Assessing Quality of Working Life Among Malaysian Workers

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Abstract

The Work-Related Quality of Life Scale–2 (WRQLS-2) has been used to measure quality of working life (QOWL) in the United Kingdom. In this study, the scale was translated and normalized into Malay. The scale was translated using the back-translation method, pretesting, and pilot testing. It was conducted among health care and office workers. It was tested in 3 stages; confirmatory factor analysis at stages 1 and 3 and exploratory factor analysis at stage 2. The Malaysian WRQLS-2 had 5 factors: "General Well-Being," "Job and Career Satisfaction," "Employee Engagement," "Home-Work Interface," and "Stress at Work." The scale showed good convergent and construct validity and also reliability. Perception of good QOWL may differ because of cultural influences and varying work environments. The validated Malaysian WRQLS-2 can be used to determine the QOWL of Malaysian office and health care workers.

Keywords

Introduction

Occupational health is an important area of public health. Scales and questionnaires are used to assess different aspects of occupational health and tested for its reliability in different countries. In Malaysia, such reliability studies were undertaken for the 'Job Content Questionnaire' to assess job stress among Malaysian office workers and the Malay version of the Nursing Stress Scale for nurses.[1,2]

In the United Kingdom, the Work-Related Quality of Life Scale (WRQLS) was developed by psychologists and has been used to assess the quality of working life (QOWL) among many

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professions since 2007. "Quality of Working Life" is that part of overall quality of life that is influenced by work. More than just job satisfaction, it is the widest context in which an employee would evaluate their work environment.[3,4] A good QOWL is important for attracting and retaining workers in any organization. The original WRQLS contains the factors of "Job and Career Satisfaction" (JCS), "General Well-Being" (GWB), "Stress at Work" (SAW), "Home-Work Interface" (HWI), "Control at Work" (CAW), and "Working Conditions" (WCS).[3] The "Job and Career Satisfaction" factor measures general satisfaction with job and career development. "Working Conditions" reflect the physical working environment and conditions and having the right tools and equipment to do the job. "Control at Work" measures involvement of workers in decision making. "General Well-Being" means the psychological and physical well-being, wellness, and happiness of workers. The "Home-Work Interface" measures how much the organization understands and tries to help workers with pressures outside work and includes organizational flexibility. "Stress At Work" determines the level of work-related stress.[3,4] The scale has been translated into many languages, and used in many countries.[4] Validations of the scale were carried out in Turkey and Singapore.[5,6] The WRQLS was used after removing few of its items in Turkish.[5] In Singapore, the WRQLS was validated in English, but the scale did not include CAW. However, this study was limited among nurses of a teaching hospital, where CAW may not play a vital role.[6]

Since 2011, a newer Work-Related Quality of Life Scale–2 (WRQLS-2), with improved reliability has been used in the United Kingdom, including a seventh factor, "Employee Engagement" (EEN), which reflects the positive attitude held by the employee toward the organization and its values.[4] The scale consists of 34 items, of which 33 items measure the factors of QOWL, while the last question measures the perception of overall quality of working life. Answers are rated on a Likert-type scale of 1 to 5 regarding how much respondents agree on each item in the scale. In this study, we validated the new WRQLS-2 for use in the Malaysian population. The objective was to translate and normalize the WRQLS-2 into Malay and test for construct validity and reliability.

Methods

The scale was translated using the back-translation method, followed by pretesting and pilot testing.[7] Face validation was found to be satisfactory, where the translated scale was reviewed by three medical officers specialized in occupational health, an occupational psychologist, and a public health specialist. The Malay questionnaires were distributed to office workers and health care workers (HCWs) as there is a lack of study on this subject among the latter group.[3] A minimum sample size of 150 respondents was calculated using suggestions by Hair et al[8] for structural equation modeling. Questionnaires were distributed to 170 office workers and 170 HCWs, in case of data loss due to poor response or incomplete questionnaires. Respondents for the validation process were purposively selected to include different categories of staff among HCWs and office workers from both government and private sectors in the Federal Territory of Kuala Lumpur and the Selangor state. The HCWs included doctors, nurses, physiotherapists, and hospital attendants. Office workers included administrators, managers, lawyers, bank officers, secretaries and clerks.

The new scale was tested in 3 stages; confirmatory factor analysis at stages 1 and 3 and exploratory factor analysis at stage 2. A combination of several fit indices was used to assess the model, as there is no agreed single standard.[7] Fit indices used were root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), and χ^2 test.[8-10] It is generally accepted that χ^2/df (df = degrees of freedom) index ratio less than 3; CFI, GFI, and AGFI values greater than 0.90; RMSEA ≤ 0.07

indicate adequate model fit.[9] Data were analyzed using SPSS version 16.0 (SPSS Inc) and SPSS AMOS software.[11]

Results and Discussion

Data were collected from 305 workers (90% response rate), consisting of 150 HCWs and 155 office workers. A total of 11% of cases had at least one randomly missing value in their WRQLS-2 responses and were removed, leaving a total of 272 cases for analysis (142 HCWs and 130 office workers). The mean age of respondents was 32 years (SD = 9) and most (68%) were females. The majority (87%) were Malays while other respondents were of Indian, Chinese, and other ethnicities. Most workers were either married (51%) or single (41%), while a small percentage was widowed or separated. Many did not have chronic disease (83%) and nearly all (99%) had no disability. A total of 34% were university graduates, 39% had preuniversity education and 27% were educated until high school. The mean duration of working at the current job was 7 years (SD = 8). Most respondents were from the public sector (65%) while a minority were from the private sector (35%). A total of 35% were involved in shift work.

In the first phase, the confirmatory factor analysis showed poor fit of the data to the original 7-factor model.[8,9] Of the fit indices, only RMSEA showed a fit, RMSEA = 0.075 (≤0.08). Relevance of items within their construct was determined by exploring each measurement models for unidimensional fit using AMOS.[9] Low-loading items were removed from the model. An example of a low-loading item removed is "I have unachievable deadlines." This may be irrelevant among HCWs where patient care is continuous, with passing over of responsibilities to the next shift. More important was capturing stress felt at work, than defining "deadlines" as work stress. Work stress was captured by other items. Fitness indices showed good unidimensionality in constructs tested.

On checking each construct's correlation with another to determine discriminant validity, multicollinearity occurred between "Job and Career Satisfaction" (JCS), "Working Conditions" (WCS), and "Control at Work" (CAW) constructs. Also, CAW items were low loading, while WCS also showed multicollinearity with "General Well-Being" (GWB) and "Employee Engagement" (EEN) constructs. The Kaiser-Meyer-Olkin (KMO) value was 0.925 indicating sampling adequacy and Bartlett's test showed that the correlations between items were sufficiently large to conduct an exploratory factor analysis (*P* < .001).

The exploratory factor analysis resulted in a 5-factor model, including GWB, EEN, SAW, HWI, and one factor that had both JCS and CAW items. There was a clear grouping of items belonging to GWB, which was the strongest factor and EEN items. However, only 2 SAW items were extracted, that is "I often feel pressured at work" (item 7) and "I often feel excessive levels of stress at work" (item 18). The HWI construct was also extracted with 2 items. Cross-loading items were removed to improve fit indices (see Table 1).

One factor extracted, which was the second strongest, was a mix of 3 JCS and 3 CAW items. It was shown that there was multicollinearity between the JCS and CAW constructs. The CAW items also had low loadings during pooled analysis, so it was decided to omit the CAW from the model, being redundant and multicollinear with JCS. Only 1 item was extracted from the WCS construct, but it cross-loaded with GWB. As it was shown earlier that WCS was multicollinear with JCS, GWB and EEN, it was decided that WCS was a redundant construct.

A Work-Related Quality of Life Malaysian model was created with 5 factors: GWB, JCS, EEN, HWI, and SAW. A second confirmatory factor analysis showed good fit indices. The model showed good absolute fit (RMSEA = 0.05; GFI = 0.95), incremental fit (CFI = 0.97; AGFI = 0.92) and parsimonious fit (χ^2/df = 1.6).[9] For convergent validity and also reliability, the average variance extracted (AVE) for all factors was 0.5 or more.[8] For construct validity, all fitness

Table 1. Confirmatory Factor Analysis Summary for All Constructs.

Construct	Item	Factor Loading, L (Standardized)	Cronbach's α (>.7)	Composite Reliability (>.6)	Average Variance Extracted (≥0.5)
Job and Career Satisfaction (JCS)	Q1	Items deleted due to low factor loadings	.71	.71	0.5
	Q3				
	Q8				
	Q17	Item deleted due to cross-loading			
	Q11	0.68			
	Q19	0.66			
	Q23	0.68			
Stress At Work (SAW)	**Q7**	0.83	.80	.80	0.7
	Q18	0.81			
	Q22	Item deleted due to low factor loading			
	Q30	Items deleted due to cross-loading			
	Q31				
Employee Engagement (EEN)	**Q26**	0.71	.84	.84	0.6
	Q27	0.84			
	Q28	0.84			
	Q25	Items deleted due to cross-loading			
	Q29				
General Well-Being (GWB)	**Q10**	0.61	.81	.81	0.5
	Q14	0.72			
	Q16	0.66			
	Q20	0.88			
	Q9	Item deleted due to cross loading			
	Q4	Item deleted due to low factor loading			
Home-Work Interface (HWI)	**Q5**	0.60	.61	.62	0.5
	Q6	0.74			
	Q24	Item deleted due to cross loading			
Control At Work (CAW)	Q2	Constructs deleted due to extremely high correlation (multicollinearity) with JCS.	—	—	—
	Q12				
	Q32				
Working Conditions (WCS)	Q13				
	Q15				
	Q21				
	Q33				

Bold face items are included in Malay Scale.

indices for the models have met the required level. There was good discriminant validity of the constructs, where correlations between constructs were less than 0.85.[9]

Table 2. Items Included and Excluded in the Malay Translation of the Work-Related Quality of Life Scale–2 (WRQLS-2)[a].

Items included in the WRQL-2 scale:
   1. My employer provides adequate facilities and flexibility for me to fit work in around my family life.
   2. My current working hours/patterns suit my personal circumstances.
   3. I often feel under pressure at work.
   4. I am satisfied with my life.
   5. I am encouraged to develop new skills.
   6. In most ways my life is close to ideal.
   7. Generally things work out well for me.
   8. I often feel excessive levels of stress at work.
   9. I am satisfied with the training I receive in order to perform my present job.
   10. Recently, I have been feeling reasonably happy all things considered.
   11. My work is as interesting and varied as I would want it to be.
   12. The organization communicates well with its employees.
   13. I am proud to tell others that I am part of this organization.
   14. I would recommend this organization as a good one to work for.
I am satisfied with the overall quality of my working life.
Items *not* included in the WRQL-2 scale due to high multicollinearity or low loading:
   1. I have a clear set of goals and aims to enable me to do my job.
   2. I feel able to voice opinions and influence changes in my area of work.
   3. I have the opportunity to use my abilities at work.
   4. I feel well at the moment.
   5. When I have done a good job it is acknowledged by my line manager.
   6. Recently, I have been feeling unhappy and depressed
   7. I am involved in decisions that affect me in my own area of work.
   8. My employer provides me with what I need to do my job effectively.
   9. I work in a safe environment.
   10. The working conditions are satisfactory.
   11. I have unachievable deadlines.
   12. I am able to achieve a healthy balance between my work and home life.
   13. I feel motivated to do my best in my current job.
   14. I get a sense of achievement from doing my job.
   15. I am pressured to work long hours.
   16. I have unrealistic time pressures.
   17. I have sufficient opportunities to question managers about change at work.
   18. I am satisfied with the career opportunities available for me here.
I am happy with the physical environment where I usually work.

[a]Respondents rate each item on a Likert-type scale of "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree."

For internal reliability, Cronbach's α and composite reliability were all .7 or higher, except for HWI, which was .6. However, for composite reliability, all the values were at least .6 or higher, indicating good reliability.[10,12] Results from 1000 bootstrap resamples showed good cross-validity of the new model (Bollen-Stein bootstrap *P* = .14). Table 2 shows items in the Malay translated WRQLS-2.

Differences in cultures may influence the relevance of certain items in a translated scale.[12-15] It appears that QOWL may be perceived differently in populations due to varying work policy or ethos.[15-17] The standards of WCS and CAW may be different between the United Kingdom and Malaysia. WCS, CAW, and JCS can be differentiated well in the United Kingdom. For a developing country like Malaysia, it appears that these 3 factors are still highly interdependent. Because

of the extended hours that many Malaysians spend working, it is possible that their GWB is highly correlated to their JCS.

Even though the Malay WRQLS-2 is different from the UK scale, it is of public health interest to know the QOWL among workers to improve occupational health, even though factors for perceived QOWL may vary. It could be that this succinct Malay scale is most appropriate for capturing QOWL in the Malay-speaking population. This is something to consider when comparing QOWL between countries. Even though the results may not be directly comparable, it is still an important aspect of occupational health to assess.

A study limitation is that only 2 groups of workers were used for the validation process. Test-retest was also not carried out. Future studies could be done among more categories of workers with the test-retest procedure to determine the scale's usefulness among other worker groups which may vary in work norms. A validation of the original untranslated scale among English-speaking Malaysian workers may reveal if the same model applies, and whether the Malay model is different due to translational biases. As Malaysia is trying to improve its status to a developed country in the near future, a validation of the scale may be appropriate with an elevated status, to ensure its current applicability with more expectations from organizations.

Conclusion

Perception of good QOWL may differ between countries due to cultural influences and varying work environments. The validated Malaysian WRQLS-2 can be used to determine the QOWL of Malaysian office and health care workers.

Authors' Note

Ethical approval was granted by the Medical Ethics Committee of University Malaya Medical Centre, Kuala Lumpur (Project Grant Reference: 860.4). Respondents signed an informed consent before participation and questionnaires labelled by identification numbers to protect confidentiality. All procedures performed were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Information on research data can be obtained from the corresponding author.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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