

Original Article



Psychometric Properties of the Persian Version of the Satisfaction With Life Scale (SWLS) in Iranian Older Adults

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Abstract

Objectives: To investigate the psychometric properties of the Persian version of the Satisfaction With Life Scale (SWLS-P) among older adults in Tabriz.

Design: A cross-sectional study.

Setting(s): Tabriz, the capital of East Azerbaijan province, Iran.

Participants: A representative sample of 1362 (768 females and 594 males) community-dwelling people aged ≥60 participated in the current study.

Outcome measures: The psychometric properties of the SWLS-P were evaluated. The standard translate/back-translate procedure was applied. Then, using an expert panel, the face and content validities were assessed. Exploratory and confirmatory factor analysis (EFA and CFA) and structural equation modeling (SEM) were used to investigate the factorial structure, and data were analyzed using SPSS software version 23 and AMOS version 18.

Results: Cronbach's alpha calculated for the SWLS-P was 0.883, showing desirable internal consistency and reliability for the SWLS. Furthermore, CFA confirmed the single-factor structure of the Persian version of the scale and indicated an appropriate fit, with a root mean square error of approximation (RMSEA) of 0.049, a comparative fit index (CFI) of 0.997, a Tucker-Lewis Index (TLI) of 0.991, and a Chi-square to degrees of freedom (DF) ratio of 4.289.

Conclusions: The results supported the validity and reliability of the SWLS-P for use with Iranian older adults.

Keywords: Quality of life, Life satisfaction, Older adult, Psychometric properties

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Introduction

Life satisfaction is one of the effective factors determining the quality of life for older adults.¹ Some older people live with a sense of achievement and satisfaction in their last years, while others have an unpleasant feeling due to a decrease in their abilities and social importance.² According to the definition by Inglehart in 1990, the feeling of satisfaction arises from the balance between personal desires and an individual's objective situation.³ Life satisfaction is a clear sign of a person's successful adaptation to changes in various life situations,⁴ referring to person's subjective assessment of how well his/her needs, goals, and aspirations have been fulfilled.⁵ Diener et al stress that a person is satisfied if they think positively,

avoid dwelling on thoughts related to adverse events in life, and live in an economically developed society with sufficient resources to follow and achieve valuable goals in life.⁴

Life satisfaction is directly related to social vitality⁶ and is one of the influencing variables and important indicators of the mental health of older adults.⁷ People who are more satisfied with their lives experience greater physical and mental health than people who are less satisfied with their lives.⁸ Moreover, people with life satisfaction use more appropriate and effective coping styles, experience deeper positive emotions, and have higher overall health. In contrast, dissatisfaction with life is associated with inappropriate health behaviors, personality problems,



depression symptoms, and poor social and health status.^{9,10} Life satisfaction can be extended to other spheres of personal and social life. Therefore, citizens' dissatisfaction with life can have negative consequences for society.¹⁰

Older people can probably achieve and observe minimal disability and disease as they age, but this requires a correct understanding of aging. Positive self-perception leads to mental health and life satisfaction. Several tools and questionnaires have been used in various groups in Iran to measure life satisfaction in recent years.¹¹

Life satisfaction among older people is extremely worthwhile. In a similar Iranian study, the Life Satisfaction Index-Z (LSI-Z) was used to measure life satisfaction in this age group. It contains 13 questions answered with "I do not know", "agree", or "disagree". A 2-1-0 system is used to score the answers: for positive questions, "I do not know" scores 0, "agree" scores 2, and "disagree" scores 1, while in negative questions, "agree" scores 1, and "disagree" scores 2. Life satisfaction The total score ranges from 0 to 26, with higher scores indicating a higher life satisfaction level. By interpreting the LSI-Z score, a score ≤ 12 indicates a low level, 13-21 indicates a moderate, and $22 \leq$ reflects a high level of satisfaction. The validity and reliability of this questionnaire have been confirmed in Iran. The study by Tagharrobi et al reported the instrument reliability coefficient with an ICC coefficient of 0.93 through re-testing, and Cronbach's alpha coefficient of the questionnaire was 0.79.^{12,13}

The present study used the SWLS, which is one of the most widely utilized scales. This scale, designed by Diener et al in 1958,⁵ has been used in numerous cross-cultural studies and has high reliability and validity.⁸ The scale contains 5 items, which are designed on a 7-option Likert scale, ranging from completely dissatisfied to completely satisfied.^{14,15}

The life satisfaction of older adults is a key indicator of subjective well-being and quality of life. Thus, it is important to measure the life satisfaction of older people using an appropriate and acceptable tool. However, the factor structure and psychometric properties of the Satisfaction With Life Scale (SWLS) have not been evaluated in Iranian older adults. Therefore, this study aimed to evaluate the psychometric properties of the Persian version of the SWLS in Iranian older adults.

Methods

The present study is a part of the survey entitled "Tabriz Older People Survey (TOPS-2019)". This survey was financially supported by the Ministry of Health and Medical Education and was approved by the Ethics Committee of Tabriz University of Medical Sciences (ethics code: TBZMED.REC.1395.684).

Study Setting

The study was carried out in Tabriz, a metropolitan area located in the northwest region of Iran in 2019. The latest national census information indicates that Tabriz has a

population of approximately 180 000 people aged 60 years or older, representing 10.5% of the total population.

Study Population

The study population included all community-dwelling older adults aged 60 years or older living in Tabriz. Using a multi-stage cluster sampling method from ten districts of Tabriz city, a sample of 1362 people was randomly selected and included in the study. The sampling method details are explained in the relevant study report.¹⁶

Measures

The main scale used in this research was SWLS designed by Diener et al in 1958.⁵ This scale has been used across various studies and populations, enjoying high reliability and validity.^{8,17,18} SWLS consists of 5 items and is rated on a 7-point Likert scale from completely dissatisfied to completely satisfied. This scale has been used in different age groups, and scores for each item range from 1 to 7, with the total score varying from 5 to 35. Higher scores indicate greater life satisfaction. In addition, total scores are classified as completely satisfied (31-35), satisfied (30-26), slightly satisfied (25-21), neutral (20), slightly dissatisfied (19-15), dissatisfied (14-10), and completely dissatisfied (5-9) (Table 1). The validity and reliability of this scale have been evaluated to be favorable among Iranian infertile women and women with breast cancer.^{15,17}

Procedure

Translation and Localization

After obtaining official permission from the scale designers, the scale was translated from English to Persian and then back-translated from Persian to English to ensure linguistic validity and accuracy. Following the standard protocol of the World Health Organization (WHO),¹⁹ the research team initially translated the scales into the Persian language, and an expert panel of gerontologists and psychologists reviewed the Persian version. Then, the Persian version was back-translated into English by an independent translator. Finally, a native expert evaluated and compared the linguistic validity of both versions.

Face and Content Validity

To determine face validity, face-to-face interviews were conducted with 20 older people to identify cases related to the level of difficulty (difficulty in understanding phrases) and ambiguity (possibility of misinterpretations of phrases or inadequacies in the meanings of words). Suggestions for correction were also applied, and the final version was evaluated using quantitative face validity by measuring item impact scores. Then, to check content validity, the Persian version was evaluated for relevancy, clarity, simplicity, necessity, and importance by 16 experts in the fields of gerontology and psychology. Based on their comments, the content validity index (CVI) and content validity ratio (CVR) were calculated. The CVR indicates the importance and necessity of the items, while

the CVI indicates the simplicity, clarity, and relevance of the items. The expert panel's comments were applied to the Persian version of the scale, with ratings ranging from four to five based on the domain of item checking.

CVR was then evaluated using the following formula:

$$CVR = (N_e - [N/2]) / (N/2)$$

where N_e is the number of experts who consider a given item "essential", and N is the total number of experts in the panel.²⁰ Lawshe's table criteria specify that a minimum CVR of 0.49 is acceptable if there are 16 experts in the panel.²¹ Moreover, the relevance of the scale's items was evaluated on a four-point scale: 1=irrelevant, 2=need some changes, 3=related but requires minor changes, and 4=totally relevant. After solving the inconsistencies between the translated version and the original version, a face-to-face interview for the final Persian version of the scales was conducted with 20 older people who evaluated the questions of the scale as clear and understandable.

Reliability Assessment

Reliability refers to an instrument's stability and repeatability. The internal consistency of the items of each scale was evaluated by calculating Cronbach's alpha, which is considered acceptable for values greater than 0.7.

Data Analysis

The construct validity of the studied scale was checked by confirmatory factor analysis (CFA). Data were then analyzed by SPSS version 23 and AMOS version 18 software.

Results

The mean age of the studied population was 70.1 ± 7.88 years, with a mean age of 70.7 ± 7.99 for males and 69.6 ± 7.77 for females. The largest number of participants were 60-69 years, representing 54.4% of participants. The illiteracy rate among women was significantly higher than that among men ($P < 0.001$), with 48.4% of participants being completely illiterate. Furthermore, out of 657 illiterate people, 483 (73.5%) were women, and 174 (26.5%) were men. In terms of living conditions, 164 people (12.0% of the studied sample) lived alone, and the number of older women living alone was significantly higher than that of men ($P < 0.001$). Of the 164 older

adults who lived alone, 145 (89.5%) were women, and only 19 (10.5%) were men. The results are described in more detail elsewhere.¹⁶

Content Validity

Based on the respondents' answers to the questions about the relevance of the questions in the Persian version of SWLS, the content validity index (CVI) and the content validity ratio (CVR) were found to be appropriate (0.98 and 0.97, respectively).

Reliability and Internal Consistency

Cronbach's alpha for the Persian version of the satisfaction with life scale was 0.883, suggesting good internal consistency of the Persian version. In addition, the calculated value of the Kaiser-Meyer-Olkin (KMO) test was 0.845, indicating the adequacy of sampling for performing exploratory and CFA.

Factor Analysis

The 5 items of the SWLS in the main study were loaded onto a single-factor structure. In this study, CFA confirmed the factor structure of the original version. To select the underlying factors, factors with eigenvalues greater than one were used as the criteria for action; hence, only one factor was selected from the 5 items. This factor, with a value of 3.416, explained over 68% of the total variance of the Persian version of the SWLS (Figure 1).

Construct Validity

CFA was used to check the construct validity of the life satisfaction scale. The fit indices of the model were found to be appropriate and acceptable for the Persian version of SWLS, with a root mean square error of approximation (RMSEA) of 0.049, a comparative fit index (CFI) of 0.997, a Tucker-Lewis Index (TLI) of 0.991, and a chi-square to degrees of freedom (DF) ratio of 4.289.

Discussion

This study aimed to translate and psychometrically measure the SWLS, which has been used across different societies and cultures. This short tool provides researchers with a general view of a person's life satisfaction by taking into account unique individual criteria related to life satisfaction.⁵ The current study presents the reliability and validity results of the SWLS in a sample of 1362

Table 1. Factor loading of items of the Persian Version of SWLS

Items	Factor Loading
1 In most ways my life is close to my ideal.	0.873
2 The conditions of my life are excellent.	0.870
3 I am satisfied with my life.	0.837
4 So far I have gotten the important things I want in life.	0.832
5 If I could live my life over, I would change almost nothing.	0.710

Note. SWLS: Satisfaction with life scale; Only one factor is extracted

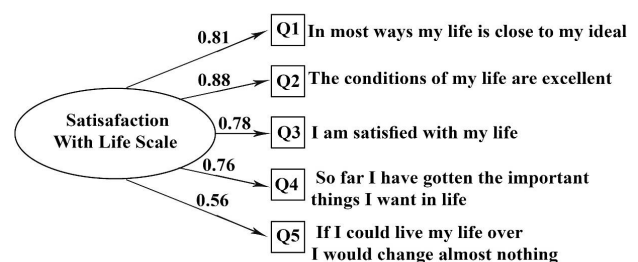


Figure 1. Standardized factor loadings

Iranian older people.

In the main study and other previous studies, all life satisfaction items were loaded onto one factor.²²⁻²⁶ Likewise, in the adaptive version of this tool for children, all items were loaded onto one factor.²⁷ Therefore, in the present study, CFA was used to assess factor validity.

The results of the factor analysis and the model fit are in line with previous studies, indicating that all five items of the Persian version of the SWLS loaded onto one factor. The factor loading in this study was in the same range as the original study, and only the factor loading of item 5 (0.56) was lower than that in the original study (0.61).⁵ Some recent studies have also reported a lower factor loading for item 5 compared to other items of the scale.^{14,28} However, due to the high correlation of item 5 with other items, it is recommended to be retained in the tool and not be ignored.²⁹

One possible explanation regarding the lower factor loading of item 5 can be related to the time difference between item 5 and other items of the SWLS. Moreover, item 5 has a different time frame compared to other items. As evident in the text of item 5, its time frame is related to the past, while the other items examine the present time. People's mental orientation toward the present is more accurate than toward the future or past. According to Pavot and Diener, life satisfaction has a stronger correlation with the present time ($r=0.92$) than with the past or future ($r=0.59$ and $r=0.72$, respectively).³⁰ In general, according to the results of the study and the aforementioned topics and the appropriate reliability of the tool, the validity of the tool for use among the older population of Iran is confirmed. The difference between item 5 which examines the past time and other items of the questionnaire is probably due to the age conditions of the elderly as satisfaction or dissatisfaction with life in old age is influenced by the individual's review of the past experiences. Old age is the final stage of life, a time for reviewing and making sense of past experiences. The continuation of a person's transformation During this period, the individual continues to transform and grow by adapting realistically and flexibly to changes and deficiencies. They can also spend these years feeling valued and effective. It is important for older adults to observe the product and fruit of their past life in this period, whether through the presence of children, relationships with others, or involvement in cultural, social, and economic services and activities. Finding their life meaningful helps them achieve the feeling of satisfaction which depends on various factors. As life satisfaction contributes greatly to the quality of life of the older population, specialists and service providers need to be familiar with its different dimensions when interacting with this population.

Limitations

About 50% of older adults in this region are illiterate and unable to read or write; consequently, trained interviewers gathered the data through interviews, but

future psychometric studies are recommended to utilize self-completion methods for data collection to compare the outcomes.

Conclusions

Life satisfaction is an important issue for older people. The life satisfaction scale was translated into Persian in this study and was psychometrically evaluated for research applications. Similar to the original version of the SWLS, the Persian version of the scale has one dimension and is a suitable tool for evaluating the life satisfaction of Iranian older adults.

Author contributions

Conceptualization: Akbar Azizi-Zeinalhajlou, Sirous Sameie-Sis, Mehdi Abbasian.

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Data availability statement

The datasets used and analyzed during the current study are available from the corresponding author upon reasonable request.

Ethical approval

This study was reviewed and approved by the Deputy of the Research Ethics Committee at the Tabriz University of Medical Sciences (Ethical ID: TBZMED.REC.1394.1069). Informed consent was obtained from all participants, and they were assured of the confidentiality of all provided information.

Consent for publication

Not applicable.

Conflict of interests

The authors declare that they have no conflict of interests.

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