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# QUALITY OF LIFE INDICATORS AND HEALTH: CURRENT STATUS AND EMERGING CONCEPTIONS

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ABSTRACT. Quality of life is an increasingly common theme in the health status and health promotion literatures. Six approaches that consider quality of life and health are reviewed. These are (a) health-related quality of life; (b) quality of life as social diagnosis in health promotion; (c) quality of life among persons with developmental disabilities; (d) quality of life as social indicators; (e) the Centre for Health Promotion (University of Toronto) model, and (f) Lindstrom's quality of life model. Each approach is considered as to its emphasis on objective or subjective indicators, individual or system-level measurement, value-laden or value-neutral assumptions, and potential relationship to social policy and social change goals. The links among the social indicators, quality of life, and health promotions areas are examined.

KEY WORDS: quality of life, health promotion

## OVERVIEW AND PURPOSE

Quality of life considerations are increasingly influencing the planning, delivery, and evaluation of social, health, and medical services (Parmenter, 1994; Renwick et al., 1996). That is, improved quality of life is seen as a desired outcome of service provision. Quality of life assessments can also identify individuals at risk for poor health outcomes even in the absence of diagnosable illness or other problems (Raphael et al., 1994). Within these health promotion and illness prevention perspectives, quality of life issues inform interventions that contribute to health by modifying environments. Quality of life is also an important issue in the disabilities area where at least four recent volumes have appeared (Brown et al., 1992; Goode, 1994; Romney et al., 1994; Schalock, 1990a).

The increasing emphasis upon quality of life in the health, and related disability and rehabilitation literatures, continues primarily within a tradition of emphasizing illness and disability, rather than

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health and ability. That is, health is seen primarily as the absence of illness or disability rather than a resource for daily living. Similarly, most approaches espouse an individually-oriented micro-level perspective, rather than a system or macro-level perspective. In this article, we review current quality of life perspectives in relation to health status and health promotion. We then consider two emerging quality of life models that provide a heuristic for expanding the range of inquiry into the relationship between quality of life and health.

## DEFINING QUALITY OF LIFE

Though concern with quality of life has been an important human concern since antiquity, social science research into the concept gained prominence following Thorndike's (1939) work on life in cities. Despite its long history in the literature, though, there is disagreement on how quality of life should be defined and measured, a state of affairs common within a variety of fields (see Naess, 1987). The lack of agreement results from the fact that quality of life is a complex concept. Yet, it has an intuitive importance which leads to influence and manipulation by social-political trends and policies (Turnbull and Brunk, 1990) and is used in extremely diverse contexts (Schalock, 1991). Quality of life is a social construct, "the essential meaning [of which] may be understood by all, but when it is related to real people's lives, it is interpreted in any number of ways" (Brown, 1994; p. ii).

McDowell and Newell (1987) suggest that quality of life "relates both to the adequacy of material circumstances and to people's feelings about these circumstances" (p. 205). Coulter (1990) defines quality of life as "a sense of personal satisfaction with life that is more than just pleasure or happiness and yet something less than meaning or fulfilment" (p. 61). Though these definitions provide two different views of quality of life, each emphasizes different aspects of the concept. However, both aspects relate more to the purposes for which the current researchers were using the term quality of life than to a more comprehensive construct. Indeed, a major problem with many of these efforts is that authors direct attention to providing operational definitions of quality of life, rather than providing a conceptual basis for their measures (Renwick and Brown, 1996).

Michalos (1980) carried out a thoughtful analysis of the various uses of the term "quality" in quality of life. At a minimum, the term quality can describe the characteristics of a population, such as gender, income, age, etc. In a second sense, the term can depict the value or worth of something. Michalos terms the former the descriptive use, and the latter, the evaluative use, of quality in quality of life. He makes further distinctions by discussing cognitivist and noncognitivist, emotive and prescriptive, natural and nonnatural, and objective and subjective uses. It is beyond the scope of this review to examine all of the implications of his analysis but two main ideas seem especially relevant. The first is the strong evaluative component that the term "quality" in quality of life can convey. Second, is the potential for quality of life work to have a strong prescriptive (or advocacy) emphasis. Generally, these and other reflections on the nature of the term and how it is used are rare in the literature (Raphael, 1996a).

## ISSUES IN MEASURING QUALITY OF LIFE

Issues in measuring quality of life are similar to those found in social science research methodology debates. In this paper we consider four main issues. A first issue is whether the focus should be on objective indicators (e.g., medical status, mobility, quality of housing) or subjective indicators of satisfaction (e.g., satisfaction with health, mobility, housing). A second issue is whether data should describe and be collected from individuals (micro-level data, either objective or subjective, possibly aggregated up to population units) or describe the functioning of systems (e.g., income distribution, availability of health services). A third question is whether measures should be explicitly value-laden (e.g., personal control and independence are fundamental quality of life indicators) or value-neutral (e.g., personal control and independence may be desirable for only some individuals). Fourth, an issue that is most apparent in the discussion of social indicator models, is whether measures should be closely related to social policy and social change goals. An extended discussion of these and other issues in quality of life measurement is found in Raphael (1996a).

Positions on these issues influence the questions which are asked and the research methods used to address questions. More important,

these measurement issues influence how we define quality of life. For each area of quality of life, we identify where the preponderance of research falls along each of these dimensions. We focus on how quality of life has been used in six areas: health-related quality of life; quality of life as social diagnosis in health promotion; quality of life among persons with developmental disabilities; quality of life as social indicators; the Centre for Health Promotion's quality of life model; and Lindstrom's quality of life model. We consider these last two models in some detail and explore their implications for quality of life research. Table I provides an overview of the approaches to be reviewed.

## HEALTH-RELATED QUALITY OF LIFE

In the health sciences area, quality of life has traditionally been used as an outcome variable to evaluate the effectiveness of medical treatments (Hollandsworth, 1988) and rehabilitation efforts (Livneh, 1988). Yet, even within this area, a distinction exists between medical-based approaches and health-based approaches. Although both share an emphasis upon outcomes of interventions, each has a somewhat differing emphasis upon the type and content of indicators.

### *Health-Related Quality of Life: Medical Approaches*

Spilker's (1990) approach to quality of life illustrates the emerging medical view. He suggests assessing quality of life through examination of four domains: (a) physical status and functional abilities; (2) psychological status and well-being; (3) social interactions; and (4) economic status and economic factors. These include both objective and subjective assessments. Additionally, he highlights the importance of having the patient provide an overall subjective assessment of quality of life, described as "an individual's overall satisfaction with life, and one's general sense of personal well-being" (p. 4).

These beginning steps towards consideration of the individual's perceptions of well-being and functioning in these four domains is a notable expansion of the outcome measures traditionally used in medical clinical trials. As such it represents a sea-change in medical practice. But these approaches to quality of life continue to be closely

TABLE I
Various definitions of quality of life

| Approach | Focus | Definition |
|---|---|---|
| Health-related | Persons with diseases | Quality of life represents the functional effect of an illness and it's consequent therapy upon a patient, as perceived by the patient. (Schipper et al., 1990) |
| | Persons with illness or disabilities | Quality of life is recognized as a concept representing individual responses to the physical, mental, and social effects of illness on daily living which influence the extent to which personal satisfaction with life circumstances can be achieved. (Bowling, 1991) |
| Social diagnosis | Persons in communities | ... the adjustment and life satisfaction of community members. (Green and Kreuter, 1991) |
| Developmental disabilites | Persons with developmental disabilities | Quality of life is the outcome of individuals meeting basic needs and fulfilling basic responsibilities in community settings (family, recreational, school, and work). (Schalock, 1990) |
| Social indicators (Note: QOL is inferred from social indicators) | Societies or communities | Statistics of direct normative interest that facilitates concise, comprehensive, and balanced judgments about the conditions of major aspects of society. (Andrews and Whithey, 1976) |
| Centre for health promotion | All persons | The degree to which a person enjoys the important possibilities of his/her life. (Raphael et al., 1996) |
| Lindstrom model | Children | Quality of life is the total existence of an individual, a group or a society (Lindstrom, 1992). |

tied to the traditional bio-medical view of health and illness. This embeddedness is neatly illustrated by Schipper, Clinch and Powell's (1990) explanation of how their definition of quality of life, which guides contributors to Spilker's volume, was developed. They considered using the World Health Organisation's (WHO) definition of health, "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity," to inform their model of quality of life but concluded:

> This is a commendable definition, but it includes elements that are beyond the purview of traditional, apolitical medicine. Opportunity, education, and social security are important overall issues in the development of community health, but they are beyond the immediate goal of our assessment, which is treating the sick. (p. 16)

Schipper, Clinch, and Powell's (1990) definition of quality of life is therefore closely linked to the effects of illness upon individuals and the measurement of day-to-day competencies and abilities:

> Quality of life represents the functional effect of an illness and it's consequent therapy upon a patient, as perceived by the patient. Four broad domains contribute to the overall effect: physical and occupational function; psychologic state; social interaction; and somatic sensation. This definition is based upon the premise that the goal of medicine is to make the morbidity and mortality of a particular disease disappear. We seek to take away the disease and its consequences, and leave the patient as if untouched by the illness. (p. 16)

Notwithstanding the problems that this quality of life definition may have for at least some health providers and many health promoters, the medically-oriented health-related quality of life area is important. For Spilker (1990), the benefits of integrating quality of life assessments into medical activities include improving the quality of medical treatment. Debate in this area focuses upon use of generic quality of life measures rather than disease-specific, population-specific, function-specific, or condition and problem-specific measures. *Quality of Life in Clinical Trials* (Spilker, 1990) is an excellent introduction to the medically oriented quality of life approach and contains chapters on aspects of instrumentation, special populations, and applications to specific problems and diseases. Similarly, an entire special supplement of *Medical Care* (Tilson and Silker, 1990) is devoted to medical quality of life references.

Another area of some importance is Quality Adjusted Life Years (QALYS) research. In this approach, which has a medical orientation, individuals are asked to provide a value or weighting to various states of living. Weights can be attributed to differing treatments which allow different outcomes (Lawton, 1991). These values can then be used to rationalize medical decision-making, possibly including allocation of resources or rationing of services. The two main QALYS approaches, those of Kaplan and Bush (1982) and Torrance (1982), explicitly reject the WHO definition of health.

The medical approach is clear in relation to the four quality of life issues. There is a strong orientation towards objective indicators of functioning at the individual level. The subjective report of the individual is gaining increasing importance however. Discussion concerning issues of the role of values in developing measures of quality of life and the relationship of measures to social policy or social change is virtually non-existent. This, despite the fact that there is a burgeoning literature that argues convincingly that such issues are of critical importance (Rioux and Bach, 1994).

### *Health-Related Quality of Life: Health-Oriented Approaches*

Recently, a more health-related, rather than illness-related, literature on quality of life has appeared. Some attempt is made to focus upon health rather than illness, and positive rather than negative aspects of behavioural functioning. Bowling's (1991) review of traditional measures of health outcomes highlights the customary reliance upon mortality, morbidity, service utilization, and subjective reports of illness. The concept of functional ability, based in part upon the *International Classification of Impairments, Disabilities, and Handicaps* (WHO, 1980), moves beyond a limited focus upon disease by stressing the relationship among environmental contexts, and the ways disease and disorder become converted into impairment, disability, and handicap. Many of the indices found in *Measuring Health: A Review of Quality of Life Instruments* (Bowling, 1991), as well as McDowell and Newell's (1987) *Measuring Health*, focus on disability and illness-related aspects of functioning.

As Bowling points out, it is only when one takes seriously the WHO definition of health as involving physical, mental, and social well-being, and not merely the absence of disease or infirmity, does

focus upon indices of positive physical, mental, and social well-being occur. A review of available compilations of such measures (Bowling, 1991; McDowell and Newell, 1987) suggests that measures of positive health are more likely to have originated in the social sciences rather than the health sciences sphere. The reason for this is not obscure. Traditionally, most health professionals, and in particular those health professionals developing instrumentation, have been primarily concerned with illness and disability rather than health and ability. A notable exception to this is the field of occupational therapy, in which an emphasis upon ability has always been present (see Reed and Sanderson, 1992). In contrast, social scientists have tended to focus upon dimensions of functioning among the general population identifying gradients of functioning from exemplary to poor. Increasingly, the integration of health promotion concepts into health services activity is leading to the development of indicators which assess aspects of functioning consistent within the WHO definition. Nevertheless, similar to those working within medically oriented quality of life, those focusing upon concepts of health and wellness often define quality of life by emphasizing the effects of illness:

> Basically, quality of life is recognized as a concept representing individual responses to the physical, mental, and social effects of illness on daily living which influence the extent to which personal satisfaction with life circumstances can be achieved. (Bowling, 1991: p. 9)

The *Medical Outcomes Study* (Stewart and Ware, 1992) illustrates a large-scale application of the health-related quality of life approach to a variety of medical conditions. McDowell's and Newell (1987) comment that: "Quality of life remains more a fashionable idea than a rigorously defined concept in the health sciences" (p. 227) combined with the continuing emphasis upon quality of life as an outcome of health or medical interventions, summarizes the current state of both medically-oriented and health-related quality of life.

The health-related approach is oriented towards both objective and subjective indicators of functioning. Focus is primarily at the individual level and discussion concerning issues of the role of values, in this case the WHO definition of health, are acknowledged. A link between quality of life measures and work related to social policy or social change models is uncommon.

## THE SOCIAL DIAGNOSIS APPROACH

In Green and Kreuter's (1991) model of health promotion, assessing quality of life concerns is part of the social diagnosis phase of program development. They argue that health outcomes are embedded in the broader life concerns encompassed by quality of life. Thus, the community's concerns about quality of life provide the context for understanding how health-related issues could be raised within communities by health promoters.

Green and Kreuter's (1991) focus is upon behavioural change issues which fall within the purview of traditional health workers, (i.e., illness prevention, health status, life-style behaviours, and health education). The health promoter, by understanding the quality of life concerns of the community demonstrates for the community the connections between their quality of life concerns and health issues. Green and Kreuter's contribution to the quality of life discussion is to highlight the need to bring the community into the development, implementation, and evaluation of health services and promotion programs. The methods by which a social diagnosis is carried out involve community-oriented applied methods, such as focus groups, community forums, and community surveys. This is an important theme that illuminates many failures of health education and health promotion programs. Green and Kreuter's contention that changes in health behaviour and health status must ultimately impact quality of life is noteworthy. Indeed, the importance of much health promotion activity is tied up with the view that health is not only a simple outcome or goal of interventions, but also a resource for daily living. However, Green and Kreuter fail to define quality of life. They simply allude to some possibilities and outline means of assessing quality of life, whatever it may be:

> The term, quality of life, like the concepts of health and love, is difficult to define and still more difficult to measure. Nevertheless, many approaches are available for assessing the quality of life in communities, both objectively and subjectively. Objective measures include social indicators, such as unemployment rates, and descriptions of such environmental features as housing density and air quality. More critical to the educational approach are subjective assessment, using information from the community members as a primary indicator of quality of life concerns. In this approach the adjustment and life satisfaction of community members are surveyed. (p. 48)

The social diagnosis approach emphasizes subjective indicators collected from individuals within communities. Discussion of the role of values in developing measures of quality of life is not stressed (although it is implied by the focus on community input) and the relationship of quality of life to social policy or social change is assumed.

## THE DEVELOPMENTAL DISABILITIES APPROACH

While not directly related to traditional concerns with health status and promotion, especially thoughtful work has been carried out in the developmental disabilities area concerning definition and measurement of quality of life. The impetus for this work arose from a realization that many aspects of the lives of persons with disabilities were poor in quality. Among persons with developmental disabilities, the divergence between reality and was so great as to require identification of broad areas of life functioning in need of attention.

### *Dimensions of Quality of Life in the Developmental Disabilities Literature*

Schalock's (1990b) quality of life taxonomy illustrates the breadth of areas encompassed within a broadened quality of life framework. It outlines six areas, namely, self-esteem, social; self-esteem, beauty; self-direction (independence); social relations; environmental comfort and convenience; and safety and security. Each of these areas cuts across three settings: home, community, and work or production. For example, social relations at home involves family, social relations in the community involves friends, and at the work-place, co-workers. Similarly, safety and security across the three settings involves food and shelter, safe community, and a safe workplace and sufficient income.

Borthwick-Duffy (1986) categorizes quality of life aspects across three dimensions: independence (living environment), interpersonal and community relationships, and productivity. Other examples of quality of life variables in the literature include: physical environment, home and family, neighbourhood quality, access to service (independence and living environment); social support, activity patterns, community integration, leisure, friends (interpersonal and

community relationships); and employment, income finances, work status (productivity)(Raphael et al., 1996).

The work in the developmental disabilities area is broad in both its scope and implications. There is a greater awareness of the breadth of quality of life issues, an emphasis on personal control, independence and personal empowerment, as well as a greater willingness to engage in discussions of the social policy implications of quality of life assessments (Renwick et al., 1996). Many of these implications are explicitly stated (e.g., Schalock, 1990b). In addition, there is a balanced orientation towards objective and subjective indicators of quality of life. There is a balanced emphasis upon individual and system-level indicators and the importance of values in measurement is explicitly emphasized. Quality of life measurement is assumed to be tied to social policy and change goals.

## THE SOCIAL INDICATORS APPROACH

Most quality of life approaches have a strong individual focus. For a number of reasons, including interest in the social determinants of health (Evans et al., 1994), the impact of the *Healthy Cities* and *Healthy Communities* movements (Ashton, 1992; Davies and Kelly, 1993), and growing concern with consumers' views of health and social service resources and provision, more attention is being directed to environmental indicators of quality of life. The social indicators literature contains many suggestions for those who wish to focus upon quality of life at a systems level.

The social indicators approach differs from the other three approaches discussed here with respect to its: (1) rationale for development of measures; (2) level of focus; and (3) emphasis upon social policy and social change issues (Finsterbusch et al., 1983; Land and Spilerman, 1975; Miles, 1985). The early work did not explicitly make the link between social indicators and quality of life or health. In more recent work the indicators and quality of life link is almost always made and to a lesser extent, the connection between social indicators and health are acknowledged.

### *Rationale for Social Indicators*

During the 1960's interest in social indicators surged in both North America and Europe as a means of providing evidence on the impact

of government social programs (Land, 1975). Another important thrust to the development of indicator systems came from recognition that reliance upon economic indicators of development was sorely deficient (Miles, 1985). The obvious problems associated with the developed economies of both the USA and the former Soviet Union suggested a need for the creation of broader social indicators of development. A final thrust for the development of social indicators was the need for assessing the impact of social programs (Wolf, 1983). An initial definition of social indicators was presented in *Towards a Social Report* (U.S. Department of Health, Education, and Welfare, 1969):

> A social indicator, as the term is used here, may be defined to be a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments 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 have gotten better, or people are "better off." Thus, statistics on the number of doctors or policemen could not be social indicators, whereas figures on health or crime rate could be. (p. 97)

### *Examples of Social Indicators With Quality of Life Implications*

Early work (Sheldon and Land, 1972) suggested that the following could constitute the content categories of a social report using indicator systems: socioeconomic welfare, including population (composition, growth and distribution); labor force and employment; income; knowledge and technology; education; health; leisure; public safety and legal system; housing; transportation; physical environment; social mobility and stratification. Social participation and alienation could also be assessed with focus upon: family; religion; politics; voluntary associations; and alienation. Finally, use of time, consumptive behaviour, aspiration, satisfaction, morale, and other characteristics of the population could be assessed.

The method of collecting these data could use objective measures of system functioning drawn from system-level data such as objective conditions (e.g., roles and social relations, income and consumption, and housing and safety). Individual-level measures in the form of subjective value-context measures (e.g., aspirations, expectations and distributive justice value) or subjective well-being indices (e.g., life satisfaction, specific satisfaction and alienation) could be

employed. In contrast, a systems level approach could include data such as: number of items of legislation considered by a parliament, the style of government (democratic versus authoritarian), government expenditures, rates of deforestation, or gross national product (Miles, 1985). Indicators such as availability of housing for seniors, meeting of transportation needs for people with disabilities, availability of community living for persons with developmental disabilities, and any of a range of others could also be used. For example, an important theme in the emerging social determinants of health literature is that of equitable distribution of economic resources (Lindstrom, 1994).

*The Global Report on Student Well-Being.* An impressive example of the range of possible indicators is found in the four volume series *Global Report on Student Well-Being* (Michalois, 1993). Specifically designed to test aspects of Multiple Discrepancies Theory, the study examined aspects of well-being by focus on life satisfaction and happiness (vol. 1, 1991a), family, friends, living partner, and self-esteem (vol. 2, 1991b), employment, finances, housing, and transportation (vol. 3, 1993a), and religion, education, recreation and health (vol. 4, 1993b) among students in 42 nations.

In addition to providing a wide range of indicators, Michalos (1993b, p. 9) discussed the dilemma related to the boundaries between health and quality of life. For health professionals, health is seen as a requirement for living a quality life. For those with an alternate focus, such as those concerned with issues of social support or financial security, for example, quality of life becomes a predictor of health status and health outcomes. In some cases, promotion of a quality life and the promotion of health are indistinguishable. Michalos argues that this was the case with the 1952 U.S. Presidential Commission on Health Needs Report. Lindstrom's model, presented below, shows a similar tendency.

*Other individual and societal level examples.* One contemporary individual-level approach is that of the *Swedish Level of Living Surveys* (Erikson, 1993). Indicators used include: health and access to health care, employment and working conditions, economic resources, and education and skills. a system-level example is pro-

vided in each issue of *Canadian Social Trends* (Statistics Canada, 1994). These measures include, among others: population (annual growth, immigration and emigration); family (birth rate, marriage, divorce rates); labour force (unemployment rate, part-time employment, women's participation); income (median family income, women's full-time earning as % of men); education (government expenditure, number of PhDs awarded); and health (deaths due to cardiovascular disease, government expenditure). Many such system-level indicators exist.

*Community-level indicators.* An extensive literature has now accumulated which addresses the quality of life of communities. Many studies have reported residents' scores on researcher designed instruments. These include North American studies of perceived neighbourhood quality (Connerly and Marans, 1985; Furuseth and Walcott, 1990; Olsen et al., 1985) as well as analyses based in Switzerland (Walter-Busch, 1983), South Africa (Moller and Schlemmer, 1983), Norway (Mastekaasa and Moum, 1984) and Sweden (Tahlin, 1990). Many studies (e.g., Schwirian et al., 1995) analyze relationships among professionally defined system level indicators such as scores on the Childrens' Stress Index – a system-level indicator – as well as population size and density, family and community economics, maternal and child health, crime, education opportunities, and air quality.

Findings from these studies indicate that objective and subjective indicators of quality are not necessarily related (Jacob and Willits, 1994; Keczmerski and Sorter, 1984; Milbrath, 1982) and factors such as family life and social networks are frequently related to life quality evaluations (Currie and Thacker, 1986). A particularly intriguing study examined aspects of satisfaction with environments in eight European countries (Fine-Davis and Davis, 1982). Environmental aspects considered included vandalism, noise, quality of housing, interaction with neighbours, public transportation, and health services. All of these aspects were related to overall life satisfaction, as was self-reported health status.

*Indicators and health.* Many aspects of community-level quality of life may have health-related implications. Social epidemiological

studies have identified a range of potential community-level indicators, such as social support (Berkman and Breslow, 1983; Berkman and Smye, 1979) or employment and leisure opportunities (Raphael, 1996b), as being supportive of health status. Further, many identified indicators appear to be consistent with theoretical constructs associated with community-based health promotion, for example, connectedness and empowerment (Bracht, 1990; Labonte, 1993, 1996). Health and social services exist at a community-level and their availability may have obvious health-related implications. Unfortunately, little of the social indicators literature has been specifically linked to health-related issues. Additionally, the myriad indicators that have accumulated need to be considered within a quality of life framework which would consider their potential relationship to health promotion among individuals and is grounded within individuals' perceptions of their communities. Such a formulation is presented in the following section.

In relation to the four quality of life measurement issues initially mentioned, the social indicators approach has a balanced orientation towards objective and subjective indicators of functioning. There is a balanced emphasis upon individual and system-level indicators with greater emphasis on system-level data. The importance of values in measurement is explicit and emphasized. Indicator measurement is assumed to be tied to social policy and goals for social change.

## THE CENTRE FOR HEALTH PROMOTION MODEL

The next approach we consider is the model of quality of life developed by researchers at the Centre for Health Promotion, University of Toronto. The work builds upon a focus on health rather than illness, the WHO emphasis on health as a resource for daily living (WHO, 1986), and work in the developmental disabilities field. When we began to analyze quality of life as a concept, two very basic but important questions emerged: "What is life?", and, "What is quality of life?" We began with the assumption that the concept of quality of life, if it were not to be an exclusionary term, must apply to all human beings. Persons with disabilities were not viewed as a distinct grouping with a distinct set of criteria for constituting good quality of life. This important lesson from the developmental disabilities

area has implications for studying health-related quality of life as well.

Second, we adopted a holistic approach to conceptualizing and measuring quality of life. This necessitated a multidimensional approach, which looked at as many interrelated aspects of the person's life as possible. Third, we assumed that quality of life would incorporate the notion of maximizing the personal control each person has over his/her own life, while keeping in mind the limits on freedom imposed by the principle "danger to self and others," and by the rights of other people. Fourth, although it would be useful to gather data from others, the perspective of the individual would be emphasized when measuring and studying quality of life (Woodill et al., 1994; Renwick and Brown, 1996).

Our conceptualization defines quality of life as: *The degree to which a person enjoys the important possibilities of his/her life.* Enjoyment encompasses two meanings: experience of subjective satisfaction and the possession or achievement of some characteristic or state, as, for example, in the phrase: "She enjoys a good standard of living." Possibilities reflect the opportunities and limitations each person has. Quality of life is the degree of enjoyment that results from possibilities that have taken on importance to the person; that is, quality of life is uniquely identified for each individual.

There are three life domains: Being, Belonging, and Becoming. Being reflects "who one is" and has three sub-domains: physical, psychological, and spiritual being. Physical Being encompasses physical health, personal hygiene, nutrition, exercise, grooming, clothing, and general physical appearance. Psychological Being includes the person's psychological health and adjustment, cognitions, feelings, and evaluations concerning the self such as self-esteem, self-concept and self-control. Spiritual Being refers to the personal values, personal standards of conduct, and spiritual beliefs which one holds.

The Belonging domain concerns the person's fit with his/her environments and also has three sub-domains. Physical Belonging describes the person's connections with his/her physical environments of home, workplace, neighbourhood, school and community. Social Belonging includes links with social environments and involves acceptance by intimate others, family, friends, co-workers,

and neighbourhood and community. Community Belonging represents access to resources such as adequate income, health and social services, employment, educational and recreational programs, and community events and activities.

Becoming refers to the purposeful activities carried out to express oneself and to achieve personal goals, hopes, and aspirations. Practical Becoming describes day-to-day activities such as domestic activities, paid work, school or volunteer activities, and seeing to health or social needs. Leisure Becoming includes activities that promote relaxation and stress reduction. Growth Becoming activities promote the maintenance or improvement of knowledge and skills and adapting to change.

Instrumentation has been developed for and applied to a range of populations including persons with disabilities (Raphael et al., 1996; Rudman et al., 1995), adolescents (Raphael et al., in press), and seniors (Raphael et al., 1995). In each case, the applicability of our concepts is examined for relevancy for each population, instruments and methods are then created, and collection of data is carried out. Our initial assumption was that our model and its domains are applicable to all individuals, older or younger, disabled or non-disabled, healthy or ill. The specific relationship of the model of quality of life to health promotion has been discussed by Raphael, et al. (1994), Renwick and Brown (1996), and Rootman (1994).

In relation to the four quality of life measurement issues, there is a strong orientation towards subjective indicators of functioning at the individual level. Discussion concerning issues of the role of values in developing measures of quality of life is given much importance. To date, the examination of the implication of quality of life findings to social policy or social change is only in the development phase, but the potential for such impact is very strong (see Renwick and Brown, 1996).

## LINDSTROM'S QUALITY OF LIFE MODEL

The final model we consider is one of the few psychologically-oriented models which explicitly directs attention to system-level issues. More specifically, Lindstrom's model (1992, 1994) examines four spheres. The Personal sphere includes physical, mental,

and spiritual resources, and the Interpersonal sphere includes family structure and function, intimate friends, and extended social networks. These are the areas usually considered in discussions of quality of life and health issues and Lindstrom examines these areas through large-scale surveys.

The External sphere includes aspects of work, income, and housing. The Global sphere includes the societal macro environment, specific cultural aspects, and human rights and social welfare policies. It is in this latter area, with its analysis, usually through policy analysis, of distribution of societal resources, and general social welfare approaches, where some of the most interesting determinants of health may be uncovered. Lindstrom analyzes Nordic children's health in relation to these latter spheres. Readers are urged to obtain his monograph. These kinds of policy analysis are infrequently carried out within a quality of life framework and offers potential areas of multidisciplinary integration.

Lindstrom has carried out extensive surveys of citizens across the Nordic countries. His full model, and related research, has influenced efforts to develop a National Child Ombudsman Office in Sweden, and the content of the National Child Public Health Reports of Sweden, Norway, and Finland (Lindstrom, 1994). Additionally, his work has served as a basis for courses in adolescent health at the Nordic School of Public Health in Goteborg, Sweden, and the content of the *European Textbook on Social Pediatrics* (Lindstrom and Spencer, 1994). To date, Lindstrom has not elicited information directly from children themselves, but has relied upon the views of parents to inform his ongoing social and welfare policy analyses.

Lindstrom tends not to consider the direct causal links between quality of life measures and children's health as conventionally defined. Although he points out that equity in economic resource allocation is the best predictor of low infant mortality rates among the 18 OECD countries. He sees his model as a means of assessing health as a resource for daily living. He sees quality of life itself serving as an indicator of healthy functioning: "The potential of the quality of life concept lies in its basically positive meaning and interdisciplinary acceptance. This can be used to develop health into a resource concept, as is the intention of the WHO *Health for All Strategy*" (Lindstrom, 1992, p. 305).

## IMPLICATIONS FOR THE QUALITY OF LIFE AND HEALTH AGENDA

The Centre for Health Promotion's quality of life model directs attention to a broad range of issues including personal development opportunities, immediate environments, and community resources. The model has served as a heuristic for identifying issues related to the health of seniors (Raphael, et al., 1995) adolescents (Raphael, 1996c, Raphael, in press) and general health promotion and rehabilitation issues (Renwick et al., 1996). The strong multidisciplinary conceptual framework helps identify areas of further inquiry.

Lindstrom's model highlights the importance of considering societal and structural determinants of health. Most researchers in the quality of life and health area work within an individual perspective and tend to ignore broader social determinants of health. Lindstrom has been one of the few to consider broader issues as they pertain to health issues. Analysis of the social determinants of health, including broader societal factors, is now an active area of inquiry in health promotion and related disciplines. Extension of this emphasis to the health sciences area may require health researchers to acquire expertise in more innovative methods of policy analysis (Milio, 1988). It will also require conceptualizations of system-level indicators of functioning, beginning with neighbourhoods and communities and extending towards national indicators systems. Increased emphasis upon cross-cultural study may also be appropriate.

One of the issues apparent then, in this review, is the traditional reliance upon individual level measurement of quality of life. Such an approach, when combined with a neglect of societal factors leads to attention being directed to individual functioning and adjustment. Robertson (1990) suggested that such an approach towards understanding the lives of elderly people, for example, leads to seeing aging as individual pathology to be treated and cured by doctors and other health professionals, thereby ignoring societal issues such as poverty, isolation, and the loss of role and status. A similar analysis can be undertaken concerning issues of adolescence, that, when analysed solely at the individual level, ignores important societal determinants of quality of life and health. The study of societal-level determinants upon health status is gaining increasing importance (Evans et al., 1994). Additionally, health promotion efforts are now focusing upon community and structural issues (Pederson

et al., 1994). Social indicators researchers have much to contribute in these inquiries. Such involvement could profoundly influence the direction that quality of life and health research efforts take in the future.

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