Overall Quality of Life Measurement: Problems and Prospects in the Case of People with Disabilities

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1. Introduction

There are important practical and normative reasons for using quality of life measurement to evaluate programs and policies for people with disabilities. The quality of life framework has proved to be useful because it is flexible and general. It is flexible because it can take account of different kinds of information, tailored to the situation of particular target groups or even particular individuals. It is general because quality of life indices can assist decision-making on many different levels—from the individual to the national. This flexibility and generality ensures that it can be adapted to many sorts of applications where promoting people’s welfare is a concern. The normative reasons for using a quality of life framework are ultimately based on the recognition that people with disabilities have the same moral standing as anyone else. This morally requires that we respond as well as we can to issues of welfare, autonomy, and opportunities for personal development among people with disabilities. Evaluation of programs through quality of life measurement is one important means of ensuring that this is done. However, quality of life measurement has thrown up a number of conceptual and methodological problems, which cast doubt on prospects of objective measurement of overall quality of life.

This paper attempts to use philosophical analysis to render these problems tractable, so that the practical and ethical potential of the quality of life framework may be realized. Our conclusion is that prospects of quality of life measurement can be restored, provided we take quality of life as a multi-dimensional quality, with an overall measure arrived at by weighting the importance of its dimensions in peoples’ lives.

2. Applying a Quality of Life Framework

In the last several decades, quality of life has become a central concept in many different areas, with programs and policies developed and evaluated within a quality of life framework. The notion of quality of life is usually operationalized with the help of quality of life indices which attempt to measure the level of, and changes in, how well people’s lives go. A quality of life index typically consists of questionnaires or surveys which elicit information from the individual whose quality of life is measured, perhaps augmented with information collected from people other than the person, or from publicly observable and verifiable sources. Questionnaires are usually organized into sections called ‘domains’.

A domain represents an important aspect or condition of welfare or quality of life, such as optimism or income, varying independently from items in other domains. We can say that some aspect, X, of a person’s life is a condition of welfare if and only if, other things being equal, life goes reliably better with more of X and worse with

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less of $X$. For example, optimism is a condition of welfare because, other things being equal, life goes better for an individual who is optimistic. It is important to stress that this holds only if 'other things are equal': foolish optimism could make life go badly. Money is another example of a condition of welfare. Other things being equal, life goes better with more money than with less. Again, other things must be equal: excessive wealth could become a fetish, or cause strife over access to it.

Answers to the items within particular domains are elicited, or transformed into, numerical form. The idea is that quality of life may be measured by translating the information given by the individual (or other sources) into a scale whose value represents a quality of life level. Even though some quality of life researchers prefer purely qualitative information, the objective of most research is to be able to aggregate the information represented in numerical form to a quality of life score with respect to a given domain, or perhaps into an overall quality of life score.

Such procedures for measuring how good the lives of individuals are have obvious advantages. On the one hand, aggregated scores for target groups carry information that can guide the allocation of resources between competing demands and needs. The information can also assist in identifying the most appropriate trade-offs given scarcity of resources and other constraints. Thus, aggregate information may be indispensable for program and policy design and evaluation in large-scale applications. On the other hand, in smaller scale applications, individual quality of life scores may play similar roles in balancing resources between individuals and target groups. In addition, information on a person's quality of life with respect to particular domains may help identify areas where the person needs assistance or intervention.

3. Quality of Life and Service Provision for People with High Support Needs

In the field of service provision for people with disabilities,1 the adoption of the framework can contribute to the achievement of two interrelated objectives. On the one hand, focusing on the quality of life of the people receiving services may result in better targeted treatments and programs, or at least in more precise and comprehensive identification of the needs of clients. On the other hand, a quality of life framework may help the service provider to develop better targeted treatments or programs and to identify and monitor the needs of its clients more closely, with resources allocated more efficiently among competing service demands and needs.

One of the major priorities of service delivery must be client satisfaction and client participation. A quality of life framework provides a multi-faceted approach to program development and evaluation, where one of the inputs is the clients' views on the services and the achievement of service objectives. Thus, clients can provide feedback to the service provider, both directly, by voicing their concerns, and indirectly, by providing data for program development and evaluation. Either way, insofar as it is feasible, the approach is able to take into account the clients' perspectives and facilitate their participation in the process of service provision.

There are also normative reasons for adopting a quality of life framework for service provision. In the last fifty years or so, it has been universally accepted that people with disabilities are owed similar rights, opportunities, and autonomy as other members of the community, at least to the extent that their circumstances and abilities allow this. While adopting a quality of life framework is not the only aspect of the
fulfillment of our moral obligations towards people with disabilities, its flexibility and
generality enables us to take into account the relevant moral factors. Notwithstanding the potential and advantages of a quality of life approach for
developing service models, we have to recognize that quality of life research is a
relatively new area in which some issues of quality of life measurement remain
 unresolved.

4. Issues in the Measurement of Quality of Life

We believe there are three major areas where problems arise for quality of life
measurement in general, and for attempts to measure the quality of life of people with
intellectual disabilities in particular. These problems stem from certain features of the
standard methodology of quality of life research. They concern the role of evaluative
indicators, the aggregation of quality of life variables, and the role of importance
ratings in constructing overall quality of life scores.

One way of approaching quality of life measurement is to suppose that quality
of life for a person is determined by the conditions of that person's life with reference
to some standard. However, this approach has been called into question because it
seems that it must involve determination of quality of life quite independently of how
the subject of that assessment evaluates her own quality of life. It has therefore been
thought essential to introduce a subjective, normative element into the measure of
quality of life in order to avoid problems of paternalism in service provision,
especially in the case of people who are highly dependent. Once this element came to
be thought an essential part of quality of life measurement, some researchers proposed
that quality of life could consist in nothing other than a person's (reflective)
assessment of how well her life went. Assessments of different aspects of a person's
life serve only to prompt a person's reflective assessment of how well life goes
overall. Such a measure of quality of life would also solve the problem of
aggregating the measure of various diverse conditions of life, which may be argued
intractable on any other basis.

In the following sections, we address the issues raised in this debate to show
that these conclusions may be avoided by treating the measure of quality of life as the
measure of how well various important dimensions of a person's life go. We show
that a measure of overall quality of life - required for evaluation of services that aim
to improve quality of life - is possible if we aggregate these dimensions with respect
to their importance in the life of individuals. We take account of the particular case of
people with disabilities because of the practical importance of solving the problem of
quality of life measurement in this area. However, we also take it into account
because this case highlights some of the methodological difficulties in the attempt to
solve problems of measurement of overall quality of life by treating it as the
measurement of a person's assessment of how well their life is going.

4.1 Evaluative Indicators

A familiar distinction in quality of life research is between objective and
subjective indicators of quality of life. Objective indicators attempt to measure
quality of life on the basis of interpersonally observable and verifiable data—like
material conditions, employment, and physical health status. In contrast, subjective
indicators are based on people's perceptions and psychological responses—their life
satisfaction, feelings of subjective well being, or attitudes towards their life
conditions. Thus, quality of life indices are often classified and evaluated in terms of
whether they utilize only objective or subjective indicators, or both.

The notions of “objective” and “subjective”, however, are notoriously ambiguous. Examples of objective and subjective indicators listed above actually encompass several distinctions: one is between descriptive and evaluative measurement methods, and another is a distinction among indicators according to whether their objects of evaluation or description are mental or other states. Furthermore, even though a subjective indicator of quality of life most often refers to the evaluation of some aspect of life on the part of the individual whose quality of life is being assessed, sometimes any method of assessing quality of life that is based on self-reports is called subjective. Taken in this sense, an objective quality of life indicator is any indicator whose measurement does not involve surveys or questionnaires eliciting people’s reports.

Currently, indicators based on the person’s own evaluations in terms of her satisfaction receive the most attention in quality of life research. Most quality of life indices are based partly or exclusively on the individual’s satisfaction reports of specific aspects of her life or of her life in general. Thus, evaluative measurement methods based on self-reports are used both for mental and other objects of measurement.

However, problems arise when too much is vested in evaluative measurement methods, as when these methods are taken to capture the measurement of overall quality of life in its entirety. Some of these problems are general—although they might be exacerbated when one attempts to apply evaluative indicators to measure the quality of life of people with intellectual disabilities. Other problems arise particularly for quality of life measurement of people with disabilities.

Exclusive reliance on evaluative measurement methods is problematic since they have been shown to have a low reliability, that is, test-retest consistency, which in turn raises doubts about their soundness. No doubt, low test-retest reliability might be expected where we have reason to suppose that the object of measurement varies. However, judgments of satisfaction are sensitive to adaptation and aspiration levels, contextual influences, transient moods, and even the measurement tool itself, and there seems no reason to suppose that these factors reflect changes in life satisfaction.

Judgments of satisfaction are influenced by adaptation. People who come to expect little (more) may report higher (lower) levels of satisfaction than previously. With rising aspiration levels, rising living standards may not lead to higher levels of satisfaction or happiness.

Judgments of satisfaction are also influenced by assimilation or contrast to one and the same event. On the one hand, if a very positive (or negative) past event comes to mind, it may result, by assimilation, in an increase (decrease) of reported satisfaction. On the other hand, the same event may result in a contrast effect: it may be used as a standard for comparison, such that compared to the positive (negative) event, reported satisfaction may be lower (higher). One problem is that just which of these effects prevail is highly, and generally unpredictably, context-dependent. Another problem is that not only past events, but expectations of future events, and even counterfactual events (what might have been), may also result in assimilation and contrast effects.
Another kind of contextual influence is that respondents may arrive at their judgments of satisfaction by comparing their situation to the situation of existing or hypothetical others. Moreover, assimilation and contrast effects also influence such comparisons, depending on whom the respondents compare their situation to, or which aspect of the situation of others they take into account in arriving at their judgments. These judgments may also be influenced by social and cultural expectations about the ‘appropriate’ response in the interview setting.

Finally, some features of research design distort judgments of satisfaction. The order of questions may influence the responses, as well as others who are present at the time of interviews or self-administered questionnaires. The presence of an interviewer of the opposite sex—or even the fact that the interview is face-to-face—can increase reported subjective well-being.4

Sometimes it is claimed that evaluative measurement methods attempt to capture only a person’s subjective well-being.5 However, the subjective well-being construct seems, at best, ambiguous, given the cognitive biases and contextual effects in people’s judgmental processes. Even if all such measurement problems could be avoided, purely subjective well-being measures carry too little information for many applications.

Exclusive reliance on evaluative indicators also falls foul of the lack of correlation between quality of life data gathered through satisfaction reports and descriptive indicators. This is a well-known result in quality of life research.6 Since improvement or deterioration of life conditions, as measured by descriptive indicators, are often not reflected in people’s own evaluations, it is unclear to what extent and how people’s satisfaction can be the object of programs and policies that aim to improve the conditions of their lives. This problem is especially acute in the case of people with disabilities, who typically have lowered expectations towards their lives in the first place, due to their conditions.7 However, rather than providing grounds for not bothering with such policies, these problems imply that exclusive reliance on evaluative measures would be a mistake. Instead, as we suggest below, life satisfaction must be considered merely as one condition of welfare alongside others.

The general problem with exclusive reliance on evaluative reports is further compounded in the case of people living with intellectual disabilities by problems they might have with formulating and articulating self-reports. Given the nature of the disabilities these people live with, it is unclear in which cases, and to what extent, self-reports can be taken at face value—as valid indicators of their quality of life. Often, the best access to a person’s evaluations can only be circumstantial or inferential, and quality of life measurement has to rely on the testimonies of others as proxies for the client’s own judgments.

More generally, intellectual disability and mental illness may influence people’s communicative, cognitive and affective functioning, thereby affecting their judgments. In some cases, the problem is technical: a person may have sufficient levels of cognitive and affective functioning for forming judgments, but may also have impaired communicative abilities, hindering the expression of their understanding and judgment. In other cases, a profound intellectual disability or lack of cognitive development may make it infeasible for the person to form judgments and become involved in the assessment of her quality of life.8
Finally, there is a further distorting factor in the judgmental process of people with intellectual disabilities in addition to those identified in the case of the general population. Researchers have noted that people with intellectual disabilities may exhibit a disposition to say ‘yes’ to any question. Thus, acquiescence response bias may distort measurement results. It has been found that the less cognitively competent an individual is, the more likely that acquiescence response bias influences his or her responses. Consequently, certain question formats are not appropriate for this target group.

In light of the difficulties, it has been noted that ‘not surprisingly, program developers and investigators interested in the evaluation of programs [for people with intellectual disabilities] have questioned the utility of subjective quality of life measures given their failure to capture changes, despite dramatic improvements in objective circumstances.’ Many argue that ‘it would not be justifiable to develop a service within the exclusive context of subjective quality of life indices within the adult population of people with profound disability.’

Nevertheless, investigators have been led to place exclusive reliance on evaluative measurements of quality of life—or measures of life satisfaction—because these have seemed the only way to make service delivery respond to client satisfaction and to secure client participation, thus avoiding paternalism.

Both methodological and normative arguments in favour of relying on evaluations in quality of life measurement have thus been offered. These arguments are usually formulated in the context of quality of life measurement for the general population, but they are intended to apply, without loss of generality, to quality of life measurement of people with disabilities. Consider, for instance, a normative argument by Ed Diener and Eunkook Suh:

What is good for people cannot be determined without taking their views into account. Being able to reflect the perspectives of individuals, subjective well-being measures allow people an input channel in which to voice their concerns and immediate demands for public funds and assistance.

Veenhoven (2002) presents a similar argument. Data on people’s evaluations are indispensable, because political entrepreneurs must have information on these to choose policies and to evaluate their outcomes. People’s wants and needs on the one hand, and their satisfaction with policies, on the other, can be reflected in their evaluations and thus have an influence on collective choices in addition to other forms of participation in the political process.

Another normative argument, which is thought especially relevant in the context of health-related quality of life, is that quality of life measurement opens up the way for paternalism if it relies exclusively on descriptive indicators. Quality of life judgments based on such indicators may justify the making of treatment decisions without consulting a competent patient, ignoring the broader consequences of the decision for the patient’s life. This denies the autonomy of the patient to determine what is to happen to her, and reflects an outdated, narrow conception of health—one that only takes into account physical and biological functions and neglects psychological, life-style, and capacity-related aspects of treatments.
We believe these normative considerations must have weight in the broader context of policy design and evaluation. We doubt, however, that this implies that evaluative measures should be dominant in the construction of quality of life measurement tools. Measuring quality of life and enhancing public participation and information flow are conceptually—and practically—separate matters.

Veenhoven also argues that the aims of social programs and policies are never limited merely to material conditions: they are also concerned with 'mental matters'—the satisfaction or happiness of the targets of the programs and policies. Therefore, people's evaluations are indispensable for the design and evaluation of programs and policies.

It is, however, doubtful that social programs and policies in general can systematically influence 'mental matters'. Given that people in similar specific conditions, as measured by descriptive indicators, often report different levels of satisfaction, and people in different specific conditions, as measured by these same descriptive indicators, often report similar levels of satisfaction, it is unclear how satisfaction in general could be shaped by policies that change objective conditions. Thus, policy directed at increasing income levels can hardly take account of the highly varying life satisfaction of individuals with a given level of income, or respond to the significant differences in levels of income among those with similar levels of life satisfaction. On the other hand, measures of individual satisfaction with, for example, urban planning changes in a localised community might well have a point, as they also might in cases where the purpose of policy is to improve the quality of life of specific individuals, such as individuals with disabilities. In general, social policy should focus on factors it can affect.

The case for evaluations has also been made on the grounds that only quality of life measures based on people's evaluations can have inter-cultural applicability. It is often observed in the literature that different cultures or societies have different values and conceptions of what makes a person's life good for that person. In order to be able to carry out inter-cultural comparisons, any sound quality of life measurement tool must include people's evaluations, since only these can capture those different values and conceptions:

*a subjectivist notion of quality of life is largely independent of changing social and cultural values. The more the concept of quality of life is analysed by objective characteristics, the less likely it will be applicable independently of specific cultural norms and ideas. If, however, quality of life is to function as a culture-independent standard, it must focus on subjective well-being rather than on the nature of the objective conditions on which subjective well-being depends.*

Nevertheless, members of different cultures and societies may have not only different values and norms, but also different aspirations and expectations for their lives, so that their reports of satisfaction have different implications for their level of welfare. It remains to be shown that a given level of life satisfaction in one society means the same thing as the same level in another.

The inconclusiveness of these arguments should prompt us to rethink the relation of different kinds of indicators and what they are supposed to be the indicators of within a richer methodological framework. Once we make the distinction between measurement methods on the one hand, and the objects of those measurement methods, on the other, we can realize that different objects of
measurement may be gauged by different kinds of indicators. For instance, in this framework it is not assumed that only evaluative measurement methods (in the form of satisfaction reports) are appropriate to represent the ‘subjective’ or psychological component of a person’s welfare or well-being. Both descriptive and evaluative methods have their role. Thus, if the use of any particular indicator is infeasible in a given application, we can fall back on other indicators. For example, in a case of cognitive or communicative incapacity, we may be able to use other evidence, including observation and third-party testimonies, as substitute indicators of subjective states of mind.

Any residual case for exclusive reliance on ‘subjective’ rather than ‘objective’ indicators in measuring quality of life can be dispelled by methodologically treating quality of life as a multidimensional quality, in the absence of decisive reasons for considering it a single underlying quality accessed through various indicators. A measure of quality of life would thus require not only measurement of life satisfaction, whether by evaluative reports or by descriptive indicators, but also evaluative or descriptive measures of a variety of mental (subjective) and environmental (objective) conditions that might bear independently on the overall welfare of individuals. Thus, for instance, optimism counts as a mental condition of welfare, while having money counts as an environmental condition. How people feel and whether they have money to do things simply count as different facts about them: one is a fact about their conscious lives, while the other is a fact about the material conditions of their lives. In this sense, both types of indicators are ‘objective’ in contrast with evaluative indicators reflecting a person’s assessment of her life conditions.

By methodologically taking welfare as a multidimensional quality, we thereby resolve the problem noted above of the lack of correlation between subjective and objective measures of welfare. This lack of correlation is just what would be expected if the subjective indicators were measures of a subjective aspect or dimension of welfare, while objective indicators measured another, independent, aspect or dimension of welfare. However, in taking welfare as a multidimensional quality, we thereby raise the issue of whether there is any point or sense in considering overall welfare in addition to its various aspects. There is also the problem of whether and how to form aggregate measures of welfare out of measures of its component parts. To these problems we now turn.

4.2 Aggregation

There is no generally accepted methodology for the aggregation of quality of life scores in the literature. Aggregation methods are often ad hoc, selected on the basis of how well the data lend themselves to statistical analysis, or overly simplistic—for instance, simple additions of the numerical representations of the replies for the items in particular domains and across domains. Some researchers have objected to the use of overly simplistic and arbitrary aggregation methods, while others have questioned the consistency of aggregation attempts altogether. Moreover, it is hardly ever explored whether aggregate scores and scales have the necessary mathematical properties to make interpersonal and inter-group comparisons possible.

We claim that an aggregate measure is needed for some purposes, such as resource trade-offs. A quality of life measure might identify two domains, such as friendships or employment, where quality of life could be improved but there might
not be enough resources to provide what the client wants in both domains. Here a
decision about where to allocate the resources could be guided by whether
improvements in friendships or employment produced the biggest overall increase in
quality of life. On the other hand, an aggregate measure might be pointless for other
purposes. For example, in the UN survey of country living conditions, measures for
average income, amenities and climate are simply added up and the number used to
rank countries according to their standard of living. This aggregation involves a
meaningless comparison of apples with oranges.

Nevertheless, meaningful aggregate scores for complete rankings can be
constructed from multidimensional quantities when there is some respect in which
each quantity may be meaningfully and measurably compared. Weighing, for
example, enables a common measure based on the relation between different
quantities it establishes. Similarly, an aggregate country measure may be
meaningfully based on the degree to which countries are preferred as places to live in
or to visit, with qualities such as climate, amenities and income being ranked in
different ways for each purpose, and for different individuals, according to their
preferences, as determined by their differing interests in the country. We could then
form different aggregate measures of how good the country is to live in with respect
to these different interests.

Quality of life researchers worried about the meaningfulness of ‘apples and
oranges’ additions involved in aggregation of specific domains may want to develop
indices which allow only for partial comparisons between scores across domains.
Partial comparability may be used for decisions on the allocation of resources where it
is required that quality of life be improved in all domains, with scores in each domain
at least as great after the improvement as they were before it. However, where
changes are considered that might reduce quality of life in one domain while
enhancing it in others, an aggregate measure will be required to determine which
change brings the greatest overall improvement from given resources. Therefore, if
the rationale for aggregation is to guide practical responses, it is unclear how much
weight general skeptical arguments against aggregation carry.18

Whatever the merits of aggregation in any specific case, some information is
bound to be lost in deriving composite scores. A sound quality of life measurement
tool strikes a balance between the demands of parsimony for its scoring system and
the information content of its scoring system. Several ways of aggregation (keeping
open the possibility of devising new ones as questions emerge) may be considered.

One method of aggregation involves the weighting of domains. Weighting
might be resisted on the ground that any weights serve as additional input to the
index. However, since no weighting is also a form of weighting—giving equal
weights to all domains—any form of aggregation, in this respect, adds some
information to the index.19 For any aggregate score to be meaningful, it must result
from some relation between domains that will impose appropriate weights: it would
be a remarkable coincidence if the relation under which domains were commensurate
imposed equal weights on each domain score. We discuss one method of weighted
aggregation based on the relative importance of domains below.

4.3 Importance Ratings
Importance ratings may help with aggregation of quality of life domain scores
by providing a means of weighting them. They may thus help to minimize the
inherent information loss involved in aggregation. But importance ratings may have additional advantages: they can carry extra information about a person’s evaluation of her life conditions. Thus, they may assist program development and evaluation in other ways as well.

Importance ratings may provide information on individual differences with respect to the importance people associate with different aspects or conditions of their quality of life. This may help to identify areas where intervention would be most urgent or beneficial. In rehabilitation programs, importance ratings might help to find the mix of service components which are the best trade-offs under given budget constraints. How discriminating importance ratings should be partly depends on the purpose of the research. If all that is required for a given purpose is a discrimination between domains that are or are not important to people, then such ratings will reduce to selection of domains.

Nevertheless, most quality of life indices do not incorporate importance ratings, and some quality of life researchers have objected to their use. One of their arguments is that a well-designed quality of life index already takes account of the conditions which are important to quality of life.20 However, this argument shows only that one specific form of importance rating is implicit in domain selection. In this form, the importance weighting rests solely on whether a domain is important or not important on average or, perhaps, in the standard case. It does not show that any of the following forms of importance weighting is superfluous: rating domains as more or less important; ratings of the importance of domains for a particular individual or group; ratings of the importance of domains at a particular life stage of individuals, whether on average or of particular individuals or groups.

Importance ratings of these kinds are clearly separable from satisfaction ratings and practically significant. Information on individual variances in importance may help to identify those areas where intervention is most likely to lead to most improvement in overall quality of life. Furthermore, in the development of rehabilitation programs, more discriminating importance ratings might help identify program components that channel resources to where improvement is most urgent. Importance ratings can also serve as the basis of comparisons between different cultures and target groups. Therefore, even if the methods of selection of standard domains reflect the importance people usually assign them, importance ratings can give a more detailed picture of variations within the overall population over time, or of the degree of importance attached to domains that all rank as sufficiently important to be included in a measure.

Another argument is that importance ratings are redundant, since people’s satisfaction reports of some domain of their lives can be taken also to indicate the importance they attach to that domain. When people are satisfied (dissatisfied) with a domain they also report how important (unimportant) they consider that domain.21 In other words, people do not separate satisfaction and importance when they arrive at their judgments. However, whether people rate as important only those aspects of their lives with which they are satisfied is surely an empirical question. There is some plausibility to the idea that people who are resigned or adapted to their circumstances might rate as important only what they are satisfied with. But, equally, people who want to change their situation might well rate as important those parts of their life with which they are highly dissatisfied. Therefore, if an association between importance and satisfaction ratings were to be found, it might only reflect the degree
to which those studied were resigned or adapted to their situation. In any case, importance ratings will have to be treated as conceptually separable from satisfaction ratings in order to determine empirically whether this is so. Taken as an a priori claim, the idea that importance ratings are only another form of satisfaction rating must be rejected.

Furthermore, as noted above, satisfaction reports are one possible type of indicator only. They measure how well a person’s life goes with respect to some condition. Importance ratings, on the other hand, map the role different components of quality of life play in determining overall quality of life. A person’s judgments on the importance of these components to her life influence the contribution of these conditions to her overall judgment of her quality of life. That is, the role of importance ratings and the role of satisfaction reports are structurally different in quality of life measurement.

The structural role of importance ratings attracts methodological objections as well. In particular, the practice of multiplying domain satisfaction levels with importance ratings for those domains in order to derive overall quality of life scores has also been targeted. It has been argued that it would be undesirable to introduce such weighting methods. The problem with such weighted scores is that they are based on data which is obtained from ordinal measurement, while multiplication requires ratio levels of measurement. Such a procedure is legitimate only if the data can be collected or transformed into the appropriate mathematical form.

Ordinal measurement is introduced, however, not so much by importance ratings but by the measurement of satisfaction levels. Importance ratings can be taken to have a natural zero point (if some domain is not important at all), and there are several ways of establishing the relative importance of different domains to a person. For example, importance of life domains may be rated comparatively by asking subjects to assign a slice of a circle to each domain, with the size of the slice reflecting the importance of each domain. Operationally, this would yield a (perhaps crude) ratio measure. There is thus no reason to take the measure of importance of life domains as inherently ordinal and, therefore, incapable of serving as domain weightings in domain aggregation.

There are many other ways for operationalizing importance ratings.22 One may even try to use importance ratings with descriptive indicators, avoiding the problems stemming from the ordinal nature of satisfaction data. In problematic cases, importance ratings for a person may be established by indirect methods or by other people.

Thus, domain weighting may be carried out by using a ‘top-down’ approach, in which the researchers select the important domains, or by using a ‘bottom-up’ approach, in which individuals are asked about what is important to them, and the domains are specified after analysis of the replies.23 In the former case, the assignment of weights might reflect the researchers’ own value judgments as to the relative importance of different aspects of clients’ quality of life. Where cognitive disability might affect the capacity of clients to determine what is important to them, a combination of these two approaches could be used. In this case, the survey could also ask professionals and possibly their families about what is important to the clients, and include only those domains that were unanimously considered important in the highest importance categories.
5. Conclusion

Quality of life measurement has a central role in developing and evaluating programs and policies both on large-scale and small-scale levels. Progress on this field, however, has largely been governed by the needs of specific applications. While numerous quality of life indices exist, relatively little work has been done to clarify the underlying conceptual issues.

We believe that reflection on these underlying problems is a useful way of making headway in this field. We have tried to contribute to this process by examining some of these problems. We argued that the ambiguity of some of the central concepts has sidetracked the debate on the role of different kinds of indicators in quality of life measurement. Also, convictions concerning the crucial role of certain indicators have led to attempts to impose uniform requirements on different aspects of the design of quality of life indices. We proposed that the role of different indicators is to capture various components of human welfare, with each of these measurable by different types of indicators. We also highlighted particular problems which arise for the quality of life measurement of people living with disabilities, including intellectual disabilities.

Finally we addressed the problems of aggregation of domain data that arise when quality of life is taken as consisting of a number of independent components. We suggested that weighted aggregation of domains, with the weights determined by their relative importance, is a promising method for deriving an index of overall quality of life that could serve as a useful tool in the evaluation of programs and policies for people with disabilities. In our view, the context and objectives of the specific research application determine what role different indicators may play in quality of life measurement.

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Notes

1 For an overview of this field, see Felce and Perry (1997).
2 For further discussion, see Baker and Intagliata (1982).
3 For surveys, see Kahn and Juster (2002), Kahneman (1999), and Schwartz and Strack (1999). We avoid the term ‘validity’, as this is often commonly taken as a technical problem in social science measurement. As we see it, this problem concerns the fit of the distribution of index measures with what can be presumed to be the distribution of the quality itself in the population. While we think some useful observations can be made about quality of life that bear on the soundness of proposed measures, such as its multidimensionality, we are not confident of the assumptions made in the ‘validity’ literature as to the distribution of qualities that measures are supposed to ‘fit’.
4 See Strack et al. (1988) and Schwarz and Strack (1999).
6 See, for instance, Cummins (2000).
7 For this observation, see Korr and Ford (2003).
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8 For discussions, see Goode (1997) and Felce and Perry (1997, pp. 65-7).


13 See Birnbacher (1999, pp. 33-5).

14 See Kaplan (2003).


18 See Naughton and Shumaker (2003, pp. 76-7).


23 See Kind (1990, pp. 63-4) and Evans (1994, pp. 54).

References


