may include structural inequalities and differences in values systems.

27. Institute for Social Research. 1984. Social Change in Canada: Technical Documentation. Toronto: Institute for Behavioral Research, York University.

A description of the sample design, weighting information, data processing, coding, variables and publications associated with the "Social Change in Canada" project. Informally known as the "quality of life in Canada project", the project involved three national sample surveys in 1977, 1979 and 1981. The surveys of representative samples of adult Canadians constitute in part a three wave panel, which was supplemented in the second and third years by the addition of new respondents. Most of the questionnaire items deal with the perceived quality of life following a strategy most closely associated with Campbell, Converse and Rogers in their Quality of American Life (1976). In each of 13 "domains" of everyday life, respondents were asked questions about their objective situations and their perceptions and satisfaction with that situation. The domains included: neighbourhood, city/town/province, province/country, life as a whole, education, employment, leisure, finances, housing, health, friendship, marriage/romance and family. Measures of values and opinions about important policy issues are also included in the questionnaires. Quality of Life in each domain is defined by an 11 point satisfaction measure with 11 being completely satisfied and 1 being completely dissatisfied. Overall life satisfaction is defined by the satisfaction measure but a composite index is also possible made up of the overall satisfaction item, Cantril's self anchoring ladder, a general happiness measure and an item requiring that life be graded (as in a classroom). The scale of the study is national, the time interval between survey waves is two years and the measures deal with subjective well being and perceived evaluations of objective life conditions. The study was the first its kind in Canada and is useful in addressing measurement and statistical analysis issues related to perceived quality of life.

28. Cutter, Susan L. 1985. Rating Places: A Geographer's View on Quality of Life. Washington: Association of American Geographers Resource Publications in Geography

This is a short monograph (76 pages) containing four chapters: (1) Defining Quality of Life, (2) Measuring Quality of Life, (3) Ranking and Rating Places, and (4) Why do People Care about Quality of Life? Quality of life is defined as "...an individual's happiness or satisfaction with life and environment including needs and desires, aspirations, lifestyle preferences, and other tangible and intangible factors ..." The geographer is concerned more with "...the measurement of the conditions of place, how these conditions are experienced, and the relative importance of each of these to the individual." The author presents a conceptual model linking three dimensions: social (e.g., crime, housing, income), environmental (e.g., climate, pollution, recreation), and perceptual (relative importance of the objective social and environmental conditions and people's image of place). A review of the literature on social, environmental and perceptual components indicated that few studies have compared different places and that it is "...difficult, if not impossible" to integrate perceptual information with social and environmental. Detailed reviews are presented of the major inter-urban quality of life studies through 1985. Liu's (1976) study is singled out for its methodological rigor and fairly good environmental data. Few studies of quality of life at the intra-urban scale were found for U.S. cities. Cutter concludes that "The results of these intra-urban studies (Dickinson et al, Bederman, and Smith) suggest that their primary use is not so much in determining and comparing places to live, but rather in describing places (neighbourhoods) where wide disparities exist in social conditions and social well being. In all three studies, the authors argue for the merits of this type of analysis in planning decisions and allocation of urban services. However, few, if any, intra-urban quality of life studies in the U.S. have been done since. Intra-urban analyses of quality of life are the least successful in differentiating places, as the findings are not significantly different from research conducted twenty-five years ago. While perceptual indicators of quality of life could be employed, none have. In addition, measures of environmental quality would be difficult to obtain at such small scale without actually monitoring or collecting raw data. This is not to suggest that community and neighbourhood analyses are not useful; they are. Rather, it suggests that quality of life is a broader concept and has its most appropriate application at the inter-city level, or larger scale." A number of guidelines are suggested for improving and evaluating quality of life studies: (1) incorporate social, environmental and perceptual indicators, (2) include both objective data and subjective appraisals (most studies exclude the latter), (3) indicators should actually measure the desired concept, (4) spatial scales should not be mixed in the same study, (5) include a clear statement indicating whether the study is about individual quality of life within an area or spatial variations in quality of life between areas (quality of life of a place). (6) sophisticated statistical methods are useful but do not necessarily produce the best results. Overall, this is a good review of the quality of life literature up to the mid-1980s as applied to the conditions of place.

29. Miles, Ian. 1985. Social Indicators for Human Development. New York: St. Martin's.

This book is concerned with how social indicators can be used to assess and improve the human condition. It draws on the results of research carried out under the auspices of the Goals, Processes and Indicators of Development (GPID) Project of the United Nations University. The concept of human development is discussed; the origins and development

of the social indicators movement is outlined with particular reference to its critique of GNP statistics; uses of indicators are discussed as are data sources; and, social accounting and social report systems for relating and disseminating indicators are examined. Twenty three areas critical for development are identified and a listing of how the areas are covered by 8 different national social reports is provided. The areas include: demography, environment, science and technology, art and culture, employment and occupation, working life, incomes, inequality and stratification, expenditure, production and consumption, welfare services, health, family patterns, housing, social participation, political activities, leisure and media, crime and law, religion, group relations, values and attitudes and special topics. Many of the areas are of special relevance for developing countries but the description of the ways they are handled by the United Nations, OECD, individual researchers and the social reports of the US, UK and EEC are of interest.

30. Lötscher, Lienhard. 1985. Lebensqualität kanadischer Städte. Basel: Basler Beiträge zur Geographie, Heft 33.

An empirical study of QOL life based on the conceptual model presented in Lötscher (1981). There is an English summary on pages 200-203. The model "... summarizes the relationships between the attributes of the objective environment and the perceived quality of life. Both are considered to be measurable by objective and subjective indicators. Our addition of public and private decision-makers as determinants of environmental conditions and as a direct influence on perceptions, expectations, aspirations and attitudes of individuals, however, is considered to be a significant extension of the initial model." The initial empirical analysis is based on the objective indicators of the Urban Indicators Study (Shulman and Bond, 1978) and the subjective indicators of the Urban Concerns Study (Atkinson, 1979). The author concludes that "Regional differences in objective characteristics show that objective social indicators are able to offer basic information on present living conditions, even though they do not offer any direct help for political planning decisions. Public decision-makers, however, should become aware of those problems considered as most pressing by the people concerned. Subjective social indicators enable us to show, (a) how a neighbourhood or a city is experienced and assessed by the people concerned, (b) which problems are considered by them to be the most important, and (c) which of these problems have to be considered as affecting the quality of life in those neighbourhoods." Lötscher also concludes from in-depth interviews with politicians, planners and members of citizen groups in Montreal, Toronto, Calgary and Vancouver that "...the activities of decision-makers have to be included in the analysis of urban quality of life, unless the aim is solely to give a static picture of the conditions of life at a particular point in time." This study is important for two reasons. First, it is one of the few studies of Canadian cities that has attempted to incorporate objective and subjective indicators into the same study (although not using the same data base) and, second, it extends the traditional QOL models into a more planning oriented framework by adding the activities of decision makers to the model.

31. Gould, Jay M. 1986. Quality of Life in American Neighbourhoods. Boulder and London: Westview Press in cooperation with the Council on Economic Priorities.

A study of toxic waste, income and concern rates in every Zip code area in the US. The measures of social life are traditional. The study is interesting for the way it combines Zip code areas into neighbourhoods. It is unclear whether Canadian postal codes could be similarly used for small area analysis.

32. Wish, Naomi Bailin. 1986. Some Issues About the "Quality" of Sunbelt/Frostbelt Life: Factor Analysis of the Better Data Demonstrates that this Dichotomy is Hopelessly Biased. American Journal of Economics and Sociology. 45:343-357.

The purpose of this study was to compare objective and subjective indicators for the 60 largest SMSAs in the US. Objective indicators were obtained from Boyer and Savageau's Places Rated Almanac (1980 data). Domains included climate, housing, health, crime, transportation, recreation, art, economics, and education. Subjective data were obtained from the Annual Housing Survey which does a detailed survey for the 60 SMSAs on a 4 year rotating basis (15 SMSAs per year). Opinions were available about the dwelling and neighbourhood services. No questions were asked about the entire SMSA, a deficiency that Wish points to. Boyer and Savageau's SMSA overall quality of life rankings were correlated with responses from the Annual Housing Survey. For the most part, there were no significant relationships. Correlations between the subjective indicators and the scores from a factor analysis of the more detailed Boyer and Savageau data still produced no relationship between subjective and objective indicators. Wish claims that the "...results highlight the limitations of a great deal of our 'quality of life' research." Although the subjective indicators may not be the most appropriate they do indicate the utility of using the Annual Housing Survey for this purpose. In Canada, the HFE survey could be extended to measure subjective QOL.

33. Wish, Naomi Bailin. 1986. Are we Really Measuring the Quality of Life? Well-being has Subjective Dimensions, as well as Objective Ones. American Journal of Economics and Sociology. 45:93-99.

This short note was prompted by the finding of a very weak correlation ($r=.08$) between the ranked quality of life indexes for SMSAs in Liu's (1976) study and Boyer and Savageau's Places Rated Almanac (1981). Even though the studies covered different time periods (1970 and 1980), domains, and measurement techniques, Wish expected a higher level of association between the results of the two studies. A number of limitations of QOL studies and guidelines for future research are discussed. These include (1) the need to incorporate both objective and subjective indicators in QOL studies, (2) the need to focus on various spatial units. "Studies that allow comparison, yet focus on geographic areas that are small enough to be somewhat homogeneous should be used." (3) disagreement about number and type of domains as well as the variables used to identify the domains, (4) lack of weighting of domains despite common knowledge that there is a hierarchy of needs. There is need to determine the relative importance of domains. This study is important because it is one of the first to demonstrate the lack of relationship between objectively derived QOL scores from two somewhat similar studies.

34. Pacione, M. 1986. Quality of Life in Glasgow: An Applied Geographical Analysis. Environment and Planning A. 18:1499-1520.

The major objective of this study is to "...analyse the structure of and spatial variations in quality of life for different areas and population groups in the city of Glasgow." Pacione first presents a four-dimensional structure for quality of life studies (objective-subjective distinction, degree of specificity or generality, time, and geographic scale). Considerable attention is paid to the scale factor and it is suggested that "...policy-level quality-of-life indicators are more likely to be derived at the local area scale" and that these indicators are likely to be concerned with specific domains such as housing conditions, employment, and access to public services. This points to the need for intrametropolitan analyses. This study was carried out at three levels of spatial analysis (a hierarchical spatial framework). The first analysis was at the city level. Fifty-nine objective indicators for 2435 enumeration districts were analysed using maps of key deprivation variables (lack basic amenities, over 1.5 persons per room, vacancies, male unemployment, and single parent families) and a principal components (factor) analysis. The first component was interpreted as a general measure of deprivation and the second as a measure of affluence. Scores from the multiple deprivation component were mapped and analysed. From this analysis, Easterhouse was identified as the most severely deprived area of Glasgow. A separate factor analysis was undertaken of the 84 enumeration districts in this area. Six major factors were identified (multiple deprivation, aged households, working-age families, children living at height, vacant dwelling stock, and more affluent households). These results could be used to undertake additional micro-level QOL studies for specific groups such as the elderly or single-parent families. Pacione selects the elderly. To find sample areas, enumeration district scores on the multiple deprivation and aged households components were plotted and the enumeration districts with the highest level of elderly population and deprivation were selected for further consideration. A random sample of 150 elderly households was drawn from the targeted enumeration districts. Respondents were asked to evaluate their quality of life using a 7 point scale for 43 measures. The results were summarized using principal components analysis resulting in 13 components. Finally, a regression model was evaluated using respondents' overall assessment of residential satisfaction as the dependent variable and the 13 component scores as independent variables. Eight components explained 66% of the variance. In rank order, these were multiple deprivation, residential value, internal design of the house, friction of distance, house standards, home heating system, traffic and negative externalities. Pacione argues that the results can be of practical as well as academic value. For example, fear of vandalism (rated high in the regression analysis) could be ameliorated by actions of the police department such as more foot patrols and community level policing. This study is of interest because of its recency, its focus on different spatial scales of analysis and its multi-method approach. It also suggests that although subjective indicators are important, they are most realistically applied to a targeted group at the local spatial level.

35. Myers, Dowell. 1987. Community-Relevant Measurement of Quality of Life: A Focus on Local Trends. Urban Affairs Quarterly. 23:108-125.

The purpose of this article is to propose a community-trend method for QOL measurement and illustrate its applicability using a study of Austin, Texas (population=650,000). The method is based on two premises: (1) QOL is a local experience and (2) people judge

community livability by trends over time in various aspects of local QOL. Myers defines QOL as "...the shared characteristics residents experience in places (for example, air and water quality, traffic, or recreational opportunities) and the subjective evaluations residents make of those conditions." Myers is particularly critical of comparative studies such as the Places Rated Almanac. He mentions four problems: (1) neglect of subjective data, (2) biased indicator selection and weighting, (3) poor availability of comparative data, and (4) poor attention to unique local features. "The fault of recent comparative studies is that facts have not been selected and structured in a manner local residents would consider relevant; key factors may be omitted, other superfluous factors added, and weightings may be inconsistent with local views." The community-trend method, as used by Myers, involves four stages: (1) identification of indicators by reviewing professional literature on QOL and consulting local leaders from a wide range of interest groups, (2) collecting and processing objective data, (3) surveying citizen opinions, and (4) writing reports for community dissemination. Objective data were collected for 12 factors that could be quantified (restaurants/shops, entertainment, income, education, recreation, job opportunities, health care, minority equality, housing affordability, crime, traffic, water quality). The factors were standardized on the basis of whether the QOL for each factor was improving or deteriorating relative to the base year. Subjective data were obtained from a mailed questionnaire to a sample of registered voters. Of the 3,040 questionnaires mailed out, 52% were returned. This response rate was viewed as successful for a mailed questionnaire but Myers admits that there may be a bias towards better-educated, white, long-term residents. As partial compensation, minority neighbourhoods were sampled at twice the city-wide fraction. Myers concludes that the sample adequately represents voting residents and these are the people who participate in political decision-making. (The flaws in research design could be overcome by a telephone survey) Comparison of the objective and subjective indicators showed that the results were remarkably similar. Respondents were also asked to weight the importance of the factors. In rank order these were crime, water quality, cost of living, jobs, schools, traffic, housing costs, taxes, health, parks, trees, climate, equality, arts, entertainment, shopping, restaurants. The factors at the top of the list were also those viewed as contributing most to a declining QOL. This paper is important because of the approach taken and the emphasis on local trends. It also points to the fact that citizens may prioritize QOL domains on the basis of those factors that are viewed most negatively at the time. This finding raises doubts about the ability to define two or three indicators that are consistently most important.

36. Lyon, Larry. 1987. The Community in Urban Society. Philadelphia: Temple University Press.

Three chapters in Section III (Studying the Community) of this book are important for QOL studies. Chapter 10 (Local Indicators) is the most relevant. Lyon notes that "Generally, anything that indicates the quality of local life can be a local indicator, but, more specifically, local indicators are typically divided into two types: objective indicators that measure actual events such as local crime rates, and subjective indicators that measure attitudes about events, such as community surveys on the fear of crime." The author reviews the origins of objective and subjective indicators and provides a good discussion of the advantages and disadvantages of each. Objective indicators are more comparable over time and from place to place; they report actual conditions; they are unobtrusive and are often readily available. However, objective indicators are surrogate measures or indirect indicators of QOL and there are the

further difficulties of which indicators to select and how to weight or combine them. Subjective indicators have the advantage of measuring "...the state of the community through the eyes of those who live there." and therefore they are likely to "...provide a more accurate assessment of the quality of life." Lyon provides the following example: "...if everyone in the community is afraid to walk the streets at night because of the perceived danger of crime, it may make little difference what the actual crime rate is. It is the perception of the magnitude of the crime problem that determines whether we venture out at night." In contrast to objective indicators, however, there are problems with the comparability of surveys that form the basis of subjective indicators. In considering the advantages and disadvantages of objective and subjective indicators, Lyon concludes that "...community research that includes both types of indicators will almost always be superior to research that is restricted to only one." The rest of the chapter is devoted to some of the practical issues concerning the selection and use of objective indicators and includes lists of indicators from a 1973 University of Texas study and a 1977 study by Olsen and Merwin. In concluding the chapter, Lyon notes that "...while local indicators are closely related to concerns with the quality of life, they are insufficient for a satisfactory analysis without: (1) subjective indicators based on community perceptions and (2) an understanding of the local political conditions that must be dealt with to improve the quality of life. For example, if we learn that poverty is much worse in our community than in other communities, it is also important to learn if the community is aware of the problem (i.e., subjective indicators) and if those in power are willing to address the problem." Chapter 11 (Community Surveys) gives good practical advice on designing the survey, choosing the sample, administering the survey and analyzing the results. Obviously more detailed publications should be consulted if an actual survey is being undertaken but this is a good start. Finally, Chapter 15 (Measuring Local Power) provides important methodological guidelines for measuring local power structures. Lyon's book is not only a review of existing literature but also an excellent primer for those contemplating community studies that incorporate objective indicators, subjective indicators and a study of local power structures or decision-makers. In that sense, it offers ideas for operationalizing the models suggested by Lötscher (1981, 1985) and Myers (1987, 1988).

37. Breheny, Michael J. 1988. Rating Places: Introduction. Built Environment. 14:75-77.

An introduction to a special edition of the journal, Built Environment, on the theme of "rating places". The author provides a brief, but useful, review of the American and British literature in this area. For Britain, important contrasts are made between the work by Green and Champion, which emphasizes economic prosperity measures, and Findlay, Rogerson, and Morris which stresses measures based on "desirability" and "quality of life". The interesting point is that for 38 comparable cities, the two types of measures do not correlate strongly with each other. Cities in Scotland and the north of England do not score well on economic indicators but rank high on the broader QOL measures.

38. Findlay, Allan, Robert Rogerson, and Arthur Morris. 1988. In What Sense "Indicators" of Quality of Life. Built Environment. 14:96-106.

The objective of this paper was to examine a number of technical and methodological issues of QOL studies within the context of a recent study concerning the QOL of British cities.

Two main technical issues are noted: (1) identification of appropriate domains. There are many lists but little agreement on the range of indicators or how indicators should be selected. It largely depends on the availability of data and subjective evaluation of the researcher. (2) relative importance of each domain. Most have argued for some sort of survey but few studies have incorporated perceptual weightings. The overall research project was organized as follows: (1) the QOL indicators to be included in the study were identified using a pilot study (2) A national sample of 1200 respondents were asked to rate QOL dimensions on a five point scale in terms of their degree of importance in influencing where to live. Average weightings indicated that crime, health provision, and pollution levels were most important and leisure facilities, quality and access to council housing, and the cost of private rental housing least important. (3) Objective data were collected for Britain's 38 largest city regions using 52 surrogate variables for the subjective QOL dimensions. The value for each variable was multiplied by the survey weightings and the results summed to produce a summary score for each city region. Cities were then ranked on the basis of these scores. The first question was whether weightings affected the rank of cities. To answer this question the ranked lists of cities with and without weightings were compared. A correlation of .96 between the two rankings suggested little difference. Still, the authors argue for the inclusion of perceptual indicators, largely as a way of identifying the most important dimensions and determining whether there is any difference in these by sub-groups of the population or regions of the country. The latter is tested by comparing residents of Scotland with residents of South-East England. Although there were a number of similarities there were also significant differences in the importance attributed to housing and the physical environment. Two indices were calculated using only the dimensions identified as "very important" by more than 50% of residents in Scotland and the South-East respectively. The results indicated interesting and important differences between the two indices. This paper is important because of its empirical consideration of the weighting issue, something that is often referred to in the QOL literature but not often tested. For deriving subjective indicators, it also points to the need to identify regional differences. Clearly, studies at the national level are not sufficient.

39. Findlay, Allan, Arthur Morris and Robert Rogerson. 1988. Where to Live in Britain in 1988: Quality of Life in British Cities. Cities. 5:268-276.

This is a more general overview of Findlay, Rogerson, and Morris (1988). The authors note how their study improves on Champion and Green (1988) by incorporating a much wider range of indicators (about 50 related to the social, cultural, natural environment, and economic well being of British cities) and attaching weightings (based on a questionnaire survey) to each dimension of QOL. In contrast to the article in Built Environment, a table is given in this paper listing the 52 objective indicators used to measure QOL. These include local violent crime, local non-violent crime, health service provision, pollution, regional cost of living, shopping facilities, racial harmony, cost of owner-occupied houses, access to areas of scenic quality, education facilities, employment prospects, wage levels, levels of unemployment, access to indoor/outdoor sports, climate, travel to work time, access to leisure facilities, quality of council housing, access to council housing, and cost of private rented accommodation. The results show that Scotland is a good place to live and the West Midlands is not. Cities in the South-East do not fare very well either. The results also show that controllable factors such as level of pollution and adequate health care facilities are rated as the most important aspects of QOL in the interview study. This article is the best general

overview of the extensive research on QOL being conducted by Findlay, Morris and Rogerson in the Department of Geography, University of Glasgow. The authors also suggest a number of interesting objective measures although the sources of specific measures are not fully identified.

40. Green, Anne and Tony Champion. 1988. Measuring Local Economic Performance: Methodology and Applications of the Booming Towns Approach. Built Environment. 14:78-95.

The objective of this study was to "...measure variations between places [local labour market areas or LLMAs in Britain] in terms of the recent strength of their local economies." Two indexes are described, Booming Towns Mark I and Booming Towns Mark II. Ten variables were included in the updated Booming Towns Mark II index (Unemployment, median duration of completed unemployment spells, % employment in high technology industry and producer services, economic activity rate for persons of working age, house prices and changes in four of these variables plus population change). The results indicate that "...the main zone of most rapid economic growth stretched in a broad crescent round the western and northern sides of London (excluding the capital itself and adjacent LLMAs) and extending into East Anglia and the southern parts of the Midlands. Despite the primacy of the North-South Divide in local economic prosperity in Booming Towns Mark II, wide variations in scores at the intra-regional scale were evidentindicating the existence of whitespots in the north and blackspots in the south." The authors also report on user feedback from the earlier Booming Towns Mark I study. The approach was welcomed for its simplicity. However, the authors are concerned that the findings could be misinterpreted and used for inappropriate purposes. For example, the scores should only be used to rank places. A place with a score of 0.6 cannot be interpreted as twice as prosperous as a place with a score of 0.3. Also, the scores should not be used as an indication of development potential. Most importantly, the authors note that the index cannot be used as a more general indicator of QOL. It is intended as a measure of local economic performance. This study points to both the value and the danger of developing a specialized index measuring only one broad domain from the social indicators literature. It is, however, a more sophisticated study than much of the places rated literature. The methodology, results, and limitations of the study are carefully described.

41. Myers, Dowell. 1988. Building Knowledge about Quality of Life for Urban Planning. Journal of the American Planning Association. 54:347-358.

"This article provides planners with conceptual tools that will allow them to design more accurate and more responsible quality of life measurements." The paper contains four main sections: (1) an outline of a conceptual model using a systems approach to link development processes, quality of life, and urban planning, (2) description of the community trend method for measuring QOL, (3) discussion of the politics of QOL measurement, and (4) a review of alternative approaches. The conceptual model is based on the implications of QOL for business attraction, the positive and negative results of urban growth, and the potential mitigating effect of planning on the negative impacts of urban growth (e.g., land development regulations, affordable housing programmes, transportation, recreation). Myers suggests a five stage method by which planners might measure QOL: (1) review literature, (2) interview

interest group leaders, (3) profile of objective trend indicators, (4) survey of citizen perceptions/preferences, and (5) issue reports for public discussion. Myers argues that QOL studies have had limited policy impact. He mentions two reasons: (1) the findings are used but only indirectly - they help reshape the debate, and (2) researchers select and define problems differently from decision makers. Therefore, before beginning a study, planners should obtain support for the QOL measurements from a wide variety of interest groups. Finally, Myers summarizes approaches to QOL research using five variables: origins of approach, measurement focus, statistical means, aspects of QOL emphasized, and political/economic implications of past work. The alternative approaches covered are: liveability comparisons, wage differentials, personal well-being, and community trends. This article is one of the few that relates QOL to urban planning issues and suggests a methodology for planners. It is of particular importance in providing an alternative perspective to the more widely known QOL approaches.

42. Landis, John D. and David S. Sawicki. 1988. A Planner's Guide to the Places Rated Almanac. Journal of the American Planning Association. 54:336-346.

This article is a critical review of Boyer and Savageau's Places Rated Almanac, the most widely known place-rating scheme in the U.S. First, the authors consider the utility of the ratings for the main target audience - people who are thinking of moving. Comparisons with migration data, using regression analysis, indicated that relatively few of the Places Rated factors (housing costs, crime, education, and recreation in one study; housing costs and economic opportunities in another) were significant predictors of migration flows. The authors then evaluated Places Rated using five criteria: (1) appropriateness of concept, (2) indicator reliability, (3) ecological fallacy (the most appropriate spatial unit), (4) scaling issues and double counting, and (5) policy relevance. The outcome was as follows: (1) Appropriateness of concept: Of the nine categories measured by Places Rated, indicators of climate, arts and culture, and recreation were found to be the most appropriate, transportation and education variables were the least appropriate and measures of housing, health care, crime, and economic opportunity were sometimes valid. For example, Places Rated used indicators such as pupil-teacher ratio, libraries, and science labs to measure educational quality while standardized tests indicate that these things have little effect on student achievement. Instead, family background and intellectual quality of the school peer group seem to be more important. (2) Indicator reliability: There was considerable variation with measures of crime, housing and economic opportunities being the least reliable. (3) Ecological Fallacy: The authors note that the book uses metropolitan wide averages as proxies for community or neighbourhood measures. Crime rates and educational quality, for example, vary more within metropolitan areas than between areas. (4) Scaling Issues and Double Counting: Even interval scales are a problem. For example, the top ranked city for climate, Oakland, had a score of 910, while the bottom ranked city, Grand Forks, had a score of 105. But, this does not mean that Oakland's climate is nine times better than that of Grand Forks. The problem of double counting exists because many of the indicators are not independent of each other. (Although not often stated, this is the major reason why many studies use factor analysis to obtain independent (non-correlated) dimensions of QOL) (5) Policy Relevance: the authors maintain that most of the indicators in Places Rated are not policy relevant. This was confirmed in a study of planning directors from 32 of the cities that were rated. In conclusion, Landis and Sawicki argue that Places Rated "represents a lost

opportunity". "If they had used more reliable and appropriate indicators, if they had made better use of existing research in the nature of quality of place factors such as crime, education, housing, and personal economics, then they could have produced a more useful and accurate set of metropolitan comparisons. The challenge of developing place rating schemes that monitor important area units like neighbourhoods and municipalities is still ahead, however. And those schemes are probably more relevant for planning." This is an excellent critical review of the Places Rated Almanac and offers criteria for evaluating similar rating places studies. It also suggests ways in which the content of Places Rated could be improved and made more useful for urban planners.

43. Peat Marwick Consulting Group. 1988. Regional Municipality of Hamilton-Wentworth Quality of Life Study.

A study commissioned by the Regional Municipality of Hamilton-Wentworth to identify quality of life attributes that the Region should be marketing in order to attract people and to assist in determining changes in capital investment programs, municipal services and land development practices that would improve quality of life.. The report is based on the assumption that quality of life is an important factor in residential location decisions. The study's objective indicators attempt to measure amount of green space, availability of community, medical, commercial and cultural facilities, road quality, pollution and family stability. Some subjective indicators are also used in the study. Creative use of data sources is a strong aspect of the study and indicators were collected on schools, parks, medical facilities, community facilities, retail facilities, density, pollution, violent crime, property crime, transit operations, road quality, family stability, housing costs and employment income.

44. Urban Environment Sub-Committee, Public Advisory Committees to the Environment Council of Alberta. 1988. Environment by Design: The Urban Place in Alberta. ECA88-PA/CS-S3. Edmonton: Environment Council of Alberta.

A discussion paper concerning urban places as ecosystems. Chapter 5, "Maintaining a Sustainable Urban Environment", draws considerable inspiration from Kevin Lynch (1981) A Theory of Good City Form. Chapter 8, "New Directions", addresses QOL more directly. QOL is a subjective notion and complete agreement about its meaning is unlikely. Nevertheless, there are a number of generally agreed upon QOL indicators. These include economic, social, environmental, aesthetic, and institutional variables. Examples are given for each major category. The importance of considering these indicators together is also stressed. The report is tentative and lacks detail but is one of the first Canadian statements on sustainable urban environments.

45. Beesley, Kenneth B. and Lorne H. Russwurm. 1989. Social Indicators and Quality of Life Research: Towards Synthesis. Environments. 20:22-39.

Beesley and Russwurm review the QOL/social indicators literature and present an assessment/synthesis of objective and subjective domains. The advantages and disadvantages of each type of indicator are indicated. Objective indicators are readily available, relatively

inexpensive, fairly reliable, and based on a population or fairly large sample. Objective indicators are ideally viewed as inputs (e.g., number of hospital beds per capita), throughputs (e.g., doctors caseloads) or intermediate outputs (e.g., life expectancy). As such, objective indicators are measures of quantity, not quality of life (after Carley, 1981). The limitations of objective indicators are associated with the spatial scale problem, the lack of a strong theoretical base for choosing appropriate domains/indicators and their inability to measure satisfaction. In contrast, subjective indicators are less readily available but attempt to measure "... what it means to be human." They represent "...more direct measures of the quality of life as it is experienced." The authors identify the major objective and subjective QOL domains by reviewing several studies. Thirteen major objective domains and fifteen major subjective domains were identified and ranked according to their frequency of usage. From these lists, a composite list linking objective and subjective domains was developed. A re-ordered ranked list of subjective domains is also presented (although the rationale is not clearly stated). The authors also found relationships (presumably fairly strong) in their research of QOL in rural-urban fringe areas of Southern Ontario. (They also attribute a stronger link between objective and subjective indicators in Greer-Wootten and Velidis's work than is warranted by the evidence). There are several important features of this work. It is a recent review by Canadian scholars and includes a very comprehensive bibliography of QOL studies related to urban-environmental concerns. It also provides useful lists of matched pairs of objective and (subjective) indicators (e.g., work, employment (job, housework), social environment (family life, friendships, marriage), physical environment (neighbourhood, town/city)). Finally, although the authors advocate the use of both objective and subjective indicators, they suggest that their own work indicated a fairly close correlation between many objective and subjective measures.

46. Mathur, Brijesh. 1989. Community Planning and the New Public Health. Plan Canada. 29:35-44.

The author reviews the New Public Health perspective and its relationship to community planning. The new public health perspective is related closely to QOL and includes "... interventions to improve lifestyles and social and physical environments." The new public health perspective was first introduced to Canada through the Lalonde Report (1974) and reiterated in the Epp Report (1986). The idea of a Healthy City was introduced by Duhl at the Beyond Health Care conference held in Toronto in 1984 and formalized as the Canadian Healthy Communities Project in 1988. There are three important challenges for municipalities: (1) reduce inequities amongst socio-economic groups, create an environment free of hazard and pollution, foster greater coping through the reduction of urban stress, enforcement of physical accessibility standards and provision of social supports (2) encourage public participation that incorporates control and empowerment (3) emphasize holistic, multisectoral, and interdepartmental strategies. In short, Mathur argues that "The New Public Health thus has in it all of the ingredients of a second public health movement. It could radically alter the face of municipal government just as the first public health movement did at the turn of the century." The New Public Health has the potential of providing a new social agenda for planning. Beyond these generalities, the strength of the article is a review of Healthy Cities in the context of community planning. Five themes are stressed; (1) the challenge of disease prevention (2) coping with the natural and built environments (3) reducing inequities (as compared to achieving efficiency) (4) public participation, and (5) the

planning process and methods. These themes are cast within an excellent review of the urban planning literature from the turn of the century onwards. In assessing the indicators proposed for healthy communities at the Healthy Cities Project Workshop in Barcelona (1987), Mathur notes that "These indicators are qualitatively different from those that have been used by planners in the past, and will require greater input of data through survey research. As well, planners will have to use these indicators to conduct analyses from the perspective of identifying patterns of inequalities in the city." This is an excellent review of the Healthy Cities idea and a good introduction for those who are unfamiliar with the concept. It also shows the close relationship between QOL, social indicators and the New Public Health.

47. Gariépy, Michel, Gérald Domon and Peter Jacobs. 1990. Développement viable et évaluation environnementale en milieu urbain: essai d'application au cas montréalais. Montreal: Faculté de l'aménagement, Université de Montréal.

This report is an articulation of the sustainable development concept with reference to Montreal. The authors identify three major conditions that are necessary for sustainable development: (1) meeting the needs of the present generation and future generations, (2) assuring equity, social justice and cultural diversity and (3) maintaining ecological integrity. The major dimensions and potential indicators of each condition are given in tabular form. For example, meeting the needs of the present generation is characterized by the health of the population, the security of the population (from natural and social risks) and assurance of economic development. Indicators measuring the health of the population include population in areas of pollution and the presence of contaminated soil; security of the population is measured by insanitary or abandoned buildings, traffic accidents and criminality; and economic development by level of economic activity, employment levels and fiscal stability. Lists of potential indicators are given for the other conditions and associated dimensions. In the final section of the report, suggestions are made for future research on sustainable development in Montreal. This report is an important Canadian contribution to the recent literature on planning and sustainable development.

48. Willms, Sharon Manson and Leslie Gilbert. 1991. Healthy Community Indicators: Lessons from the Social Indicator Movement. Vancouver: UBC Centre for Human Settlements.

The report has four major goals: "...first to examine the definitions of social indicators and their relationship to health indicators; second, to extrapolate the lessons learned from the social indicators movement; third, to provide examples of current sets of health and social indicators; and finally, to indicate implications for healthy community planners." (1) Definition: the authors note that social indicators usually contain five parts: e.g., annual infant mortality rate in Alberta includes a period of time (a year), a place (Alberta), a subject class (infants), a property of members of that class (mortality) and a statistical measure (rate per 1000 births). A typology is suggested based on structure and process. For example, on the structure side a community may exhibit several signs of poor health such as industrial pollution, high unemployment, and high morbidity rates but on the process side may have several positive features such as community participation in local issues and active participation in local government. This raises the issue of the relationship between structure and process. For example, the existence of food banks in a community may be interpreted in

several ways: (a) some members of the community have inadequate income to purchase basic goods such as food (b) there is a degree of altruism and activism in the community to provide for others (c) there is an inadequate response to the needs for basic goods for individuals and their families by the welfare state (d) the degree of altruism present in the community has not extended to remedy the root cause of the problem, merely the symptoms. (2) Uses of Social Indicators: issue identification, baseline surveys, monitoring trends, and evaluating or estimating the effect of government policies or programs (Michalos, 1980) (3) Lessons from the Social Indicators Movement: (a) Theoretical Limitations: inadequate theoretical model, assumption that social indicators are value neutral, and lack of precision in defining the healthy community concept. (b) Methodological Limitations: selection of indicators (relates to lack of theoretical model problem), reliability of the data, comparability, cost of collecting data, problems of community groups participating in a sophisticated technical exercise. (4) Examples of Healthy Community Indicators: stresses the practical difficulty of obtaining indicators. Lane (1989) evaluated the 33 healthy city indicators from the Barcelona Healthy Cities Indicators workshop for Winnipeg and reported that data were not available for more than one-third and several more were only available at the regional level. Only four indicators of the 33 were immediately available. Workshops across Canada have also not been able to agree on suitable indicators. There was difficulty finding a "one size fits all" indicator. In conclusion, the authors stress a community development approach to the problem "... fostering public participation in decision making should be extended to the development, identification, selection and interpretation of community indicators." This is a readable and informative review of the social indicators movement that also highlights the problems of defining healthy community indicators.

49. Hardwick, Walter, Raymon Torchinsky and Arthur Fallick. 1991. Shaping a Livable Vancouver Region: Public Opinion Surveys. Vancouver: B.C. Geographical Series, Number 48.

A survey of urban issues and attitudes about economic, social, mobility and lifestyle issues in the Greater Vancouver Region. The 1990 survey was also compared with a similar survey in 1973. A spatially stratified sample of 0.2% of households in the Greater Vancouver Regional District was undertaken resulting in 1,053 face-to-face interviews and 238 telephone interviews. Each interview lasted about an hour. The 143 variables were summarized under the following headings: environment, built environment, managing growth, community life, mobility, and governance. Variations by sex, housing, age, educational level, and regional categories were also investigated. The major findings are summarized in Chapter 1: (1) Residents put top value on protection of the environment, particularly disposal of hazardous waste, industrial air and water pollution (2) Mobility was 'very important' but there were divisions of opinion about the importance of public transportation versus automobiles (3) A high quality social environment (health, crime and housing) stood next in importance to protection of the natural environment. Immigration issues were much lower than expected based on accounts in the media (4) A major problem was how to balance population growth against protection of a limited land supply, particularly agricultural land (5) Overall, region residents were not willing to sacrifice the environment for economic growth (6) There were important gender issues: women rate many issues, especially environmental and social, more important than men. Men only rated "Promoting Industry and Commerce" significantly higher than women. (7) There was relatively little difference between the 1973 and 1990 surveys. Concern for the environment ranked high in both surveys, provision of health care and

stimulating the environment both increased in importance from 1973 to 1990. Aside from the substantive results, this study points to the importance of designing questionnaire surveys that are comparable from one time period to the next. An important element of the study was the development of a spatially stratified sampling design that allowed disaggregation of the results by sub-areas within the Greater Vancouver Region. Chapter VI provides considerable detail about the survey design. As a result of this survey, the Board of the Greater Vancouver District adopted 54 actions, of which 24 related to maintaining a healthy environment and 13 to conserving land resources.

50. The Metropolitan Toronto Planning Department. 1991. Towards a Liveable Metropolis. Toronto: Metropolitan Toronto Planning Department, Metropolitan Plan Review Report No. 13.

"The purpose of this report is to provide a framework for the new Metropolitan Official Plan that reflects the values and aspirations of the citizens of Metropolitan Toronto for a liveable metropolis. The report draws from the conceptual frameworks of 'environmentally sustainable economic development', 'healthy communities', and the 'ecosystem approach' to define principles for planning a liveable metropolis. It proposes an approach to planning which assumes that socio-economic and environmental impacts and outcomes are fundamentally related." Chapter 2 provides a synthesis of the major concepts concerning

"...human, economic and social development and their impact on the natural environment" and develops the notion of the liveable metropolis. The liveable metropolis is defined by three interrelated components: environmental integrity, economic vitality and social well-being. No one of these components should be emphasized at the expense of the others, e.g., economic growth that results in a degradation of the environment and risks to human health. Four major principles are proposed to guide the decision making process: equity, sustainability, shared responsibility, and choice and diversity. Chapter 3 reviews various Canadian strategies that have been taken in this direction. Chapter 4 lays out a coordinated strategy based on a series of initiatives. The most important strategy, for purposes of this review, is the development of indicators. More specifically, it is suggested that 'sectoral' indicators be developed that measure the impact of various sectors (e.g., housing, employment and commerce, and the physical infrastructure on the major components of liveability (environmental integrity, social well-being and economic vitality). This idea is neatly summarized in a one page chart. Although this document is short on specifics, it provides an attractive framework for incorporating recent ideas about sustainable development, healthy cities and the ecosystem approach into a single concept.

51. Reid, Angus. 1991. Urban Canada Study. (As reported in the Newsletter, Institute of Urban Studies, University of Winnipeg, December, 1991.)

A public opinion survey of 4,000 urban residents across Canada that attempts to measure quality of life across 12 dimensions as well as to derive an overall quality of life indicator. Data are based on random samples of 500 residents in Halifax, Montreal, Ottawa, Toronto, Winnipeg, Calgary, Edmonton and Vancouver. Quality of life is defined on the basis of subjective assessments of resident satisfaction. The QOL dimensions included: the economy, physical environment, social harmony, crime and safety, cultural and recreational amenities, downtown, housing, transportation, services and infrastructure, municipal

politics, stress and city attachment. The index was created by calculating the average number of respondents in each city providing a positive response on each attribute. Each city's average score on each dimension was subtracted from the average of the eight cities. The index is presented as a positive or negative number depending on how it compares to the average of the eight cities. An overall QOL index was obtained by summing the pluses and minuses for each city.

52. Brenke, Siegfried. 1991. Quality of Life in the Developed World. Paper presented to the Globe'90 Conference.

The author makes two assumptions: (1) there is no saturation level of QOL and (2) there is no consensus on the definition of QOL. Indeed, Brenke argues that a common definition of QOL may not be desirable. The author briefly reviews the theory and reality of QOL research, identifies efforts that are being developed at the national level to measure environmental performance, argues for the cooperation of cities in this work and makes some suggestions for further work. The city scale of analysis is important because local problems may be identified before they reach the national level and problems at the city level are likely to be viewed in a more integrated fashion than at the national level. Finally, the author argues for a better approach to measuring QOL and more reliable indicators.

53. Ashton, John (Editor). 1992. Healthy Cities. Milton Keynes: Open University Press.

A collection of 24 short chapters providing conceptual overviews and case studies of the healthy cities movement (the whole health of the city rather than the more narrowly defined medical model). Of particular interest are three chapters authored by Trevor Hancock: Chapter 3, "The Healthy City: Utopias and Realities"; Chapter 5, "The Development of the Healthy Cities Project in Canada" and Chapter 19, "Toronto". In Chapter 3, Hancock proposes a methodology based on environmental scanning and strategic planning. Chapter 5 provides a brief synopsis of the development of the Healthy Cities movement in Canada. Hancock notes that the Canadian Healthy Communities Project differs from the World Health Organization project (particularly in Europe) in three ways: (1) It is jointly organized by three national associations (Canadian Public Health Association, Canadian Institute of Planners and the Federation of Canadian Municipalities) and is run out of the national office of the Canadian Institute of Planners. (2) Its focus is not exclusively on 'cities' but all sizes of local governments and (3) It is open to any community that wishes to join. In Chapter 19, Hancock describes the evolution of the Healthy City Project in Toronto. Of particular interest is the Healthy City Projects strategy for identifying existing data on the health, social and environmental conditions of the city and preparing a "State of the City" report. The objective is to produce this report every three years coinciding with civic elections. Finally, Hancock makes the interesting and provocative comment that the current organization of municipal administration into departments such as planning, health, parks, and police is not relevant to the challenges facing cities today. Instead, he envisages multidisciplinary groups dealing with issues such as social justice, environmental quality, human development, environmental quality, energy and resource conservation, and mobility/accessibility. This book is important because it is one of the first dealing with the Healthy Cities concept.

The concept is an outgrowth of social indicators/QOL research, and although still in a formative stage, it has already achieved considerable momentum both in Canada and elsewhere.

54. Royal Commission on the Future of the Toronto Waterfront. 1992. Regeneration: Toronto's Waterfront and the Sustainable City. Ottawa: Minister of Supply and Services and Toronto: Queen's Printer.

This massive study (otherwise known as The Crombie Report after the Honourable David Crombie, Commissioner) is based on an ecosystem approach to the regeneration of cities. The case is the entire Greater Toronto waterfront. Part I is an excellent discussion of the ecosystem approach to planning a healthy and sustainable city. The ecosystem approach to planning is based on three overlapping circles representing the links between environment, economy and community. A healthy city occurs at the intersection of these three circles. Following Hancock's views of a healthy city (in Ashton, 1992) this involves an environment that is viable, liveable and sustainable, an economy that is equitable, sustainable and adequately prosperous and a community that is liveable, equitable and convivial. Nine principles are suggested to make Toronto's waterfront healthier and more sustainable: clean, green, connected, open, accessible, useable, diverse, affordable, and attractive. These principles are used to evaluate various segments of the waterfront. Although not a QOL study in the strict sense this is arguably the most ambitious attempt to apply the sustainable development, healthy cities and ecosystem approaches to a Canadian planning problem. It is a well written and beautifully produced book that represents a major departure in planning philosophy and is destined to become a classic in the field.