Factorial Structure and Psychometric Properties of the Quality of Life Inventory in an Indonesian College Sample

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Abstract

Quality of Life Inventory is a measuring tool to reveal the quality of life that has adequate psychometric properties in the United States. The research aims to investigate the QOLI structure model with a sample of Indonesian society. The results showed that the Indonesian sample (n = 697) showed a lower quality of life than the US-based standardization sample. Exploratory and confirmatory factor analysis shows that the three-factor model incorporates the construct of the fit model for Indonesian society. QOLI three-factor model consisting of personal growth (play, helping, spiritual, learning and creativity), social functioning (friends, family, neighborhood, community and relative) and self-functioning (health, self-esteem, financial, home, work and love). Psychometric properties show adequate results in accordance with Frisch's findings. In conclusion, this study shows that QOLI can be used in the Indonesian context. Recommendations for future studies can test QOLI in clinical samples from a three-factor model.

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1. Introduction

Since the 1960s, quality of life assessment has grown studied in both normal population settings, disabilities or clinical psychology practice (Hofmann et al., 2014; Thomas et al., 2012). Quality of life is conceptualized as an individual perception of his physical and mental health condition covering a broad domain, including physical, psychological, economic, spiritual, and social well-being (WHOQOL Group, 1998; Wong et al., 2001). Quality of life related to evaluation satisfaction to overall life (Ventegodt et al., 2003).

Measurement of quality of life divided into two views, subjective and objective approach (Diener & Suh, 1997). Major approach called subjective perspective which measuring the quality of life in a specific domain, such as individual satisfaction with health or individual satisfaction with financial condition. The goal of measurements is a global feelings of life satisfaction (Diener et al., 2003). This approach provide respondent to evaluate the degree to which their most important needs, goal and wishes have been fulfilled (Frisch, 1994; Katschnig, 2006). The main concept of subjective assessment is being able to know the conditions of individual life satisfaction in a specific domain. By knowing the specific life domain, individuals can be helped to develop quality of life through counseling interventions (Edwards et al., 2003).

Quality of life inventory was developed in clinical populations and normal population based on subjective well-being and life satisfaction theory (Frisch et al., 1992). This assessment has a comprehensive measurement because respondents not only assess satisfaction with certain domains of life, but also assess how important these domains are for their well-being. The theoretical reason that reinforces this is because the individual's assessment of the importance and achievement of individual satisfaction with the life domain contributes greatly to the achievement of quality of life (Frisch, 2013). This gives the position that the quality of life inventory is one form of reliable quality of life tools to measure subjective well-being (Frisch et al., 2005).

Previous studies found quality of life inventory has been used in clinical populations such as measuring the results of treatment of depression (Andersson et al., 2005; Frisch, 1998), anxiety management (Bourland et al., 2000; Carlbring et al., 2009), measurement of anxiety and depression (Huprich & Frisch, 2010; McAlinden & Oei, 2006), quality of life in social phobia (Safren et al., 1996). and measurement of the condition of psychiatric disorders (Linder et al., 2013). QOLI has also proven to be a valid instrument and is used to measure life satisfaction, subjective well-being and positive mental health in normal populations such as measurements in adults (Thomas et al., 2012), quality of life for students (Sugara et al., 2020). In academic activities, quality of life can predict success in studies (Sirgy et al., 2007).

The strength of QOLI has been widely regarded as having good reliability and validity with high internal consistency and can be predictors for measuring life satisfaction, positive mental health and well-being. The use of QOLI in a student setting shows a significantly negative correlation with various psychopathological actions. Measurement using the Crown-Marlowe Social Desirablity Scale shows that QOLI has a low social desire ability, and it can be said to have a good level of construct validity (Thomas et al., 2012). The findings of Frisch et al. (1992) by comparing clinical and non-clinical samples showed sufficient ability to distinguish between the two groups, thus showing well constructs and validity related to the criteria. QOLI can be used

as normative information as a basis for diagnosis in providing interventions and presenting various types of scores for adults and non-clinical students (McAlinden & Oei, 2006).

There are several studies examining QOLI factors in various populations both clinical and non-clinical. Frisch & Sandford (2003) which assumes one factor in QOLI with the student population following a counseling session explaining the total life domain as a profile of life satisfaction level. Other studies reveal two factors in measuring the quality of life in populations experiencing anxiety and depression: self-orientation consisting of the health domain, self-esteem, work, goals and values, learning, create, play, helping and other factors consisting of domains: friends, neighborhood, community, home, children, love, money, relatives (McAlinden & Oei, 2006). Other findings from Thomas et al. (2009, 2012) found three factors that shape the quality of life in both clinical and non-clinical populations. The first finding, Thomas et al. (2009) conducted a study of quality of life in individuals experiencing trauma to brain damage showing a fit model of the construct of quality of life with three factors consisting of Self-functioning and activity factors (health, self-esteem, work, goals and values), the second factor Self- actualization (play, learning creativity, helping) and the third factor Family and environment (money, love, relatives, home, neighborhood, community).

The results of research on QOLI show this instrument is strong in the general population of the United States but there is no research to date that examines whether this instrument has characteristics that are as strong as the Indonesian population. This will be the basis for the development of quality of life with Indonesian culture, especially in student settings. In addition, there are cultural differences between Indonesia and the United States that might influence the development of the construct validity of the instrument. Language and cultural differences can affect the way people interpret and judge from QOLI. Differences in population size and living standards can also affect the way people interpret their circumstances and the expectations they want to achieve in life. Therefore, it is necessary to examine the characteristics of QOLI in the Indonesian sample. Then what is needed to find the structure of size factors in the Indonesian population.

2. Methods

2.1 Study Setting and Participants

The study participants were conducted voluntarily in Universitas Muhammadiyah Tasikmalaya during the 2018/2019 academic session. A total of 697 first-year students participated consisting of 175 men and 522 women with their ages ranging from 18 to 22 years. Most of the students have Sundanese ethnic background.

2.2. Procedure

This research uses a cross-sectional design with a sample of adults who are studied at the University and are free from physical and mental-health problems participants multiplied voluntarily and were asked to return the retest data to QOLI about three weeks after completing the first survey.

2.3 Measures

Quality of Life Inventory (Frisch, 1994)

QOLI is psychometrically strong, 32-item self-report questionnaire designed to assess and evaluate satisfaction of life. The original QOLI was translated into Indonesian by two psychologists with the aid of a professor of English literature. This first draft version of the QOLI Indonesia version was then back-translated by a person bilingual in English and Indonesian, and this process was repeated until the backtranslation matched the original. QOLI has shown to have good internal consistency, $a = 0.79$; and reliability of retesting, $r = 0.73$ for 2 weeks with standard deviation (SD) = 3.9. QOLI measure 16 domains of life: health, self-esteem, spiritual, money or standard of living, work, play, helping, friendship, sibling relationships, spiritual, learning, creativity, family, neighborhood and community. Respondents rated how important each of the 16 domains was for their overall happiness and satisfaction (0 = not at all important, 1 = important, 2 = very important) followed by ranking how satisfied they were in the area (= 3 = very not satisfied, -2 = dissatisfied, -1 = slightly satisfied, +1 = quite satisfied, +2 = satisfied, +3 = very satisfied). The score on the important and satisfied part for each item is multiplied to form a rating that is from -6 to 6. Life satisfaction is the total score of the important and satisfaction of each domain in the quality of life assessed by respondents.

Satisfaction With Life Scale (Diener et al., 1985)

SWLS is an assessment to measure life satisfaction using global life satisfaction ratings. Respondents rated Likert on a scale from 1 = strongly disagree to 7 = strongly agree; for example, 'In almost all aspects of my life, now I feel that my life has achieved what I think is ideal'. SWLS is assessed by summing the scores of five items. A higher score indicates greater life satisfaction. Research has shown that SWLS has good internal consistency, $a = 0.87$; and reliability of retesting, $r = 0.89$ for 2 weeks and $r = 0.82$ for a period of 2 months (Pavot & Diener, 1993). This questionnaire was used to examine the convergent validity of the QOLI Indonesian Version.

Student Burnout Scale (Sugara, 2018)

SBS is a burnout instrument contains 35 statements covering aspects of emotional exhaustion, depersonalization, and decreased academic confidence. Participants were asked to respond to

statement items according to what they felt using a Likert scale where 1 (never), 2 (sometimes), 3 (often), and 4 (always). SBS has demonstrated good instrument reliability using the Spearman-Brown split-half technique and obtained a level of internal reliability between 0.89 - 0.93, which shows that the degree of instrument reliability is very high (Yavuz & Dogan, 2014). This questionnaire was used to examine the divergent validity of the QOLI Indonesian Version.

2.4 Statistical Analysis

Data processing and statistical analyses though several stage. First, examined the dimensionality of the QOLI, using exploratory factor analysis with a varimax rotation, implemented in SPSS 25.0 with maximum likelihood estimation (George & Mallery, 2018). Secondly, Confirmatory factor analyses were conducted, and fit indices were inspected to determine the best fitting model using AMOS (Byrne, 2016). The purpose of the confirmatory factorial analysis is to find a fit model as factorial structure QOLI in the college student which is the core objective of this study. Thirdly, the internal consistency the confirmed fit model were examined using Cronbach alpha.

Next, several predictions were tested with respect to the validity of the QOLI. With respect to the concurrent validity, it was expected that QOLI would be significantly (positively) correlated with Satisfaction with Life Scale (Lindner et al., 2016; Thomas et al., 2012). Then, with respect to the discriminant validity, it was expected that QOLI would be significantly (negatively) correlated with Student Burnout Scale (Ribeiro et al., 2018; Sugara et al., 2020). Finally, we used correlational analyses and analysis of variance to explore the relationship between QOLI and demographic variable.

3. Results

3.1 Demographic Characteristics

The QOLI demographic comparison between the people of Indonesia and the United States is described in the following form:

Table 1. Comparison of the Indonesian Distribution and US-based normative sample

	Indonesian Sample N = 697		US based Sample (Frisch, 1994) N = 798	
	Raw	T Score	Raw	T Score
Mean	2.35	48.00	2.60	50.00
Standard Deviation	1.49	-	1.30	-
Median	2.44	49.00	2.70	51.00
Maximum	5.75	73.00	5.88	99.00
Minimum	-1.75	19.00	-3.88	0.00

Based on the table above found differences between the quality of life characteristics of the people of Indonesia and the United States. The central symptom measure found that the average

QOLI score in Indonesian society was lower than in the United States. The standard deviation of QOLI is smaller in the United States. Other findings regarding the maximum QOLI scores are greater for the United States. Unlike the minimum QOLI score, Indonesia is bigger than the United States. The gender difference test using One-Way ANOVA showed no difference in the total QOLI score between men and women (F = 2.792, P = 0.659). This score is in accordance with the findings of Frisch (1994) in the United States and Thomas et al. (2012) in the Australian community.

3.2 Exploratory Factorial Analysis

An exploratory analysis of factors was carried out to find a statistically fit model structure in accordance with the characteristics of Indonesian society. The factor exploratory analysis test uses SPSS 25.0 through component analysis of items that reveal 16 sub-scale domains in QOLI. As explained earlier, the score for each sub scale is obtained from the calculation of the level of importance and satisfaction with specific domains. The Bartlett test was carried out to find the statistical significance of X^2 which showed that there was a relationship between several QOLI sub scales (X^2_{120} = 619.97, P < .0001). This analysis also yields a Kaiser Meyer Olkin value of 0.74, indicating the adequacy of sampling. Field (2000) suggested that the extracted factors must be different and reliable if the correlation pattern is sufficiently compact as indicated by the Kaiser Meyer Olkin value of more than 0.60. In conducting exploratory factor analysis, a number of criteria are used to find factors that represent sub scales: (a) minimum eigenvalue 1, (b) minimum loading factor value of 0.30, (c) minimizing factor complexity, and (d) interpretation of the means of factors. The results showed the most comprehensive model that met the criteria was a 3 factor model was rotated to a simple structure using the Direct Oblimin method with Kaiser's normalization.

The QOLI 3-factor model explained 48.84% of the variance in items, with factor 1 describing quality of life in relation to personal growth contributing 32.71% (eigenvalue = 5.23). Factor 2 illustrates the quality of life related to social functioning contributing 8.5% (eigenvalue = 1.36). Factor 3 explains the quality of life in relation to self-functioning contributes 7.19% (eigenvalue = 1.15). Factor 1 consists of five domains (see table 2) : play, helping, spiritual, learning and creativity. There is one item "friends" has a significance that includes factor 1 and factor 2. After reviewing conceptually, the domain of "friends" is included in the factor 2. There are five domains, which include the second factor consisting of friends, family, neighborhood, community and relative. Factor 3 consists of five domains but there is one item related to "work" which also includes factor 1. However, conceptually the "work" domain is included in the factor 3 so that becomes 6 domains consisting of health, self-esteem, financial, home, work and love.

Table 2. Factor loading and communalities for the 16 subscales of the QOLI

Subscale	Factor 1 (Personal Growth)	Factor 2 (Social Functioning)	Factor 3 (Self Functioning)	Communalities
Play	0.372			0.380
Helping	0.654			0.507
Friends	0.501	0.402		0.394
Spiritual	0.725			0.357
Learning	0.808			0.162
Creativity	0.761			0.506
Family		0.698		0.182
Neighborhood		0.804		0.425
Community		0.746		0.529
Relative		0.650		0.568
Health			0.580	0.714
Self Esteem			0.578	0.643
Financial			0.708	0.550
Work	0.431		0.435	0.712
Home			0.525	0.603
Love			0.371	0.182
Total				
Eigenvalue	5.23	1.36	1.15	
Variance (%)	32.71	8.5	7.19	48.4
Cronbach α	0.789	0.780	0.639	0.857

N = 697. Factor loading of less than 0.30 were suppressed for simplicity of interpretation

3.3 Confirmatory Factorial Analysis

The second research objective in this study is to test the fit model of the factors found based on the results of exploratory factorial analysis (EFA). Based on the previous findings, the Indonesian community's QOLI model is composed of 3 factors, personal growth (play, helping, spiritual, learning and creativity), social functioning (friends, family, neighborhood, community and relative) and self-functioning (health, self-esteem, financial, home, work and love). Confirmatory factorial analysis using AMOS 22.0 was carried out to test the significance of the model fit statistically. Maximum likelihood estimation is used to estimate the model parameters. To that end, in testing the factor confirmation analysis using the chi-square and p-value significance test. The data shows that the null hypothesis is rejected were X^2_{100} = 343,626, P <.0001. This means that the data do not show significant differences. However, because large samples tend to make the chi-square test too sensitive to deviations from null model (Byrne, 2016). Therefore, a range of goodness-of-fit indices was also examined to determine how accurately the present data fit the model.

The tests conducted to measure the fit model of QOLI include the minimum difference divided by degrees of freedom (CMIN / DF; Ullman, 2001), Normed and Comparative Fit Indices (NFI & CFI; Steiger, 1990), RMSEA (Browne & Cudeck, 1993) and Akaike Information Criterion (Akaike, 1987).

**Table 3.** Goodness-of-fit indices for the 3-factor model

x^2	df	x^2/df	NFI	CFI	RMSEA	AIC	
						3-Factor Model	Independence Model
296.387	100	2.96	0.909	0.937	0.053	368.387	3283.233

Table 3 shows the results of the fit test of the QOLI construct the model in Indonesian society with a 3 factor model. First, the value of X^2 / df (CMIN / DF) yields less than 3 which mean it is considered moderate (Silverman et al., 2003). CFI is in the high category (0.937) and NFI is in the high category (0.909) where the model is fit if> 0.90 /> 0.95. RMSEA score (0.053) is less than 0.08, shows a good match (Steiger, 1990), and the large difference in the Akaike Information Criterion is evident between the independence model and the proposed model, such that the last value is much smaller than previous values, and these differences provide additional support that the 3 factor model is fit (Akaike, 1987).

3.4 Reliability

The reliability of internal consistency using Cronbach α was calculated for each factor and total life satisfaction. The reliability coefficient for the first factor was 0.789. The second factor was 0.780, and the third factor was 0.639. The reliability of total score satisfaction is 0.857. Using the criterion of .30 as an acceptable corrected item-total correlation (Nunnally & Bernstein, 1994). This shows the QOLI instrument has a high level of relativity and good. This reliability coefficient is comparable to that reported in previous studies (Frisch et al., 1992).

Figure 1. The Three Factor model of QOLI Indonesia College Student
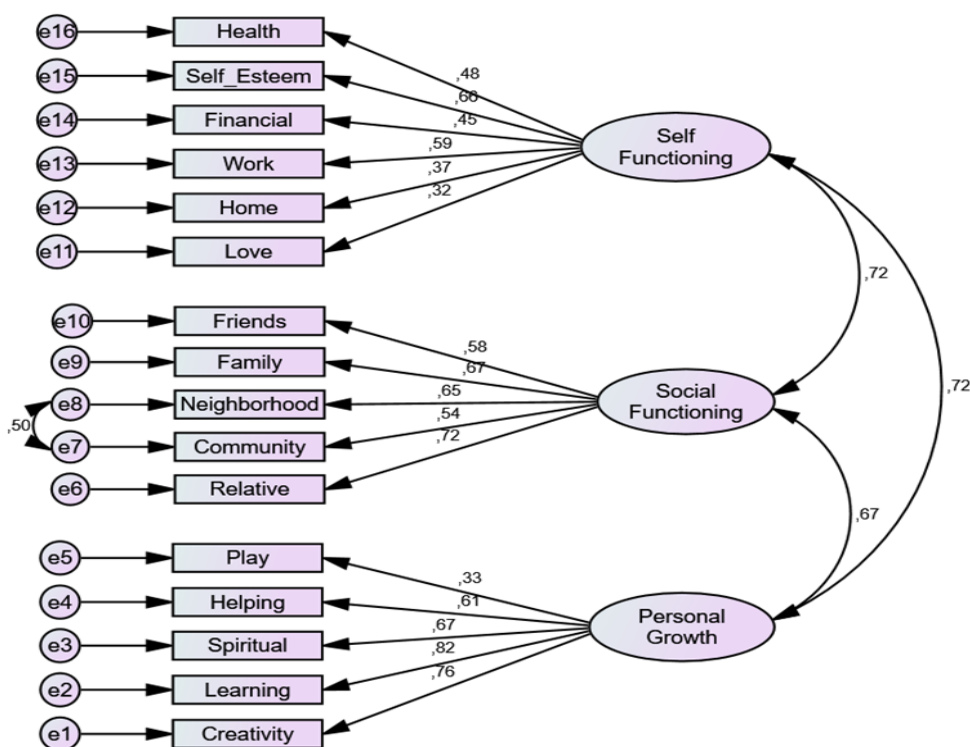
3.5 Concurrent and discriminant validity

To test the construct of the QOLI model in accordance with Indonesian society, measurements were made using Pearson's correlation. Satisfaction with Life Scale (SWLS) was used to examine the convergent validity and Student Burnout Scale (SBS) was used to examine the divergent validity of the QOLI Indonesian Version. In the existing QOL literature, QOLI will show concurrent validity if it has a significant positive correlation with measuring instruments to reveal another quality of life such as SWLS. Statistically expected that higher the quality of life, higher the satisfaction of life. Furthermore, for discriminant tests using the Student Burnout Scale measuring instrument, it is expected to have a significant negative correlation with QOLI because it reveals burnout symptoms that are different from quality of life. It means the higher the quality of life, the lower the burnout rate.

Concurrent validity shows that the Total QOLI score has a high positive correlation with the total SWLS score ($r = 0.87$, $P = 0.001$). Likewise, with the 3 factors tested by SWLS showing a positive correlation (see table 3). Discriminant test results showed a negative correlation between the total QOLI score with the total SBS ($r = -0.57$, $P = 0.001$). The same results were shown by 3 QOLI factors, which showed a negative correlation to the total SBS score. Other findings on QOLI factor 2 with SBS Emotional Exhaustion showed no strong correlation.

Table 4. Correlation between QOLI, Satisfaction with Life Scale (SWLS) and Student Burnout Scale (SBS)

	QOLI Factor 1	QOLI Factor 2	QOLI Factor 3	Total QOLI
Cronbach Alfa	0,789	0,780	0,639	0,857
SWLS	0.74**	0.46**	0.72**	0.87**
SBS (Total)	-0,35**	-0,28**	-0,32**	-0,57**
SBS-Emotional Exhaustion	-0,23**	-0,17**	-0,22**	-0,36**
SBS-Depersonalization	-0,38**	-0,27**	-0,24**	-0,44**
SBS-Decrease Academic Self Efficacy	-0,32**	-0,30**	-0,29**	-0,36**

SWLS Indicate Satisfaction With Life Scale; MBI Indicate Maslach Burnout Inventory

** *P* > .005

4. Discussion

The main objective of this study was to assess the psychometric nature, reliability, and validity of QOLI in a sample of Indonesian society. For this reason, several interesting findings based on the results of calculations and analysis of the data collected. The first finding regarding the comparison of the QOLI distribution with a sample of Indonesian and American society (Frisch, 1994) shows that the average Indonesian QOLI score (Mean = 2.35) is 0.25 lower than

the United States QOLI score (Mean = 2.60). Even though research conducted by Frisch in the early 1990s, however, the standard of living of the people of the United States was higher than that of Indonesia. This can be seen from the difference in socioeconomic status and education that supports American society having a high quality of life. In Indonesian society, a good quality of life perceived by achieving material welfare such as owning home, higher education, high-paying jobs and others (Arifwidodo & Perera, 2011). Happiness and life satisfaction are also strongly associated with factors social life, cultural and religious influences were prominent in the perception of life satisfaction in indonesian (Ferdiana et al., 2018). Individuals living in households with better economic welfare are happier and more satisfy (Sujarwoto et al., 2018). For example, at the level of education, the average Indonesian people at least experience education through high school. Including socioeconomic status which explains the large income and social status in society is a requirement for the people of Indonesia to achieve a good quality of life. The reality in Indonesia is the level of educational attainment is minimal and income is still not in line with the expectations of the Indonesian people.

The second finding is factors determine quality of life. It has been hypothesized that quality of life is a combination of an assessment of interests and satisfaction with the domain of life, which will illustrate life satisfaction or subjective well-being. Exploratory Factorial Analysis (EFA) test results found that there are 3 factors that describe QOLI with a sample of Indonesian society. This is consistent with research from QOLI with Australian community samples (Thomas et al., 2012). The first factor related to personal growth is the dimension of quality of life that reveals life satisfaction in the domain of play, helping, spiritual, learning and creativity. This is related to an individual's assessment of the domain of life that makes an increase in the capacity of actualized oneself to improve the quality of life. The second factor related to social functioning is the dimension of quality of life that reveals life satisfaction in the domains of friends, family, neighborhood, community and relative. This is related to the ability of individuals to carry out their social functions or one's capacity to carry out the tasks of their lives in accordance with their social status. The third factor related to self-functioning is the dimension of quality of life that reveals life satisfaction in the domain of health, self-esteem, financial, home, work and love. This relates to the ability of individuals to realize or function as their own potential.

This 3-factor model provides an explanation of 48.84% of variance from 16 sub scales, which seems the factors well enough, although not ideal. Some items have a low-value communality value based on Exploratory Factorial Analysis but deleting those items will cause a less comprehensive interpretation. For this reason, these items are still used to represent sub scales of QOLI. Furthermore, the value of the Confirmatory Factorial Analysis shows that the 3 factor fit model can be used and represents the QOLI of Indonesian people on the fit model (CFI =

0.909; NFI = 0.937; RMSEA = 0.053). The findings of the 3-factor QOLI model in Indonesian society explain QOLI factors with non-clinical samples forming 3 factors that construct a quality of life. Thomas et al. (2012) found similar findings in non-clinical samples in Australia. In contrast to McAlinden & Oei (2006) who found a 2-factor model, QoL Self-oriented and QoL Other with a sample of depressed and anxiety clients. The 3-factor model was also discovered by Thomas et al. (2009) who first conducted a study of quality of life in patients with traumatic brain injury. This finding is a reinforcement of the 3-factor model conducted by Thomas et al. (2012) by conducting research on the general Australian community. Even though they have 3 factors in common, the findings in this study differ from the findings of QOLI in the Australian community that explain QOLI in 3 factors, Self-functioning and activity (health, self-esteem, work, goals and values), Self-actualization: play, learning creativity, helping) and Family and environment (money, love, relatives, home, neighborhood, community). In essence, this difference occurs because of differences in culture, living standards and the meaning of the people of Indonesia and Australia in viewing the quality of life. Conceptually, it is important to note that quality of life is a product of various factors in an individual's life, more precisely from latent characteristics that cause variations in the scale of variables. The use of unidimensional models has the same consistency of view regarding this matter. Thus future research can explore whether the factors that cause a change to changes in certain aspects of quality of life with clinical and non clinical research populations.

QOLI was proven to have high internal consistency reliability when all quality of life scores were included in the analysis. In accordance with the research of Frisch et al (1992) who reported similar internal consistency coefficients for clinical and non clinical samples. High internal consistency coefficient is also found in 3 factors QOLI. However, the reliability of these 3 factors is smaller than the value of the overall quality of life reliability coefficient. For this reason, further research is needed in clinical samples in Indonesian society to test the sensitivity of QOLI due to the effects of interventions, for example, after counseling can be used as a measure of clinical outcome.

The results of this study further on the reliability of QOLI were tested concurrent validity and differences from QOLI. The research findings show that QOLI has a significant positive correlation with SWLS. Thus QOLI becomes a valid instrument in measuring subjective well-being. This is in accordance with the findings of Frisch et al. (1992) also reporting a positive relationship between QOLI and SWLS. Likewise, Thomas et al. (2012) found the same thing in the Australian community. Discrimination test using the Student Burnout Scale found a significant negative correlation with Burnout symptoms consisting of emotional exhaustion, depersonalization and decreased academic beliefs. This implies that the lower the quality of life,

the higher the level of burnout and vice versa. This finding is very consistent with McAlinden and Oei's (2006) research that identifies low quality of life as the main symptom of anxiety and depression disorders. For this reason, it further supports the importance of examining quality of life in a clinical context.

The findings of the current study support Frisch's theory that quality of life as subjective well-being equals the total amount of satisfaction with important life domains. Therefore, QOLI scores seem to be the most appropriate score to calculate and analyze when using QOLI because its reliability and validity have been widely demonstrated. This is not to suggest that the individual sub scale has no utility other than calculating total satisfaction. Scores on the sub scale tend to prove useful in clinical assessment and intervention planning because they can help identify the domain that the client sees as a problem (Frisch, 1992). Thus, life domains that are important but not satisfied can be a potential trigger for symptoms of problems that can be helped through counseling (Frisch et al., 1992). Development of counseling interventions that are appropriate to improve the quality of life, the relationship between the results of counseling interventions and quality of life need to be the focus of further research.

5. Conclusion

As explained earlier, this study uses data from a sample of Indonesian students who are in their early adult age and currently studying at the University. Thus, the sample cannot fully represent the Indonesian adult population because middle and late adulthood does not have data representing it. This is a limitation of the research that needs to be improved in further research. As such, the results must be interpreted with caution.

In conclusion, the results of this study indicate that the original norms found by Frisch (1994) tend to be suitable for use in the context of Indonesian society today. Comparison of factor structures shows a three-factor model as a model of fit of QOLI. The psychometric properties of the three QOLI factors and unidimensional scale are generally good, and are consistent with results from original standardization studies in the United States (Frisch, 1994) and Australia (Thomas et al., 2012). To determine the usefulness of this multifactorial model, future research can test the sensitivity and validity of predictive scales in various clinical contexts.

Acknowledgement

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