



From the Second Geneva Conference on Person Centered Medicine  
Person-Centered Medicine: From Concepts to Practice

## The Multicultural Quality of Life Index: presentation and validation

Juan E. Mezzich MD PhD,<sup>1</sup> Neal L. Cohen MD,<sup>2</sup> Maria A. Ruiperez PhD,<sup>3</sup>  
Claudio E. M. Banzato MD PhD<sup>4</sup> and Maria I. Zapata-Vega MD<sup>5</sup>

<sup>1</sup>President, International Network for Person-centered Medicine, President 2005–2008, World Psychiatric Association and Professor of Psychiatry, Mount Sinai School of Medicine, New York University, New York, USA

<sup>2</sup>Distinguished Lecturer, Hunter College, City University of New York, New York, USA

<sup>3</sup>Dean of Social and Human Sciences, Jaume I University, Castellon, Spain

<sup>4</sup>Associate Professor of Psychiatry, State University of Campinas, Campinas, Brazil

<sup>5</sup>Assistant Professor of Psychiatry, Elmhurst Hospital Center, Mount Sinai School of Medicine, New York, USA

### Keywords

comprehensive diagnosis, culture, person-centred care, quality of life, scales, validation

### Correspondence

Professor Juan E. Mezzich  
International Center for Mental Health  
Mount Sinai School of Medicine  
Fifth Avenue and 100th Street, Box 1093  
New York, NY 10029  
USA  
E-mail: juanmezzich@aol.com

Accepted for publication: 11 October 2010

doi:10.1111/j.1365-2753.2010.01609.x

### Abstract

**Rationale and objectives** Quality of life has emerged as a crucial concept for the assessment of health and the planning of health care. Desirable features for the evaluation of quality of life include comprehensiveness, self-ratedness, cultural sensitivity, practicality and psychometric soundness. An attempt to meet these challenges led to the development of a brief multicultural quality of life instrument and to the appraisal of its applicability, reliability and validity.

**Methods** The development of the proposed assessment instrument was based on a wide review of the literature and the engagement of a multicultural mental health scholarly team. Its validation was conducted on samples of psychiatric patients ( $n = 124$ ) and hospital professionals ( $n = 53$ ) in New York City.

**Results** A new generic culture-informed and self-rate instrument, the Multicultural Quality of Life Index, has been developed. Its 10 items cover key aspects of the concept, from physical well-being to spiritual fulfilment. Concerning its applicability, mean time for completion was less than 3 minutes and 96% of raters found it easy to use. Test–retest reliability was high ( $r = 0.87$ ). A Cronbach's  $\alpha$  of 0.92 documented its internal consistency and a factor analysis revealed a strong structure. With regard to discriminant validity, a highly significant difference was found between the mean total scores of professionals ( $x = 8.41$ ) and patients ( $x = 6.34$ ) presumed to have different levels of quality of life.

**Conclusions** The Multicultural Quality of Life Index is a brief and culturally informed instrument that appears to be easy to complete, reliable, internally consistent and valid.

### Introduction

Quality of life is rapidly becoming one of the key concepts in the health field. Since the 1970s, interest in the assessment of quality of life has been growing, initially with reference to individuals experiencing oncologic and other chronic general medical illnesses. In more recent years, such interest has become conspicuous also in psychiatry and mental health [1]. This interest has been accompanied by increased attention to social functioning, social support and other positive aspects of health relevant to both clinical care and epidemiological work [2,3]. The assessment of quality of life is being regarded as a substantial parameter for comprehensive diagnostic assessment and to evaluate the effectiveness of health care [4]. Illustrating advances in diagnostic systems, the

World Psychiatric Association International Guidelines for Diagnostic Assessment (IGDA) [5] has included quality of life as a separate diagnostic axis.

While the notion of quality of life is acquiring a prominent place in the health field, its definition and the approaches to its assessment are still under intense discussion. It has been argued that quality of life is a term that describes a field of interest rather than a single variable. Besides, the challenge represented by the appraisal of quality of life is becoming increasingly daunting as modern societies have become more heterogeneous and widely multicultural. Despite such difficulties, interest on quality of life has not abated, and there are compelling reasons that justify its use in the quest for more competent and culturally sensitive health care.

The current concept of quality of life has evolved from two different sources: the health-related functional status indexes and the social science indexes. It has been pointed out that the fact that these two sources involve disparate approaches and concepts may contribute to confusion on the definition and measurement of quality of life [6]. Thus, a meaningful integration of both perspectives is desirable.

Currently, many instruments designed to measure quality of life are available. They may be roughly divided into generic and disease specific. Detailed and useful comparisons of some of these instruments, in terms of scope, design, dimensions and psychometric soundness have been published [7]. Some preliminary reviews suggested that depending on its intended use, a well-rounded instrument should assess at least the following five life domains of personal experience: biological, psychological, interpersonal, social and economic [8].

A critical review of the international literature identified the following key desirable characteristics for instruments designed to assess quality of life: (1) *Cultural applicability*: sensitivity to ethnic diversity and ability to take into account cultural background in order to rate quality of life in a meaningful way. (2) *Comprehensiveness*: coverage should go beyond physical and emotional well-being, to encompass a broad concept of health including social functioning and supports, personal aspirations and spiritual fulfilment. (3) *Wide applicability*: it should be useful and relevant for diverse populations and settings, including people experiencing both general medical and psychiatric conditions. (4) *Self-ratedness*: this recognizes the predominantly subjective nature of quality of life and the crucial perspective of the person whose life is being assessed. (5) *Ease of use*: this is of decisive practical value particularly in busy health care settings. (6) *Sound psychometric features*: including reliability or generalizability as well as validity or usefulness.

The following sections describe the process and results concerning the development of the Multicultural Quality of Life Index (MQLI) as an attempt to meet the above listed goals, and then its validation in terms of feasibility, reliability, internal consistency and discriminant validity.

## Design and presentation of the Multicultural Quality of Life Index

### Identification of key dimensions

In order to incorporate the conceptual complexity of quality of life into the instrument to be developed, an exploration of relevant dimensions was conducted through a review of the international literature. Attention was focused on reports presenting substantial discussions of the concept of quality of life or comprehensive instruments for its assessment. Table 1 displays 21 reports [9–29] concerning instruments or approaches for the assessment of quality of life and the categorized dimensions of the concept that each report encompasses. This categorization was based on a thematic analysis of the identified dimensions. The obtained themes are presented on the first column of the table, and can be summarized as follows: physical and emotional health; functioning in terms of autonomy, self-care, occupational and interpersonal roles; social-interpersonal and environmental-material support; personal

purposefulness, wholeness and enjoyment; spirituality, sense of transcendence, religiousness; and global appraisal of quality of life.

As can be seen in Table 1, all the dimensions elicited had multiple endorsements in the reviewed literature, that is, each was included in at least 6 of the 21 reports. The three most frequently mentioned dimensions were physical health, psychological health and interpersonal functioning (19 reports each), followed by occupational functioning (17 reports). These dimensions, in fact, refer to the more conventional aspects of health, revealing that the reviewed literature deals predominantly with the notion of health-related quality of life. Next in frequency were social-interpersonal supports (16 reports) and various facets of environmental and material support (jointly 15 reports), which correspond to the context of the individual, and have become accepted as significant elements of health status [30]. Somewhat less frequent, but still substantial in endorsement, are, on one hand, personal purposefulness, wholeness and enjoyment (jointly 13 reports), and on the other, spirituality, sense of transcendence and religiousness (8 reports), which together correspond to more subtle but not less important recently incorporated aspects of health [31]. Of note, attention to personal aspirations and spirituality represent distinct contributions from the developing world and traditional societies towards a more encompassing assessment of quality of life [32]. Finally, six of the reviewed multidimensional approaches included global self-assessment of quality of life, which points out the value accorded to the self-perceptions of the individual as the immediate and principal arbiter of quality of life.

Working on the literature review summarized on Table 1, the various dimensions corresponding to environmental-material support were clustered and consolidated into ‘community and services support’, and those on personal purposefulness, wholeness and enjoyment into ‘personal fulfillment’. The result was the following 10 dimensions of quality of life:

- 1 Physical Well-being (feeling energetic, free of pain and of physical problems)
- 2 Psychological/Emotional Well-being (feeling good, comfortable with yourself)
- 3 Self-care and Independent Functioning (carrying out daily living tasks; making one’s own decisions)
- 4 Occupational Functioning (able to carry out work, school and homemaking duties)
- 5 Interpersonal Functioning (able to respond and relate well to family, friends and groups)
- 6 Social Emotional Support (availability of people you can trust and who offer help and comfort)
- 7 Community and Services Support (good and safe neighborhood, availability of resources, and other services)
- 8 Personal Fulfillment (experiencing a sense of balance, solidarity, and empowerment; enjoying sexuality, aesthetics, etc.)
- 9 Spiritual Fulfillment (having a high philosophy of life; religiousness; transcendence beyond ordinary material life)
- 10 Overall Quality of Life (feeling satisfied and happy with your life in general)

### Development of other language versions

The design of MQLI took place in a multicultural and multilingual professional matrix in New York as represented by the members of

**Table 1** Dimensions of quality of life elicited from the international literature

Dimensions	Part 1						
	Flanagan (1979) [9]	Hunt & McEwen (1980) [10]	Bergner <i>et al.</i> (1981) [11]	Lehman (1983) [12]	Heinrichs <i>et al.</i> (1984) [13]	Jones (1985) [14]	Ferrans & Powers (1985) [15]
Physical health	X	X	X	X		X	X
Psychological health	X	X	X	X	X	X	X
Self care		X	X				X
Autonomy		X	X			X	X
Occupational functioning	X			X	X	X	X
Interpersonal functioning	X	X	X	X	X		X
Social-interpersonal support	X	X		X	X	X	X
Financial resources	X			X			X
Safety	X			X		X	
Other environmental-material support	X			X	X	X	X
Personal purposefulness	X				X	X	X
Personal wholeness	X				X	X	X
Personal enjoyment	X			X	X		X
Spirituality, transcendence, religiousness	X						X
Global appraisal of life				X			X
Dimensions	Part 2						
	Chambers (1988) [16]	Kaplan & Anderson (1988) [17]	Breslow (1989) [18]	Thapa & Rowland (1989) [19]	Schipper <i>et al.</i> (1990) [20]	Parkerson <i>et al.</i> (1990) [21]	Skantze <i>et al.</i> (1992) [22]
Physical health	X	X	X	X	X	X	X
Psychological health	X	X		X	X	X	X
Self care	X	X	X				X
Autonomy	X	X					
Occupational functioning	X		X	X	X	X	X
Interpersonal functioning	X	X	X	X	X	X	
Social-interpersonal support	X			X		X	
Financial resources				X			
Safety				X			
Other environmental-material support				X			X
Personal purposefulness			X	X			X
Personal wholeness							X
Personal enjoyment				X			X
Spirituality, transcendence, religiousness	X			X			X
Global appraisal of life			X			X	
Dimensions	Part 3						
	Bech (1993) [23]	Ware <i>et al.</i> (1993) [24]	Diamond (1994) [25]	Bowling (1995) [26]	WHOQOL Group (1995) [27]	Felce (1997) [28]	Russo <i>et al.</i> (1997) [29]
Physical health	X	X	X	X	X	X	
Psychological health	X	X	X	X	X	X	
Self care	X	X	X		X	X	
Autonomy	X		X		X	X	
Occupational functioning	X	X	X	X	X	X	
Interpersonal functioning	X	X	X	X	X	X	X
Social-interpersonal support	X	X	X	X	X	X	X
Financial resources	X		X	X	X	X	X
Safety				X	X	X	X
Other environmental-material support	X			X	X	X	X
Personal purposefulness	X				X		
Personal wholeness				X			
Personal enjoyment				X	X	X	X
Spirituality, transcendence, religiousness				X	X	X	
Global appraisal of life					X		X

our research team. This included native speakers of Spanish, English, Korean, Chinese and South Asian languages. Such matrix facilitated the conceptualization of a culturally suitable index and the development of several language versions. More specifically, four language versions were developed and studied, as follows. The English and Spanish versions [33] were developed simultaneously, while the Chinese [34] and Korean [35] versions were developed through a process of translation and back-translation related to the English version.

### Rating approach

The 10 items of the MQLI were designed to cover well the rich conceptual framework resulting from the literature review. The items names were carefully and concisely phrased. The prompts within parentheses offer a brief explanation of each concept. This simplicity was intended to allow the person completing the instrument a measure of flexibility to rate each item according to his or her cultural and experiential background. This simplicity and flexibility, in fact, represent critical features of the MQLI, maximizing in each use its cultural relevance. Also, helpful from a transcultural comparability perspective is that the text of the instrument has been formulated by a multilingual team speaking English, Spanish, Chinese and Korean. This minimized the emergence of biases usual in the translation and adaptation of health instruments [36,37] and moderated the emergence of biased results from cross-cultural and cross-lingual assessment [38].

The quantification of the standing of the individual on each quality of life dimension is obtained through his or her ratings and markings on a 10-point scale ranging from *poor* to *excellent*. The MQLI final score is obtained by computing the average of the scores (1–10) of all the items actually rated by the individual.

### Presentation of the form for the Multicultural Quality of Life Index – English version (MQLI-En)

The format for the MQLI-En was produced on the basis of the selected dimensions of quality of life and the rating approach outlined in the preceding section. It is presented as Fig. 1. The form also includes the subject's demographic information, monitor's name and date. The role of the monitor is simply to present the form to the subject, answer general questions and encourage the subject to complete the procedure. The form contains instructions for filling out the MQLI-En and a slot for recording the final score as the average of the completed item ratings.

### Validation of the Multicultural Quality of Life Index – English version

#### Method of the Validation Study

##### Location of the Validation Study

The study was conducted at Elmhurst Hospital Center, a large general hospital located in Elmhurst, Western Queens, New York City, and a campus of the Mount Sinai School of Medicine, New York University. It is the main health care resource for a highly

multicultural community. Elmhurst-Jackson Heights is regarded as one of the ethnically most diverse areas of the world.

### Subject samples and their demographic distribution

To address the research validation questions, two cross-ethnic English speaking samples with presumed different levels of quality of life were recruited at Elmhurst Hospital Center. One was composed of adult psychiatric patients receiving care in one of various psychiatric services and the other was composed of actively working health professionals (doctors, nurses, psychologists, social workers and administrative staff). Subjects were 18 years of age or older, of either gender, capable of communicating in English, and willing to provide informed consent to participate in the study.

The psychiatric patient sample was composed of 124 individuals (41.1% female and 58.9% male) with a mean age of 36.9 years ( $SD = 14.7$ ). The health professional sample was composed of 53 individuals (58.5% female and 41.5% male) with a mean age of 38.2 years ( $SD = 10.1$ ). Patients and professionals did not differ significantly in age ( $t = 0.665$ ,  $d.f. = 136.793$ ,  $P = 0.507$ ), but differed in gender distribution ( $\chi^2 = 4.501$ ,  $d.f. = 1$ ,  $P = 0.034$ ). The mean educational level of the total sample was 13.58 years of education ( $SD = 1.26$ ). Patients (mean = 12.14,  $SD = 3.76$ ) and professionals (mean = 17.10,  $SD = 3.3$ ) differed significantly in their level of education ( $t = 7.978$ ,  $d.f. = 164$ ,  $P < 0.001$ ). The ethnic breakdown of the total sample was 37.3% White, 36.2% Hispanic, 15.3% Asian, 8.5% Black and 1.1% of other ethnicity.

### Evaluation procedures and data collection

The sampled psychiatric patients were initially informed about the study by a treating clinician and those interested in participating were introduced to research assistants trained to monitor the completion of the instrument. Participation was voluntary, virtually no subject declined to participate, and written informed consent was obtained from all subjects at the time of enrolment through protocols approved by the local Institutional Review Board. Information relevant to the feasibility, reliability, internal structure and discriminant validity of the MQLI-En was collected and statistically analysed.

### Validation results

#### Feasibility

Concerning time to complete the MQLI-En, the average time taken by patients was 2.4 minutes ( $SD = 1.3$ , range: 0.83–15 minutes) and by professionals 1.3 minutes ( $SD = 0.5$ , range: 0.58–4.3 minutes). The samples differed significantly in the time needed to complete it ( $t = -7.660$ ,  $d.f. = 174.24$ ,  $P < 0.001$ ). In the combined sample, the average time was 2.03 minutes ( $SD = 1.3$ , range: 0.58–15 minutes).

With reference to ease of use of the MQLI-En, Table 2 presents the distribution of this variable as perceived by the subjects and the monitors. The vast majority of subjects and monitors (over 96% of them) perceived the MQLI-En as very easy or somewhat easy to use (as opposed to somewhat difficult or very difficult to use).

### Multicultural Quality of Life Index

(Mezzich, Cohen, Ruipérez, Liu & Yoon, 1999)

*Subject Version*

Subject Name: \_\_\_\_\_

Subject Code: \_\_\_\_\_

**Average score**

Age: \_\_\_\_\_ years      Gender:  Female  Male

Interviewer: \_\_\_\_\_

Ethnic group: \_\_\_\_\_

Date: \_\_\_\_\_

_____ . _____
---------------------

**Instructions:** Please indicate the quality of your health and life at present, from “poor” to “excellent”, by placing an X on any of the ten points on the line for each of the following items:

<b>1. Physical Well-being</b> (feeling energetic, free of pain and physical problems)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>2. Psychological/Emotional Well-being</b> (feeling good, comfortable with yourself)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>3. Self-Care and Independent Functioning</b> (carrying out daily living tasks; making own decisions)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>4. Occupational Functioning</b> (able to carry out work, school and homemaking duties)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>5. Interpersonal Functioning</b> (able to respond and relate well to family, friends, and groups)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>6. Social-Emotional Support</b> (availability of people you can trust and who can offer help and emotional support)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>7. Community and Services Support</b> (pleasant and safe neighborhood, access to financial, informational and other resources)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>8. Personal Fulfillment</b> (experiencing a sense of balance, dignity, and solidarity; enjoying sexuality, the arts, etc.)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>9. Spiritual Fulfillment</b> (experiencing faith, religiousness, and transcendence beyond ordinary material life)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10
<b>10. Global Perception of Quality of Life</b> (feeling satisfied and happy with your life in general)									
Poor									Excellent
1	2	3	4	5	6	7	8	9	10

**Figure 1** Format of the Multicultural Quality of Life Index.

**Table 2** Ease of use of the Quality of Life Index – English version, as perceived by subjects and the monitors

Degree of ease of use	As perceived by subjects		As perceived by monitors	
	Patients (%) (n = 124)	Professionals (%) (n = 53)	Patients (%) (n = 122)*	Professionals (%) (n = 53)
Very easy	72.6	86.8	83.6	90.6
Somewhat easy	23.4	11.3	10.7	9.4
Somewhat difficult	4.0	1.9	4.1	0
Very difficult	0	0	1.6	0

\*Valid percentages only, excluding missing values.

**Table 3** Factorial structure of the Quality of Life Index – English version on a combined sample of English-speaking patients ( $n = 124$ ) and professionals ( $n = 53$ )

Items	Factor loadings
1. Physical well-being	0.71
2. Psychological/emotional well-being	0.84
3. Self-care and independent functioning	0.81
4. Occupational functioning	0.77
5. Interpersonal functioning	0.73
6. Social emotional support	0.73
7. Community and services support	0.75
8. Personal fulfilment	0.81
9. Spiritual fulfilment	0.66
10. Global perception of quality of life	0.86
Variance accounted for: 59.34%	

K-M-O measure of sampling adequacy = 0.937.

Bartlett's test of sphericity:  $\chi^2 = 1031.8$ , d.f. = 45,  $P < 0.001$ .

Items	Patients ( $n = 124$ ) Mean (SD)	Professionals ( $n = 53$ ) Mean (SD)
1. Physical well-being	6.27 (2.49)	7.89 (1.19)
2. Psychological/emotional well-being	6.10 (2.48)	8.09 (1.39)
3. Self-care and independent functioning	6.74 (2.29)	9.00 (1.02)
4. Occupational functioning	6.20 (2.50)	8.98 (0.97)
5. Interpersonal functioning	6.43 (2.42)	8.64 (1.40)
6. Social emotional support	7.06 (2.33)	8.51 (1.35)
7. Community and services support	6.64 (2.46)	7.96 (1.53)
8. Personal fulfilment	5.56 (2.42)	8.40 (1.03)
9. Spiritual fulfilment	6.38 (2.56)	8.40 (1.10)
10. Global perception of quality of life	5.95 (2.61)	8.23 (1.33)
Overall average score	6.34 (1.77)	8.41 (0.92)

\* $P < 0.001$  (two-tailed) for all patient–professional differences.

### Internal structure

The internal consistency (Cronbach's  $\alpha$ ) of the MQLI-En was quite high in the combined sample ( $\alpha = 0.92$ ), the professional sample ( $\alpha = 0.91$ ) and the patient sample ( $\alpha = 0.90$ ). The factor analysis (principal components method) of the MQLI-En's 10 items in the combined sample of 177 patients and professionals, presented in Table 3, yielded one single factor, which accounted for a remarkable 59.34% of the items' variance. Furthermore, the totality of the MQLI-En items had loadings above 0.6 on this factor.

### Test–retest reliability

The MQLI-En was applied twice to subsamples of patients ( $n = 124$ ) and professionals ( $n = 33$ ) (20 of the 53 professionals participating in the study were not available to complete retest exercises) with an interval between test and retest of 1–15 days (mean interval: 5.32 days;  $SD = 2.13$ ) to assess instrumental reliability or generalizability in terms of correlation coefficients calculated for individual items and the main average score. As shown on Table 4, the reliability coefficients were quite substantial for

**Table 4** Test–retest reliability coefficients for the Quality of Life Index – English version on a combined sample of English-speaking patients ( $n = 124$ ) and professionals ( $n = 33$ )

Items	Correlation coefficient
1. Physical well-being	0.74
2. Psychological/emotional well-being	0.79
3. Self-care and independent functioning	0.69
4. Occupational functioning	0.76
5. Interpersonal functioning	0.67
6. Social emotional support	0.69
7. Community and services support	0.72
8. Personal fulfilment	0.72
9. Spiritual fulfilment	0.79
10. Global perception of quality of life	0.73
Average score	0.87

**Table 5** Discriminant Validity of the Quality of Life Index – English version, indicated through the comparing of mean scores between English-speaking patients and professionals on individual items and the main average score

individual items, ranging from 0.67 to 0.79 (significantly different from zero at  $P < 0.01$ ) and it reached 0.87 ( $P < 0.01$ ) for the average score.

### Discriminant validity

The discriminant validity results for the MQLI-En are presented on Table 5. A significant difference ( $P < 0.001$ ) was found between the mean average score of patients (mean = 6.34,  $SD = 1.77$ ) and professionals (mean = 8.41,  $SD = 0.92$ ) ( $t = 10.194$ , d.f. = 168.322,  $P < 0.001$ ), presumed to have different quality of life levels. Significant differences between the two samples were also found for every single item.

### Discussion

A comparison of the MQLI design features against the list of critical issues for the assessment of quality of life presented earlier in this paper stimulates the following comments.

Concerning comprehensiveness, the MQLI-En and its 10 individual items, despite its brevity, reflect virtually all important aspects of quality of life reported in the international literature,

from conventional physical and emotional well-being, to various aspects of functioning, social and environmental context, personal and spiritual fulfilment and global self-assessment.

Regarding evaluators, in line with the predominantly subjective nature of the quality of life concept, the MQLI-En is to be completed directly by the subject. However, the development of complementary versions to be completed by clinicians, family members and caregivers may be worth exploring, particularly, when subjects have difficulty completing self-evaluations.

Cultural suitability was also attended to in instrument development. First, its content reflected perspectives elucidated from across international and multicultural settings. The multilingual process employed for the development of the various language versions of the instrument also speaks to the engagement of cultural diversity. The various language versions of the MQLI (English, Spanish, Chinese, Korean, Portuguese, German) are being studied in New York and in other parts of the world [33,39–44]. Furthermore, the MQLI-En, with its minimal definition of each dimension has the potential to promote the subjects' interpretation and rating of the dimensions in consonance with their own cultural framework.

In regard to generic versus disease-specific applicability, the MQLI-En can be recognized as a generic instrument for person-based assessment of quality of life across different clinical conditions and settings. This was shown by studies with subjects with multiple sclerosis [44], sleep disorders [45] and AIDS [42]. As a generic instrument, the MQLI focuses the evaluation on the person at hand (who is the centre and agent of quality of life) rather than on illnesses present. Further to note is the use of the MQLI in community settings [46,47].

Rapid administration time (1–3 minutes) and ease of administration, as efficiency indicators documented in this study, are distinct assets of the MQLI-En. Efficiency under additional clinical and socio-cultural situations could be usefully explored.

The substantial test–retest reliability obtained empirically in this study is quite encouraging, particularly considering the definitional flexibility allowed for the sake of cultural suitability. One could argue that the test–retest interval (1–15 days) may have been too short in some cases. On the other hand, lengthening this interval may have complicated the retention of research subjects.

Discriminant validity is a major evaluative aspect. The highly significant difference found between samples with presumably different levels of quality of life documented the discriminant validity of the MQLI-En. Other validation strategies, such as assessment of convergence validity between the MQLI and more extensive instruments (e.g. The Lehman's Quality of Life Inventory) [12] are also being studied and presented elsewhere.

A review of the numerous published instruments to assess quality of life (as compared to the MQLI) did not yield instruments that appeared to be equally comprehensive in their scope (from physical well-being to spirituality) as well as simultaneously fast and easy in its administration.

Future developmental and research work with the MQLI may valuably include the following:

**1** Preparation and validation of various language-versions of the MQLI, in addition to the Spanish, Korean and Chinese versions presented elsewhere, relevant to prominent populations in the very ethnically diverse Jackson Heights-Elmhurst area of New York

City, as well as, through collaborative arrangements, in other parts of the world.

**2** Development of MQLI versions for the use of complementary evaluators, such as clinicians, family members and caregivers. These would have the same basic content and format as the principal MQLI, to facilitate integration and comparison of results, as well as incorporate adjustments in the instructions for completing the form.

**3** To understand more deeply the results yielded by the MQLI, the identification of the quality of life dimensions most important or meaningful for a given person could be ascertained. One efficient and indirect approach would involve identifying, on a completed MQLI form, the dimensions having the closest ratings to his or her global perception of quality of life. Subjects could also be asked to undertake the additional rating step of circling the dimensions most meaningful to them, as well as to engage in narrative elaboration of their perceived quality of life given that numerical ratings do not allow the understanding that stories can offer.

## Conclusions

The results of the development and validation of the MQLI suggested that it is one of the most comprehensive in scope (from physical to spiritual aspects), and, at the same time, highly efficient (taking few minutes to be completed). The psychometric testing of the English version has documented its test–retest reliability, internal consistency and discriminant validity. Additionally, the MQLI seems to facilitate subjects to respond and rate their quality of life according to their cultural framework. A number of recent publications provide evidence of the relevance of the MQLI to assess quality of life in people experiencing a range of psychiatric and general medical clinical conditions as well as in epidemiological surveys. Therefore, the instrument may be useful in both clinical and community settings.

## Acknowledgements

We would like to express gratitude for the contributions of our colleagues, Drs G. Yoon, J. Liu, C. Perez, S. Hyzak and F. Cancino.

## References

1. Katschnig, H. & Angermeyer, M. C. (1997) Quality of life in mental disorders. In *Quality of Life in Depression* (eds H. Katschnig, H. Freeman & N. Sartorius), pp. 137–148. New York: Wiley & Sons Press.
2. World Health Organization (2004) Report of the Executive Board, 101<sup>st</sup> Session. Geneva: WHO.
3. Mezzich, J. E. (2005) Positive health: conceptual place, dimensions and implications. *Psychopathology*, 38, 177–179.
4. Mezzich, J. E. & Schmolke, M. M. (2006) Quality of life and positive health: their place in comprehensive clinical diagnosis. In *Quality of Life in Mental Disorders*, 2nd edn (eds H. Katschnig, H. Freeman & N. Sartorius), pp. 103–110. New York: John Wiley & Sons.
5. Mezzich, J. E., Berganza, C. E., Cranach, M., *et al.* (2003) Essentials of the World Psychiatric Association's International Guidelines for Diagnostic Assessment (IGDA). *The British Journal of Psychiatry*, 182 (45), 37–66.
6. Prutkin, J. M. & Feinstein, A. R. (2002) Quality of Life Measurements: origins and pathogenesis. *The Yale Journal of Biology and Medicine*, 75 (2), 79–93.
7. Atkinson, M. J. & Zibin, S. (1996) *Quality of life measurement among persons with chronic mental illness: a critique of measures and*

- methods*. Health Canada – Mental Health. Available at: [http://www.phac-aspc.gc.ca/mh-sm/pubs/quality\\_of\\_life-qualite\\_de\\_vie/index.html](http://www.phac-aspc.gc.ca/mh-sm/pubs/quality_of_life-qualite_de_vie/index.html) (last accessed 29 May 2004).
8. Rosenblatt, A. & Attkisson, C. (1993) Assessing outcomes for sufferers of severe mental disorder: a conceptual framework and review. *Evaluation and Program Planning*, 16, 347–363.
  9. Flanagan, J. D. (1979) Identifying Opportunities for Improving the Quality of Life of Older Age Groups. Palo Alto, CA: American Institute for Research.
  10. Hunt, S. & McEwen, J. (1980) The development of a subjective health indicator. *Sociology of Health & Illness*, 2 (3), 231–246.
  11. Bergner, M., Bobbitt, R. A., Carter, W. B. & Gilson, B. S. (1981) The Sickness Impact Profile: development and final revision of a health status measure. *Medical Care*, 19 (8), 787–805.
  12. Lehman, A. F. (1983) The well-being of chronic mental patients: assessing quality of life. *Archives of General Psychiatry*, 40 (4), 369–373.
  13. Heinrichs, D. W., Hanlon, T. E. & Carpenter, W. T. (1984) The Quality of Life Scale: an instrument for rating the schizophrenic deficit syndrome. *Schizophrenia Bulletin*, 10 (3), 388–396.
  14. Jones, K. (1985) After Hospital: A Study of Long Term Psychiatric Patients in York. York: University of York/York Health Authority.
  15. Ferrans, C. E. & Powers, M. J. (1985) Quality of Life Index: development and psychometric properties. *ANS. Advances in Nursing Science*, 8 (1), 15–24.
  16. Chambers, L. W. (1988) The McMasters Health Index Questionnaire: an update. In *Quality of Life: Assessment and Application* (eds S. R. Walker & R. M. Rosser), pp. 113–131. Lancaster: MTP Press.
  17. Kaplan, R. M. & Anderson, J. P. (1988) The Quality of Well-Being Scale: rationale for a single quality of life index. In *Quality of Life: Assessment and Application* (eds S. R. Walker & R. M. Rosser), pp. 51–77. Lancaster: MTP Press.
  18. Breslow, L. (1989) Health status measurement in the evaluation of health promotion. *Medical Care*, 27 (Suppl 3), 205–216.
  19. Thapa, K. & Rowland, L. A. (1989) Quality of life perspectives in long-term care: staff and patient perceptions. *Acta Psychiatrica Scandinavica*, 80 (3), 267–271.
  20. Schipper, H., Clinch, J. & Powell, W. (1990) Definition and conceptual issues. In *Quality of Life Assessments in Clinical Trials* (ed. B. Spilker), pp. 11–24. New York: Raven Press.
  21. Parkerson, C. R., Broadhead, W. E. & Tse, C. K. J. (1990) The Duke Health Profile: a 17-item measure of health and dysfunction. *Medical Care*, 28 (10), 1056–1072.
  22. Skantze, K., Malm, U., Dencker, S. J., May, P. R. & Corrigan, P. (1992) Comparison of quality of life with standard of living in schizophrenic out-patients. *The British Journal of Psychiatry*, 161, 797–801.
  23. Bech, P. (1993) Rating Scales for Psychopathology. Health Status and Quality of Life: A Compendium on Documentation in Accordance with the DSM-III-TR and WHO Systems. Berlin: Springer Verlag.
  24. Ware, J. E., Snow, K. K., Kosinski, M. & Gandek, B. (1993) SF-36 Health Survey: Manual and Interpretation Guide. Boston, MA: The Health Institute, New England Medical Center.
  25. Diamond, R. (1997) Multiple perspectives on Quality of Life. Proceedings Summary of the American Psychiatric Association Annual Meeting. San Diego, California.
  26. Bowling, A. (1995) What things are important in people's life: a survey of the public judgements to inform scales of health related quality of life. *Social Science & Medicine*, 41 (10), 1447–1462.
  27. WHOQOL Group (1995) The World Health Organization Quality of Life Assessment. Position Paper from WHO. *Social Science & Medicine*, 41 (10), 1403–1409.
  28. Felce, D. (1997) Defining and applying the concept of quality of life. *Journal of Intellectual Disability Research*, 4 (Pt 2):126–135.
  29. Russo, J., Roy-Byrne, P., Reeder, D., Alexander, M., Dwyer O'Connor, E. D., Dagadakis, C., Reis, R. & Patrick, D. (1997) Longitudinal assessment of quality of life in acute psychiatric inpatients: reliability and validity. *The Journal of Nervous and Mental Disease*, 185 (3), 166–175.
  30. House, J. S., Landis, K. R. & Umberson, D. (1988) Social relationships and health. *Science*, 241 (4865), 540–545.
  31. Barnard, D., Dayringer, R. & Cassel, M. (1995) Toward a person-centered medicine: religious studies in the medical curriculum. *Academic Medicine*, 70 (9), 806–813.
  32. Wig, N. H. (1995) Mental health and spiritual values: a view from the East. Proceedings from the World Congress of the World Federation for Mental Health, Dublin, Ireland.
  33. Mezzich, J. E., Ruiperez, M. A., Perez, C., Yoon, G., Liu, J. & Mahmud, S. (2000) The Spanish version of the quality of life index: presentation and validation. *The Journal of Nervous and Mental Disease*, 188 (5), 301–305.
  34. Mezzich, J. E., Liu, J., Ruiperez, M., Zapata-Vega, M. I. & Rahman, A. (2003) Multicultural Quality of Life Index, Chinese Version (MQLI-Ch): Presentation and Validation. Presented at the WPA International Congress, Caracas, October 2003.
  35. Yoon, G., Mezzich, J. E., Shin, S. K., Ruiperez, M. A., Zapata-Vega, M. I. & Liu, J. (2008) The Korean version of the Multicultural Quality of Life Index (MQLI-Kr): development and validation. *Journal of Immigrant and Minority Health*, 10 (1), 73–80.
  36. van de Vijver, F. & Hambleton, R. K. (1996) Translating test: some practical guidelines. *European Psychologist*, 1 (2), 89–99.
  37. Hambleton, R. K. (1993) Translating achievement tests for use in cross-national studies. *European Journal of Psychological Assessment*, 9 (2), 57–68.
  38. van de Vijver, F. & Poortinga, Y. H. (1997) Towards an integrated analysis of bias in cross-cultural assessment. *European Journal of Psychological Assessment*, 13 (1), 29–37.
  39. Zubaran, C., Mezzich, J., Ioppi, A. E., Tarso, D. & Persch, K. N. (2004) Estudo inicial para o desenvolvimento da versão em português do Índice de Qualidade de Vida. *Arquivos brasileiros de psiquiatria, neurologia e medicina legal, Rio de Janeiro*, 98 (3), 12–17.
  40. Hernández, X., Micco, S., Vicente, B., Ebner, D., Hernández, R., Valdívia, M. & Torres, S. (2004) Validación de un índice de calidad de vida en población chilena (QLI SpM). *Acta Psiquiátrica y Psicológica de América Latina*, 50 (1), 35–41.
  41. González, J., Zapata, M. I. & Mezzich, J. E. (2005) The Spanish Version of the Multicultural Quality of Life Index: Validation Study in Caracas, Venezuela. Poster presented at the WPA XIII World Congress of Psychiatry, Cairo, September 2005.
  42. Schwartz, K., Zapata-Vega, M. I., Mezzich, J. E. & Mazzotti, G. (2006) Validation Study of the MQLI in a Peruvian Sample. *Revista Brasileira de Psiquiatria*, 28 (1), 24–28.
  43. Jatuff, D., Zapata-Vega, M. I., Montenegro, R. & Mezzich, J. E. (2007) El Índice multicultural de calidad de vida en Argentina: un estudio de validación. *Actas Españolas de Psiquiatria*, 35 (4), 253–258.
  44. Fruehwald, S., Loeffler-Stastka, H., Eher, R., Saletu, B. & Baumhackl, U. (2001) Depression and quality of life in multiple sclerosis. *Acta Neurologica Scandinavica*, 104 (5), 257–261.
  45. Saletu, B., Prause, W., Loeffler-Stastka, H., Anderer, P., Brandstatter, N., Zoghalmi, A., Saletu-Zyhlarz, G. & Katschnig, H. (2003) Quality of life in nonorganic and organic sleep disorders: I. Comparison with normative data. *Wiener Klinische Wochenschrift*, 115 (7-8), 246–254.
  46. Lorente, E., Ibáñez, M. I., Moro, M. & Ruipérez, M. A. (2002) Índice de Calidad de Vida: estandarización y características psicométricas en una muestra española. *Psiquiatria y Salud Integral*, 2 (2), 45–50.
  47. Instituto Especializado de Salud Mental (2002) Estudio Epidemiológico Metropolitano en Salud Mental 2002. Informe General. *Anales de Salud Mental*, 18 (1-2), 1–201.