

Original Paper

Psychometric Properties of the Malay Work-Related Quality of Life (WRQoL) Scale in Malaysia

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Abstract

Malaysia aims to be one of the developed nations by year 2020; therefore, it is crucial to gauge the quality of working life in a parallel manner using a well-established Work-Related Quality of Life (WRQoL) Scale. The goal of this study is to describe the validity and psychometric properties of the Malay WRQoL Scale in Malaysian population.

A total of 572 respondents took part in this cross-sectional study giving a 97% response rate. The reliability of the Malay WRQoL Scale was assessed using the test retest reliability analysis after a 2-week period. Both the interclass correlation (ICC) and Cronbach's alpha were within acceptable levels. However in the validity analysis, the exploratory factor analysis only revealed 5 factors instead of 6 in the original scale.

The Malay WRQoL scale has demonstrated to have the appropriate psychometric properties and can therefore be used in Malaysia to assess the quality of working life.

Keywords

quality of life, Work-Related Quality of Life (WRQoL) Scale, psychometric properties, Malaysia

1. Introduction

The meaning of "quality of working life" can be interpreted differently by different parties. For example, employees perceived it as job security, sharing of profit and healthy working environment. On the other hand, employers simply interpret it as improved workplace conditions to increase productivity. Definitions of quality of working life continue to vary over time. It was initially perceived to be associated with job motivation, job satisfaction, work involvement, life satisfaction, happiness and

self-rated anxiety (Warr, Cook & Wall, 1979). Further studies strongly supported elements such as physical work environment, social environment within the organization, work-role conflict, integrated socio-technical system, job enrichment, equitable pay, flexible work schedules, reward system, balance of work and family, job security, productivity and well-being should be incorporated as part of the concept of quality of working life (Baba & Jamal, 1991; Cunningham & Eberle, 1990; Ellis & Prompli, 2002; Hood & Smith, 1994; Katzell, 1983; Lau & Bruce, 1998). The relationship between work-related stress and the broader concept of quality of working life has been explored and the linkage between job stress and burnout as major negative aspects of quality of life was discovered (Killian, 2004). A recent study proposed a number of dimensions, such as individual's pay and benefits, relationship with immediate supervisor and colleagues, and nature of work, as key factors to quality of working life (Demvir et. al, 2008).

A lot of studies had been conducted in the past to conceptualize the meaning and the factors that contribute to the quality of working life. However the current studies, surveys and relevant literature showed inconsistency and contradictory definitions of quality of working life which nullifies the previous theories. Therefore, careful consideration of literatures and discussions among researchers led to an enhanced and broader conceptualization of quality of working life which focuses on individual well-being and quality of life. As a result, the Work-Related Quality of Life (WRQoL) scale was developed. It had been used extensively and this scale has been proven to have the appropriate psychometric properties to reflect the employees' quality of life in a more holistic manner (Easton & Van Laar, 2012).

1.1 Malaysia

Malaysia is a multi-racial country located in the Southeast Asia with a population of 29 million and a GDP of 4.3% as of second quarter of 2013. The country has a reported crude birth rate of 17.2 per 1,000 populations and life expectancy of 72.3 years and 77.2 years for males and females in 2012 respectively. Malaysia comprises 13 states, 11 on the Peninsula and 2 on the island of Borneo. The predominant racial group is Malays, follows by Chinese and Indians. Islam is the official religion and Bahasa Malaysia is the official language in Malaysia. Majority of the population are able to speak and write in at least two languages (Department of Statistics Malaysia, 2013).

Malaysia aims to be one of the developed nations by year 2020; therefore, it is crucial to gauge the quality of working life in a parallel manner. It is essential to translate the Work-Related Quality of Life (WRQoL) Scale into Bahasa Malaysia, which is the official language in Malaysia. The main objective of this study is to describe the validity and psychometric properties of the Malay WRQoL Scale in Malaysian population.

2. Method

2.1 Work-Related Quality of Life (WRQoL) Scale

The WRQoL scale was developed by a team of researcher from the University of Portsmouth to gauge

the perceived quality of working life (Edwards et.al., 2008). This instrument comprises 23 items on a 5 point Likert scale (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree) from 6 psychosocial sub-factors; 1) job and career satisfaction, 2) general well-being, 3) stress at work, 4) control at work, 5) home-work interface and 6) working conditions. The data is coded with Strongly Disagree = 1 and Strongly Agree = 5. In this way, higher scores indicate greater perceived quality of working life. The overall WRQoL factor score is determined by finding the average of all 23 WRQoL items. To enhance interpretation of the scale, the overall score and sub-scale score can further be categorized into Lower, Average and Higher quality of working life. It was with the aim that this instrument encapsulates both work and non-work aspects of life which will further allow employers to support, evaluate and improve their workplace (Easton & Van Laar, 2012).

The WRQoL scale can be considered as an evidenced based measure of quality of working life. It has the ability to assess employees' capabilities at work, monitor employees' workforce experience and assess employees' adaptabilities with regard to the organizational change (Edwards et.al., 2008; Van Laar, Edwards & Easton, 2008).

2.1.1 Job and Career Satisfaction (JCS)

Job and career satisfaction represents the level to which individuals feel good, satisfy and motivated about their work. This sub-scale further measures individuals' satisfaction level towards their job, whether the role and goals are clearly defined, good recognition and reward system, able to fulfill one's personal development, career enhancement and training needs (Easton & Van Laar, 2012).

2.1.2 General Well-Being (GWB)

General well-being assesses the general well-being of an individual from the perspective of overall life satisfaction, general quality of life as well as mental health problems such as depression and anxiety disorders (Easton & Van Laar, 2012).

2.1.3 Stress at Work (SAW)

Stress at work is a measure by the extent to which individuals perceive they have excessive pressures and feel stressed at work. It is essential to recognize that job stress reflects individuals' incapability in fulfilling the requirements of work (Easton & Van Laar, 2012).

2.1.4 Control at Work (CAW)

Control at work reflects the level of confidence which employees feel they are in control of work. This sub-scale basically focuses on how are individuals involved in the decisions that affect their work (Easton & Van Laar, 2012).

2.1.5 Home-Work Interface (HWI)

Home-work interface examines the interrelationship between home and work life. It further reflects the extent to which the employer is perceived to support employees' family and home life. Aspects such as adequate facilities at work, flexible working hours and the understanding of immediate supervisor, job rotation, maternity and parental leave, child and dependent care can influence the outcomes of this sub-scale (Easton & Van Laar, 2012).

2.1.6 Working Conditions (WCS)

Working conditions assess the employees' satisfaction level in terms of fundamental resources, working conditions and necessity provided for them to do their job safely and effectively (Easton & Van Laar, 2012).

2.2 Sample Size Justification

It was assumed two replicates per subject, the expected inter-rater reliability of at least 0.8 ($H_1: \rho_1=0.8$), the reliability of 0.7 ($H_0: \rho_0=0.7$) or higher would be acceptable, $\alpha=0.05$ and $\beta=0.2$ (corresponds to 80% power), then, a total number of 118 participants are required (Walter, Sliasziv & Donner, 1998). The final sample size has been increased approximately 5 folds to further account for dropout during the study. Hence, a total of 590 participants are required for this study.

2.3 Study Design and Procedure

The respondents for this cross-sectional study were conveniently recruited in the Klang Valley area during the period of January-August 2013. All respondents must be at least 21 years old and proficient in Malay. Respondents were asked to sign the informed consent letter prior to the commencement of the study. During the study, respondents were asked to complete a self-administered questionnaire, which took approximately 30 minutes to complete. The same respondents were approached again for the same questionnaire after a 2 weeks interval.

2.4 Statistical Analysis

2.4.1 Reliability Analysis

The reliability of the Malay WRQoL Scale was assessed by using the test-retest reliability analysis after a 2-week period (Chen, 2009). This type of reliability was evaluated by an intraclass correlation (ICC), which was computed based on a single rate using the one way analysis of variance (ANOVA) model (Streiner & Norman, 1995). Conventionally, acceptable reliability coefficient referred to ICC value of 0.70 (Maurice, Staquet & Peter, 1998; Nunnally & Bernstein, 1994). In addition, Cronbach's alpha was used to assess the internal consistency of the subscales as well as the instrument as a whole. By convention, it was desirable to obtain Cronbach's alpha of at least 0.70 (Cronbach, 1951; Bland & Altman, 1997; DeVellis, 2003; Nunnally & Bernstein, 1994).

2.4.2 Validity Analysis

Construct validity was used in this study. Specifically, exploratory factor analysis involving the principle component analysis extraction and varimax rotation was used to assess the construct validity of the Malay WRQoL Scale (Chen, 2009). Scree plot was generated and Kaiser's recommendation of eigenvalues over 1 was used to determine the number of factors to extract (Kaiser, 1974).

3. Result

3.1 Response Rate

This study managed to recruit a total of 572 respondents instead of 590. Therefore, the response rate was 97%.

3.2 Characteristics of Respondents

Table 1 summarized the characteristics of respondents. The average age for the respondents was 34.5 ± 9.1 years, with majority of the respondents were in the age range of 21-30 (41.8%) and 31-40 (37.9%). A small number of respondents (1.7%) were more than 60 years old. Predominantly of the respondents were female (72.7%), Malay (57.4%), married (60.2%), possessed tertiary educational background (84.6%), monthly income of RM2000-RM4000 (53%). The respondents were further classified into educators (40%), human services professionals (38.5%) and administrative officer (21.5%).

Table 1. Characteristics of Respondents

Parameter	N=572	%
Age (years)		
mean \pm SD	34.5 \pm 9.1	
21-30	223	41.8
31-40	202	37.9
41-50	63	11.8
51-60	36	6.8
>60	9	1.7
Gender		
Male	156	27.3
Female	415	72.7
Race		
Malay	328	57.4
Chinese	160	28.0
Indian	73	12.8
Others	10	1.8
Marital Status		
Single	213	37.3
Married	344	60.2
Divorced	8	1.4
Widowed	6	1.1
Education Level		
Primary School	1	0.2

Parameter	N=572	%
Secondary School	69	12.2
College/University	479	84.6
None	4	0.7
Others	13	2.3
Income		
>RM2,000	104	18.9
RM2,000-<RM4,000	292	53.0
RM4,000-<RM6,000	105	19.1
RM6,000-<RM8,000	31	5.6
RM8,000-<RM10,000	7	1.3
≥RM10,000	12	2.2
Profession		
Educator	229	40.0
Human services professional	220	38.5
Administrator officer	123	21.5

3.3 Reliability Analysis

The ICC values for subscales ranged from 0.644 to 0.780 (Table 2). The highest ICC was observed for Control at work subscale (0.720) while the subscale General well-being possessed the lowest ICC value (0.644). In terms of internal reliability, the Cronbach's alpha value for all subscales as well as instrument as a whole were well above the desirable level, which is at least 0.70.

Table 2. Intraclass correlation and Cronbach's alpha

Subscale	Intraclass correlation (ICC)	Cronbach's alpha	Overall Cronbach's alpha
Job and career satisfaction (JCS)	0.666	0.800	0.914
General well-being (GWB)	0.644	0.704	
Stress at work (SAW)	0.720	0.837	
Control at work (CAW)	0.780	0.780	
Home-work interface (HWI)	0.677	0.808	
Working conditions (WCS)	0.665	0.799	

3.4 Validity Analysis

Table 3 presented the loading factors from principal component analysis with varimax rotation, the analysis only revealed 5 factors as opposed to 6 factors in the English WRQoL scale (Appendix A).

Items 4,10,15,17 and 21 were found to form the GWB subscale, item 9 deviated from this subscale to the SAW subscale in comparison with the English WRQoL scale. In addition to the original items 12 and 23, except item 2, formed the CAW subscale (as in the English WRQoL scale), additional items 11, 18 and 20 were also found to belong to this subscale. In comparison with the English WRQoL scale, all items, except item 22, in HWI and WCS subscales merged into one subscale called HWI/WCS. Instead, item 22 was found to be in the GWB subscale. No changes in the original items found in the SAW subscale. According to the English WRQoL scale, all original items, except item 8, were found in JCS subscales. Additional item 2 was also found to belong to JCS, while item 8 belong to a member of HWI/WCS.

Table 3. Loading factors from principal component analysis with varimax rotation

Items	Subscale				
	GWB	CAW	HWI/WCS	SAW	JCS
4	0.471				
10	0.620				
15	0.645				
17	0.705				
21	0.606				
22	0.589				
11		0.677			
12		0.638			
18		0.566			
20		0.586			
23		0.616			
5			0.799		
6			0.585		
8			0.700		
13			0.692		
14			0.726		
16			0.481		
7				-0.790	
9				-0.784	
19				-0.804	

Items	Subscale				
	GWB	CAW	HWI/WCS	SAW	JCS
1					0.772
2					0.564
3					0.676

4. Discussion

In reliability analysis, all ICC values reported in this study were closed to the desirable level, but they were slightly lower than those reported in the English WRQoL scale (Easton & Van Laar, 2012). The Cronbach's alpha value for all subscales, except GWB and JCS, were found to be higher compared to the original scale. The overall Cronbach's alpha for all 23 items (0.914) was found to be just slightly below than those reported in the original scale (0.94) (Easton & Van Laar, 2012). Nevertheless, both ICC and Cronbach's alpha have evidenced the Malay WRQoL scale to be highly reliable.

In validity analysis, it was interesting for the exploratory factor analysis to reveal 5 instead of 6 factors. Generally, the items, except item 22, in the original HWI and WCS in the English WRQoL scale were combined into one subscale called HWI/WCS in Malay WRQoL scale. This evidenced Malaysian perceived items like item 13 "*My employer provides me with what I need to do my job effectively*" and item 16 "*I work in a safe environment*" more relevant to HWI/WCS rather than WCS alone. While the perception of item 22 "*The working conditions are satisfactory*" was more towards the GWB by Malaysians.

In GWB subscale, it was noted item 9 "*Recently, I have been feeling unhappy and depressed*" was perceived as SAW due to cultural differences. Item 9 was found to be in SAW in addition to 2 items (as in the English WRQoL scale). On the other hand, it was fascinating to observe another 5 items were classified in GWB similar to the English WRQoL scale.

Apart from the three items forming the CAW subscale as in the English WRQoL scale, Malaysians perceived item 11 "*I am encouraged to develop new skills*", item 18 "*I am satisfied with the career opportunities available for me here*" and item 20 "*I am satisfied with the training I receive in order to perform my present job*" as part of CAW.

Similar to the English WRQoL scale, 6 items were found to form the JCS subscale. The perception for item 2 "*I feel able to voice opinions and influence changes in my area of work*" was found to be relevant to JCS subscale in Malaysian context.

It was reported in recent studies that differential items may be attributed to translation errors, but it was also highly likely due to differences in cultural knowledge and experience (Elis, 1989). Miyahara (2000) concluded in her study that Japanese people, who are members of the Eastern culture, were found to be low in self disclosure in both verbal and non-verbal measures. In general, emotional moderation was expected to be observed for those in the Eastern cultures compared to Western cultures (Niedenthal et

al., 2006, pgs 314-15).

In conclusions, the Malay WRQoL scale was translated and culturally adapted to the Malaysian context. Even though this study only revealed 5 subscales instead of 6, the Malay WRQoL scale had the appropriate psychometric properties, evidenced by test-retest reliability, internal consistency and construct validity. The Malay WRQoL scale can therefore be introduced to facilitate healthcare or public health related research in Malaysia for assessing quality of working life.

4.1 Limitations

Limitations existed in this study. The respondents for this study were recruited from the Klang Valley area, which is an urban area, due to logistic constraints. Since past studies (Mansor et al., 2013; Oguzturk, 2008; Weeks et al., 2004) had revealed the difference of quality of life between rural and urban area, therefore, it warrants further examination the generalizability of the findings from this study into those in the rural area.

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