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Mental Health Literacy Questionnaire-Short Version for Adults: Psychometric Properties of Turkish Version

Ruh Sağlığı Okuryazarlığı Ölçeği–Yetişkin Kısa Formu: Türkçe Versiyonun Psikometrik Özellikleri

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ABSTRACT

Objective: This study aims to adapt the 16-item Mental health literacy questionnaire-short version for adults (MHLq-SVa) into Turkish and to examine the psychometric properties of the Turkish form.

Method: The study included a 361 adults, 276 females and 85 males, aged between 18 and 56 years. The construct validity of the measurement tool was examined using Confirmatory Factor Analysis (CFA). The goodness of fit of the model obtained by CFA was interpreted using indices such as χ2/sd, CFI, RMSEA, SRMR, GFI, and AGFI. In the evaluation of these indices, the threshold values suggested by Schermelleh-Engel et al. (2003) were taken as reference.

Results: The results of the confirmatory factor analysis (CFA) revealed that the Turkish version of the MHLq-SVa had a four-dimensional structure (knowledge of mental health problems, stereotypes, help-seeking skills, and self-help strategies) similar to the original scale. Analyses to examine the criterion-related validity of the measurement tool showed that there was a significant positive relationship between the participants' mental health literacy levels and their attitudes towards seeking psychological help, and a significant negative relationship between their tendency to stigmatize themselves in seeking psychological help. In addition, it was found that participants who had psychological help experience and had acquaintances diagnosed with a psychiatric disorder in their families or close circles had higher levels of mental health literacy than those who did not receive help and had no diagnosed acquaintances. This finding of the study is consistent with the studies in the literature and is regarded as evidence of criterion-related validity. The calculated Cronbach's alpha (.83) and McDonald's omega (.83) reliability coefficients support the reliability of the Turkish form of the MHLq-SVa.

Conclusion: A thorough evaluation of the study's findings indicates that the Turkish form of the MHLq-SVa exhibits robust psychometric characteristics, making it a reliable instrument for assessing the mental health literacy levels of adults.

Keywords: Mental health literacy, scale adaptation, short form

ÖZ

Amaç: Bu çalışma 16 maddeden oluşan Ruh Sağlığı Okuryazarlığı Ölçeği – Yetişkin Kısa Formunu (RSOÖ-YKF) Türkçeye uyarlamayı ve Türkçe versiyonun psikometrik özelliklerini incelemeyi amaçlamaktadır.

Yöntem: Çalışmaya yaşları 18 ile 56 arasında değişen 276'sı kadın, 85'i erkek olmak üzere toplam 361 yetişkin birey katılmıştır. Ölçme aracının yapı geçerliği DFA ile incelenmiştir. DFA ile ulaşılan modelin uyum iyiliğinin yorumlanmasında χ2/sd, CFI, RMSEA, SRMR, GFI ve AGFI indekslerinden yararlanılmıştır. Bu indekslerin değerlendirilmesinde Schermelleh-Engel ve ark. (2003) tarafından önerilen eşik değerler referans alınmıştır.

Bulgular: Doğrulayıcı faktör analizi sonuçları RSOÖ-YKF Türkçe versiyonun orijinal ölçeğe benzer şekilde dört boyutlu (ruh sağlığı sorunlarına ilişkin bilgi, kalıpyargılar, yardım arama becerileri, kendine yardım stratejileri) bir yapıya sahip olduğunu ortaya koymuştur. Ölçme aracının ölçüt bağıntılı geçerliğinin incelenmesine yönelik analizler katılımcıların ruh sağlığı okuryazarlığı düzeyleri ile psikolojik yardım aramaya dair tutumları arasında pozitif yönde, psikolojik yardım aramada kendini damgalama eğilimleri arasında ise negatif yönde anlamlı bir ilişki olduğunu göstermiştir. Ek olarak psikolojik yardım deneyimine sahip olan ve ailelerinde veya yakın çevrelerin psikiyatrik bir bozukluk tanısı almış tanıdıkları olan katılımcıların yardım almamış ve tanı almış tanıdığı olmayanlara göre ruh sağlığı okuryazarlığı düzeylerinin daha yüksek olduğu belirlenmiştir. Çalışmanın bu bulguları ilgili literatürdeki çalışmalar ile uyumludur ve ölçüt bağıntılı geçerlik kanıtları olarak değerlendirilmişlerdir. Hesaplanan Cronbach alfa (,83) ve McDonald omega (,83) güvenirlik katsayıları RSOÖ-YKF Türkçe versiyonun güvenilirliğini desteklemektedir.

Sonuç: Araştırmanın bulguları bir bütün olarak değerlendirildiğinde RSOÖ-YKF Türkçe versiyonunun yetişkin bireylerin ruh sağlığı okuryazarlığı düzeylerinin ölçülmesinde kullanılabilmesi için yeterli psikometrik özelliklere sahip olduğunu kanıtlamaktadır.

Anahtar sözcükler: Ruh sağlığı okuryazarlığı, ölçek uyarlama, kısa form

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Introduction

Mental health is one of the critical areas of life that begins to take shape in the early stages of life and is formed by the complex interactions of various genetic, familial and environmental factors in developmental processes. In its simplest definition, mental health is a state of mental well-being that enables individuals as biopsychosocial beings to cope with stressful situations in life, to realize their abilities, to be productive in various roles, to contribute to their society, and to be in harmony with themselves and their environment (World Health Organization [WHO] 2017). A realistic perception and struggle power, accepting oneself in all aspects, feeling safe, observing a balance between giving and receiving in relationships, learning from mistakes and not repeating them are considered as general indicators of good mental health (Ankay 2013).

As a natural consequence of increasing risk factors and decreasing social support resources in today's modern world, protecting the mental health of individuals of all ages has become one of the important agendas of both societies and mental health professionals (Özer and Şahin Altun 2022). The Institute for Health Metrics and Evaluation (IHME) (2021) estimates that approximately 800 million people worldwide experience mental health problems. According to World Health Organization (WHO), one out of every three people shows symptoms at a level sufficient for a diagnosis of mental disorder at some time in his/her life (Kessler et al. 2009). The findings of the Turkey Mental Health Profile survey (Erol et al, 1998) also indicate that one out of every five adults in Turkey has experienced at least one mental disorder in their lifetime. Many studies conducted in recent years draw attention to an increase in the prevalence of mental problems (Stewart et al. 2019, Goodwin et al. 2022). The COVID-19 pandemic has also led to a global increase in mental health problems, particularly depression, anxiety and stress symptoms (Holmes et al. 2020, Pierce et al. 2020, Xiong et al. 2020, Nochaiwong et al. 2021).

The high prevalence rates of mental disorders are a major concern for both mental health and public health professionals because of their various negative affects on individuals and families, as well as the socioeconomic burdens they create (Sobocki et al. 2007, White and Casey 2017). Research shows that individuals with symptoms of mental disorders tend to seek support from friends or family rather than experts or try to cope with the symptoms on their own (Evans et al. 2005, Holzinger et al. 2012). In the contemporary context, online resources, including search engines, artificial intelligence applications, and social media platforms, have emerged as prominent sources of assistance for individuals grappling with mental health issues (Loch and Kotov 2025). However, scientific inaccuracy, unrealistic content, or limited generalizability due to cultural or methodological constraints in online platforms may hinder individuals from seeking professional support (Miner et al. 2017). This is especially worrying when it is recalled that early and rapid help-seeking for mental health problems leads to early interventions and more positive outcomes in the long term (Clarke et al. 2006).

In this context, when the increasing prevalence of mental health problems globally, socio-cultural barriers to seeking professional help, and the findings that early detection of symptoms of mental disorders increases the likelihood of positive outcomes in treatment are all considered together, the need for the adoption of preventive measures (approaches) in mental health becomes apparent (Reavley and Jorm 2011, Campos et al. 2016) An increasing number of scientific studies, especially in the last two decades, have tried to understand the reasons for the low rates of help-seeking for mental health problems worldwide (Gulliver et al. 2010, Clement et al. 2015, Schnyder et al. 2017). Among these studies, a significant number of researchers address the issue by focusing mental health literacy (Gulliver et al. 2012, Wei et al. 2015, Jung et al. 2017, Lien et al. 2024). According to many researchers, mental health literacy is a competence that includes the nature of mental health, psychopathology, behavioral disorders, and treatment approaches, and can play a decisive role in seeking help in early stages, avoiding stigmatization, effective intervention and referral (Jorm 2012, Bonabi et al. 2016, Altuncu et al. 2023).

Mental health literacy is an awareness and skill related to accurately recognizing mental health conditions, understanding risk factors, non-stigmatizing attitudes, and self-help techniques that facilitate the ability to seek support to prevent mental disorders (Jorm et al. 1997; Kutcher et al. 2016). Over time, this definition has expanded to include knowledge of how to prevent mental disorders, recognizing disorders as they develop, effective self-help strategies for mild-to-moderate problems, and psychological first aid skills to help others, all of which have the potential to be beneficial for one's own or others' mental health (Jorm 2012). Today, as can be seen in the definition, mental health literacy has a multidimensional conceptual structure. These dimensions are categorized as (1) knowledge about prevention of mental health problems, (2) recognition of signs and symptoms of disorders, (3) identification of existing options and treatments, and (4) knowledge about help-seeking and first aid skills for mental health problems (Jorm 2012, Dias et al. 2018, Campos et al. 2022). This widely accepted conceptualization also forms the theoretical basis and framework for the Mental Health Literacy questionnaire-Short Version for adults (MHLq-SVa) adapted in the present study (Campos et al. 2022).

Studies have reported that high levels of mental health literacy are associated with higher awareness of help-seeking and treatment processes, less stigmatization of individuals with mental disorders, increased likelihood of early diagnosis of mental disorders, and effective use of health services in improving mental health (Kelly et al. 2007, Henderson et al. 2013, Bonabi et al. 2016, Gorczynski et al. 2017, Jung et al. 2017, Suka et al. 2016). All these findings point out that mental health literacy has a critical role in protecting and strengthening mental health at both individual and societal levels (Kelly et al. 2007, Jorm 2012, Reavley and Jorm 2013, Kutcher et al. 2016).

As is the case in many developing countries, Turkey faces a significant need for preventive mental health interventions (Lauber and Rössler 2007, Aluh et al. 2020, Elyamani et al. 2021, Özer and Şahin Altun 2022). In-depth analyses of mental health literacy studies reveal that individuals in developing countries tend to attribute mental disorders and their causes to religious or supernatural factors rather than biological or psychosocial ones (Furnham and Igboaka 2007, Haque 2010, Swami et al. 2010, Sadik et al. 2010, Ghuloum et al. 2010). Additionally, studies show a higher tendency for these individuals to somatize mental disorder symptoms or link them to physical illnesses (Kirmayer and Young, 1998, Patel et al. 2001). Another issue where the difference between developed and developing countries is evident is treatment preferences. In developing countries, individuals often turn to alternative treatments despite the existence of evidence-based effective treatments because of low mental health literacy (Özer and Şahin Altun 2022). The findings of the study conducted by Beşiroğlu et al. (2010) in Turkey are similar.

In this context, elucidating the formation of understanding of mental health and mental disorders, as well as the factors that influence it in different cultural contexts, remains an imperative task for researchers (Furnham and Swami 2018). This can only be possible through the dissemination of culturally adapted, valid and reliable measurement tools. Within Turkey, three scales have been adapted for the assessment of mental health literacy levels among adults (Göktaş et al. 2019, Tokur Kesgin et al. 2020, Akdoğan et al. 2023). An examination of these measurement tools adapted into Turkish reveals that they are long scales with item counts ranging from 26 to 35.

In recent years, besides psychometric properties such as validity and reliability, usefulness has come to the fore as a quality that is taken into consideration in terms of measurement tools (Miller et al. 2009, Kock et al. 2024). Today's measurement tools must be time-efficient. For this reason, measurement tools that can be answered in a shorter time, consist of fewer items and are easy to apply, as well as being valid and reliable, stand out (Başokçu, 2019). In addition to its usability, the MHLq-SVa is noteworthy for having been adapted in many countries (China, Indonesia, India, Portugal, Serbia, Thailand) with significantly different levels of development and cultural characteristics, and for demonstrating strong psychometric properties in these studies (Campos et al. 2022, Kovacevic Lepojevic et al. 2024). Considering the increasing need for measuring mental health literacy in developing countries and the limited time that individuals can allocate to such assessment processes, this study aimed to adapt the Mental Health Literacy questionnaire-Short Version for adults (MHLq-SVa) developed by Campos et al. (2022) into Turkish and examine its psychometric properties. It is believed that the Turkish version of the MHLq-SVa can be used in studies to be conducted in the field of community mental health, and has the potential to contribute to experts in the field in identifying problems and needs, monitoring changes, shaping early intervention studies, planning prevention studies, and especially testing the effectiveness of educational interventions.

Method

Sample

Volunteers who met the following criteria were deemed eligible for participation: (a) aged 18 years or older, (b) not currently enrolled in educational programs related to medical training, nursing, psychiatry, psychology, psychological counseling, or social work, and (c) not currently undergoing treatment for a mental disorder. The number of participants was determined by utilizing the G*Power 3.1.9.7 software. With 80% statistical power and $\alpha = 0.05$ significance level, the required number of participants was determined to be 273 (Faul et al. 2007). The present study comprised 361 adult subjects, 276 female (76.5%) and 85 male (23.5%), who satisfied the specified criteria and were reached through convenience sampling. The ages of the participating adults ranged between 18 and 56. The mean age of the study group was calculated as 23.42 (SD = 5.66). Of the adults in the study, 82 (22.7%) reported receiving professional psychological support at any point in their lives. In addition, 117 participants (32.7%) stated that individuals in their families or close circles were diagnosed with a psychiatric disorder at any time in their life. A 10-point rating question (1 = lowest, 10 = highest) was used to

determine the perceived socio-economic level of the participants (Adler et al. 2010). The average socio-economic level perceived by the study group was 5.86 (SD = 1.74).

Procedure

Before adapting the MHLq-SVa into Turkish, Luísa Campos, the team leader who developed the original Form was granted permission. The quality of the adaptation process is critical in ensuring the validity, reliability, and usefulness of the adapted measurement tool. In this context, the guidelines prepared by Merenda (2005) and Gudmundsson (2009) on adapting psychological scales to various cultures were utilized in the cultural adaptation process. The steps and recommendations in these guides were followed during the adaptation process. Before translating the scale items from English to Turkish, it was examined whether all items had the same conceptual meanings in Turkish culture. It is emphasized that the most critical elements in the translation process are the qualities that translators are expected to have and that they work independently (Gudmundsson 2009). For this reason, two experienced translators who have advanced skills in both the language of the original scale and the language to be translated and who know the content (subject matter) of the measurement tool and the cultures of both languages were employed. Two expert translators, one from the field of psychological counseling and the other from the field of measurement and evaluation, translated the scale items into Turkish independently. Afterwards, the translations were examined in a meeting with the translators, the researcher, and the translations were synthesized into a standard translation. The joint translation was translated back into English by an expert in the field of English Language and Literature who was unfamiliar with the original scale and sent to the scale developer for review. The feedback received from Luísa Campos was that there was no inconsistency in the translation in terms of meaning. Finally, the researcher and two experts in the field of psychological counseling examined the scale items in terms of meaning, terminology used, clarity, and comprehensibility of the items.

Thus, the candidate form for the pilot application was created. The pilot study is significant in terms of the comprehensibility of the items, the response time of the scale, and the identification of any points that are not understood by the respondents (Crocker and Algina 2006). It is recommended that pilot studies be conducted with a group exhibiting similar characteristics to the group in which the main study will be conducted (Gökdemir and Yılmaz 2023).

Consequently, a pilot study was conducted, encompassing twelve adult volunteers who met the specified criteria outlined in the participants section of the study. After the pilot implementation with twelve adult participants, each participant was interviewed face-to-face, and feedback was received about the clarity and comprehensibility of the statements in the scale. Based on the feedback that the statements in the scale were clear and comprehensible, the final Form to be used in adapting the MHLq-SVa into Turkish was shaped. As the pilot application exclusively encompassed the MHLq-SVa Turkish form (excluding other scales), and it was advised that participants of the pilot study not be included in the study group, the data collected during this phase were excluded from the statistical analyses (Bolarinwa 2015, Gökdemir and Yılmaz 2023).

Researchers collected the data online during April and May 2024, following the preparation of the final Form. Before starting the data collection process, the necessary ethical permission was obtained from Manisa Celal Bayar University Social Sciences and Humanities Scientific Research and Publication Ethics Committee (number: E--050.01-740817, date: 12.03.2024).

The researchers used convenience sampling, a non-probability sampling method, to reach participants through a research announcement on various social media platforms. This announcement detailed the study's purpose, voluntariness, inclusion criteria, and confidentiality assurances. No payments were made to participants in this study, and data were collected using Google Forms. Google Forms is a platform protected by Google's security infrastructure, and data is stored encrypted on Google Drive. The collection of personally identifiable information from participants was not a component of the study; consequently, all data were obtained anonymously. Furthermore, access restrictions were implemented to ensure that only the researcher could access the data. Adults who volunteered to participate in the study had to approve the informed consent section to proceed to the online measurement tools. To prevent duplicate data entry during the online data collection process, the "Limit to one response" option was enabled, and participants were required to log in with their Google accounts. This approach was implemented to ensure that each individual completed the Form only once. Furthermore, following the download of the responses, a manual review of the timestamps and response patterns was conducted to identify and eliminate any potential duplicates. It took an average of 10 minutes to answer the measurement tools via the online platform.

Measures

Mental Health Literacy Questionnaire-Short Version for Adults (MHLq-SVa)

The measurement tool developed by Campos et al. (2022) consists of 16 items in a 5-point Likert-type scale (1= "strongly disagree", 5= "strongly agree") and evaluates the mental health literacy levels of adult individuals. There are four sub-dimensions of the MHLq-SVa: knowledge about mental health problems, stereotypes, help-seeking behavior, and self-help strategies. When calculating the total score on the scale, items from the stereotypes sub-dimension (2nd, 5th, and 6th items) are reverse-scored. Both Cronbach's alpha and McDonald's omega coefficients were used to evaluate the reliability of the questionnaire. The Cronbach's alpha and McDonald's omega reliability coefficients calculated for each sub-dimension and the whole scale in the original study in which the RHQ-RCF was developed are given as follows; .72 and .71 for the knowledge of mental health problems dimension, .67 and .67 for the stereotypes dimension, .69 and .75 for the help-seeking behavior dimension, .66 and .68 for the self-help strategies dimension, and .82 and .80 for the whole scale (Campos et al. 2022According to the development study's CFA results, the original scale's fit index values were CFI = .95, RMSEA = .040, NNFI = .95, and $\chi 2$ /df = 1.62. These indices indicate that the measurement tool fits well (Campos et al. 2022). High scores obtained from the scale are interpreted as individuals' high level of mental health literacy.

Attitudes toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF)

The ATSPPH-SF developed by Fischer and Farina (1995) was adapted into Turkish by Topkaya (2011). The 4-point Likert-type scale (1= “strongly disagree”, 4= “strongly agree”) consists of 10 items. Items 2, 8, 9, and 10 are reverse-scored. The Cronbach's alpha reliability coefficient of the original Form of the instrument, which has a one-factor structure, was reported as .84, and the test-retest reliability coefficient was reported as .80 (Fischer and Farina, 1995). The Cronbach's alpha reliability coefficient of the Turkish version of the ATSPPH-SF was calculated as .76 (Topkaya, 2011). In this study group, the Cronbach's alpha coefficient for the ATSPPH-SF was found to be .74. The results of CFA conducted by Topkaya (2011) indicate that the Turkish version of the instrument has a single-factor structure like the original version. The goodness-of-fit values of the Turkish version of the ATSPPH-SF were reported as $\chi 2$ /df = 3.26, AGFI = .92, GFI = .96, CFI = .94, RMSEA = .07, and SRMR = .05 (Topkaya 2011). Higher total scores reflect more positive attitudes towards seeking psychological help.

Self-Stigma of Seeking Help Scale (SSOSH)

The SSOSH was developed by Vogel et al. (2006) to assess individuals' self-stigmatization tendencies while seeking psychological help. The scale consists of 10 items in a 5-point Likert-type scale (1= "strongly disagree", 5= "strongly agree") and has a unidimensional structure. Items 2, 4, 5, 7, and 9 of the SSOSH are reverse-scored. The goodness of fit values for the original form of the SSOSH were reported as $\chi 2$ /df = 3.01, CFI = .98, RMSEA = .04 and SRMR = .04 (Vogel et al. 2006). The adaptation of the SSOSH into Turkish was conducted by Acun Kapıkıran and Kapıkıran (2013). The Turkish form also confirmed the one-factor structure of the original scale. The goodness-of-fit values for the Turkish form of the SSOSH obtained by CFA were reported as $\chi 2$ /df = 1.52, GFI = .94, SRMR = .06, RMSEA = .06, CFI = .97, and NNFI = .95 (Acun Kapıkıran and Kapıkıran 2013). While Cronbach's alpha reliability coefficient was calculated as .91 and test-retest reliability was calculated as .72 in the study in which the SSOSH was developed (Vogel et al. 2006), Cronbach's alpha reliability coefficient for the Turkish form was reported as .71 (Acun Kapıkıran and Kapıkıran 2013). In this study, the Cronbach's alpha coefficient of the SSOSH was found to be .79. The high scores obtained from the scale indicate a high tendency to self-stigmatization while seeking psychological help.

Statistical Analysis

Before the analyses to examine the validity and reliability of the Turkish Form of the MHLq-SVa, the data set was checked, and it was confirmed that there were no missing values. Afterwards, the data set was screened for outliers using standardized Z scores. Since there were no observation values outside the threshold value of ±3.29 in the data set, no data were discarded (Tabachnik and Fidell 2013).

Descriptive statistics show that the skewness values vary between -.99 and .49, and the kurtosis values vary between -.12 and 1.21. The skewness and kurtosis values are within the range of ±1.5, indicating that the data do not violate the univariate normality assumption (Tabachnik and Fidell 2013).

However, Mardia test results (skewness = 99.33, $p < .001$; kurtosis = 411.30, $p < .001$) show that the data set violates the assumption of multivariate normality (Mardia 1970, Cain et al. 2017, Kyriazos 2018). Therefore,

robust maximum likelihood (MLR), which is less dependent on the assumption of multivariate normality, was chosen as the parameter estimation method in CFA (Li 2016).However, Mardia test results (skewness = 99.33, $p < .001$; kurtosis = 411.30, $p < .001$) show that the data set violates the assumption of multivariate normality (Mardia 1970, Cain et al. 2017, Kyriazos 2018). Therefore, robust maximum likelihood (MLR), which is less dependent on the assumption of multivariate normality, was chosen as the parameter estimation method in CFA (Li 2016).

The construct validity of the MHLq-SVa Turkish form was evaluated with CFA. The $\chi 2/df$ (ratio of chi-square to degree of freedom), CFI (comparative fit index), RMSEA (root mean square error of approximation), and RMSEA (root mean square error of approximation) used in the study in which the original scale was developed were used to interpret the goodness of fit of the model obtained by CFA. In addition, SRMR (square root of standardized mean errors), GFI (goodness-of-fit index), and AGFI (adjusted goodness-of-fit index) indices recommended to be reported by Kline (2016) and Hu and Bentler (1999) were also used. In evaluating these indices, the thresholds recommended by Schermelleh-Engel et al. (2003) were taken as reference.

Two different analyses were utilized to test the criterion-related validity of the MHLq-SVa Turkish form. In this context, the relationship between the participants' scores on MHLq-SVa Turkish form, SSOSH, and ATSPPH-SF was examined by Pearson correlation analysis. In addition, an independent samples t-test was used to determine whether the scores of the participants differed according to whether they had received professional psychological help at any time in their lives and whether they had individuals diagnosed with a psychiatric disorder in their families or close environment. Both Cronbach's alpha and McDonald's omega coefficients were calculated as in the original development study to examine the reliability of the MHLq-SVa Turkish form.

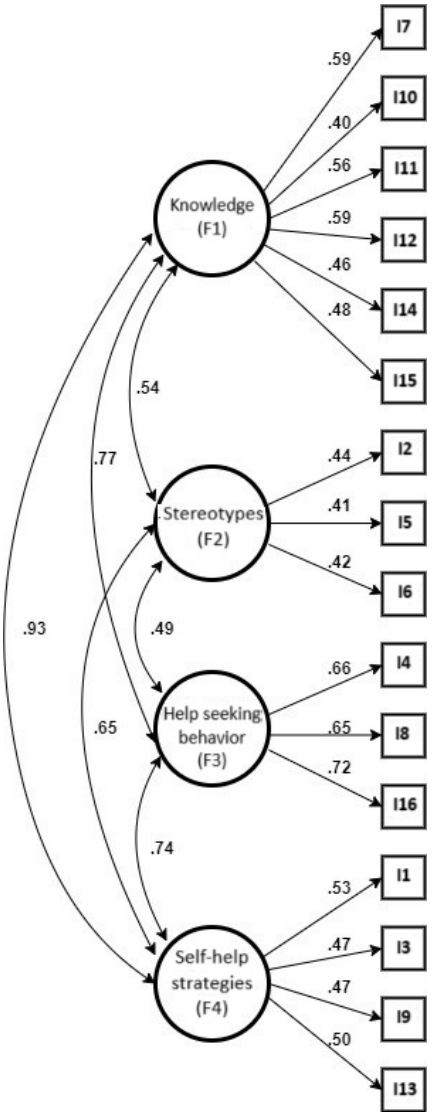

Figure 1. Factor structure of the MHLq-SVa Turkish form

Results

Construct Validity

The construct validity of the MHLq-SVa Turkish form, whose original version possesses a four-factor structure, was examined using CFA. In other words, the CFA aimed to ascertain whether the factor structure of the original measurement tool was similar in the Turkish form. The factor structure (path diagram) of the MHLq-SVa Turkish form is presented in Figure 1. As demonstrated in Figure 1, the standardized factor loadings of the items of MHLq-SVa Turkish form across the pertinent sub-dimensions range from .40 to .72. These loadings are statistically significant ($p < .001$).

The fit indices of the four-factor model obtained for the MHLq-SVa Turkish form as a result of CFA are presented in Table 1, thereby allowing for comparison with the fit indices of the original scale.

Table 1. Goodness-of-fit Indices of the MHLq-SVa Turkish form and original scale

	χ^2	sd	χ^2/sd	CFI	NNFI	RMSEA	SRMR	GFI	AGFI
MHLq-SVa Original Scale	153.17	95	1.62	.95	.95	.040	-	-	-
MHLq-SVa Turkish form	134.41	89	1.51	.96	.95	.052	.045	.92	.89

MHLq-SVa: Mental Health Literacy Questionnaire-Short Version for Adults

Opinions regarding the cutoff values that are recommended for use in the interpretation of the goodness-of-fit indices obtained by CFA are divergent. However, an examination of the extant literature on CFA reveals that the cutoff (threshold) values proposed by Schermelleh-Engel et al. (2003) are among the most frequently employed. Within the present study, the cutoff values proposed by Schermelleh-Engel et al. (2003) were used to interpret the goodness-of-fit indices for the four-factor model of the MHLq-SVa Turkish form (Table 2).

Table 2. Goodness of fit indices of the MHLq-SVa Turkish Form

Fit İndices	Values	Good Fit	Acceptable Fit
χ2/sd	1.51	0 ≤ χ2/sd ≤ 2	2 < χ2/sd ≤ 3
CFI	.96	.97 ≤ CFI ≤ 1.00	.95 ≤ CFI < .97
NNFI	.95	.97 ≤ NNFI ≤ 1.00	.95 ≤ NNFI < .97
RMSEA	.052	0 ≤ RMSEA ≤ .05	.05 < RMSEA ≤ .08
SRMR	.045	0 ≤ SRMR ≤ .05	.05 < SRMR ≤ .10
GFI	.92	.95 ≤ GFI ≤ 1.00	.90 ≤ GFI < .95
AGFI	.89	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90

An examination of the fit indices related to the MHLq-SVa Turkish Form reveals that the model demonstrates an adequate fit, as indicated by the χ^2/df (1.51) and SRMR (.045) values. Concurrently, the CFI (.96), NNFI (.95), RMSEA (.052), GFI (.92), and AGFI (.89) values indicate that the model fit falls within the acceptable limits (Schermelleh-Engel et al. 2003).

Criterion-Related Validity

In order to examine the criterion-related validity of the MHLq-SVa Turkish Form, firstly, the correlation values between the mental health literacy levels of the participant adults and their attitudes towards seeking psychological help (ATSPPH-SF) and self-stigmatization tendencies in the process of seeking psychological help (SSOSH) -which were determined as criterion variables in light of the relevant literature- were calculated (Table 3).

Table 3. Correlation values between the participants' MHLq-SVa (Mental Health Literacy), ATSPPH-SF (Attitudes Toward Seeking Psychological Help), SSOSH (Self-Stigmatization Tendency) Scores

Variables	1	2	3
1. MHLq-SVa	-	.49**	-.46**
2. ATSPPH-SF		-	-.43**
3. SSOSH			-

$p < .05$ **$p < .01$; MHLq-SVa: Mental health literacy questionnaire-short version for adults; ATSPPH-SF: Attitudes toward seeking professional psychological help scale-short form; SSOSH: Self-stigma of seeking help scale

The findings of Pearson's correlation analysis indicate a significant positive correlation between the participant adults' mental health literacy levels (MHLq-SVa) and their attitudes toward seeking professional psychological help (ATSPPH-SF), r = .49, p < .01. Conversely, a significant negative correlation was identified between the participants' mental health literacy levels (MHLq-SVa) and their tendecy to self-stigmatize in the context of seeking psychological help (PSYITH-SF), r = -.46, p < .01.

In the next step to examine the criterion-related validity of the MHLq-SVa, an independent samples t-test was conducted to compare participants' mental health literacy levels according to whether they had received professional psychological help or had family members or close associates diagnosed with a psychiatric disorder (Table 4).

Table 4. Comparison of participants' mental health literacy levels due to the status of receiving professional psychological help and the presence of people diagnosed with psychiatric disorder in their close circles

	Variable	N	$\bar{X}$	ss	t	sd	p
MHLq-SVa	Received professional help	82	73.50	5.93	3.90	152.717	.00
	Did not seek professional help	279	70.47	6.96			
MHLq-SVa	Have a diagnosed acquaintance	117	72.32	6.85	2.25	359	.03
	Do not have a diagnosed acquaintance	244	70.60	6.79			

MHLq-SVa: Mental health literacy questionnaire-short version for adults

The results of the independent samples t-test show that the level of mental health literacy of the participants differed according to their status of receiving professional psychological help, t (152.717) = 3.90, p < .05. It is found that the mean scores of participants who had received professional psychological help at any time in their life ($\bar{X}$ = 73.50, SD = 5.93) were significantly higher than those who had not ($\bar{X}$ = 70.47, SD = 6.96).

Furthermore, a statistically significant difference was identified in the participants' mental health literacy levels in response to the presence of individuals diagnosed with a psychiatric disorder within their families or close circles, t (359) = 2.25, p < .05. The mean scores of participants who had individuals diagnosed with a psychiatric disorder in their families or close circles at any point in their lives ($\bar{X}$ = 72.32, SD = 5.93) were significantly higher than those of participants who did not ($\bar{X}$ = 70.60, SD = 6.79).

Reliability

The reliability of the MHLq-SVa Turkish Form was examined by calculating Cronbach's alpha and McDonald's omega coefficients in parallel with the original development study. The Cronbach's alpha and McDonald's omega coefficients for the Turkish Form were the same (.83), and the coefficients for the scale's sub-dimensions ranged from .61 to .80 (Table 5).

Table 5. Reliability coefficients of the original MHLq-SVa and Turkish form

Factors	Number of Items	Cronbach's alpha of the original scale	Cronbach's alpha of the Turkish form	McDonald's omega of the original scale	McDonald's omega of the Turkish form
Knowledge of mental health problems	6	.72	.71	.71	.71
Stereotypes	3	.67	.61	.67	.72
Help seeking behavior	3	.69	.79	.75	.80
Self-help strategies	4	.66	.74	.68	.75
Whole scale	16	.82	.83	.80	.83

Discussion

Significant increases in the prevalence of lifetime mental health problems on a global scale indicate that the risk of individuals experiencing mental disorders is also increasing (Jorm 2012, Holmes et al. 2020, Goodwin et al. 2022). With increasing risks, protecting and improving the mental health of individuals, early identification of mental health problems, and intervention in the face of symptoms of mental disorders has become an important agenda. One of the factors that can play a crucial role in all these processes is mental health literacy (Kutcher et al. 2016, Ratnayake and Hyde 2019). There is a broad consensus that increasing the level of mental health literacy of individuals, and by extension of society, is one of the priority interventions in the field of preventive mental health (Kelly et al. 2007, Jorm 2012, Furnham and Swami 2018, Ma et al. 2023). Although Turkey ranks

high on the global scale in terms of mental health risks, such as high unemployment rates, social inequality, and violence against women, the literature on mental health literacy is limited compared to developed (Western) countries and primarily focuses on limited populations such as university students and healthcare professionals (Öztaş and Aydoğan 2021, Özer and Şahin Altun 2022, Öztaş et al. 2023). Furthermore, when the biopsychosocial nature of the individual and the broad impact of the environment on mental health are considered, the need for culturally specific studies is readily apparent. Considering the critical role of culturally adapted, practival, and strong psychometric tools in meeting this need, we aimed to adapt the MHLq-SVa (Campos et al. 2022) into Turkish. The MHLq-SVa is a brief, self-report instrument that provides data on specific dimensions of mental health literacy, such as an individual's level of knowledge about mental health problems, stereotypes, helping skills, help-seeking behaviours, and self-help strategies (Jumbe et al. 2023).

The results of the CFA, which was conducted to examine the compatibility of the factor structure of the MHLq-SVa Turkish form with the original scale, show that the four-factor structure of the MHLq-SVa was also confirmed in the Turkish version. In other words, like the original scale, the MHLq-SVa Turkish form has a four-dimensional structure that includes knowledge of mental health problems, stereotypes, help-seeking behavior, and self-help strategies. In addition to the construct validity findings, the criterion-related validity findings indicate that the MHLq-SVa Turkish form has strong psychometric properties. It was found that there was a significant positive correlation between participants' level of mental health and their attitude towards seeking psychological help, and a significant negative correlation between their tendency to stigmatise themselves when seeking psychological help. This finding of the study is consistent with studies in the literature (Cheng et al. 2018, Çinçinoğlu and Okanlı 2021, Fleary et al. 2022, Kovacevic Lepojevic et al. 2024). Studies conducted both in Turkey (Çinçinoğlu and Okanlı 2021) and in different countries (Cheng et al. 2018, Fleary et al. 2022, Kovacevic Lepojevic et al. 2024) report that as individuals' mental health literacy increases, their stigmatising attitudes towards seeking psychological help decrease. In this context, it is believed that increasing the mental health literacy in societies can be an practical approach to combat the stigma associated with mental health problems (Kutcher et al. 2016, Özer and Şahin Altun 2022). Furthermore, studies show that as the mental health literacy increases, individuals' attitudes towards receiving professional psychological support become more positive (Ratnayake and Hyde 2019, Oftadeh-Moghadam and Gorczynski 2021). These findings are consistent with conceptualisations of mental health literacy, including dimensions such as maintaining mental health, understanding mental disorders and treatment approaches, reducing stigma, and increasing help-seeking competence (Wei et al. 2015, Kutcher et al. 2016).

Within the framework of the criterion-related validity tests of the MHLq-SVa Turkish form, the possible effects of personal experiences on the level of mental health literacy of individuals in the participant group were also examined based on the relevant literature. A thorough review of the relevant literature reveals many studies that indicate the effect of personal experiences on the development of awareness and positive attitudes towards mental health, in other words, on high levels of mental health literacy (Reavley et al. 2014, Kim et al. 2015, Noroozi et al. 2018, Oftadeh-Moghadam and Gorczynski, 2021, Pribadi et al. 2023, Kovacevic Lepojevic et al. 2024). Two personal variables that stand out in these studies are the experience of professional psychological help and the presence of acquaintances diagnosed with a psychiatric disorder in the close environment (Dahlberg et al. 2008, Reavley et al. 2014, Svensson and Hansson, 2016, Noroozi et al. 2018, Oftadeh-Moghadam and Gorczynski, 2021, Pribadi ve ark. 2023, Kovacevic Lepojevic et al. 2024). In parallel with studies conducted in a wide range of cultures outside Turkey, this study found that mental health literacy was higher among people who had received professional psychological help at some point in their lives, and who had someone in their family or close circle diagnosed with a psychiatric disorder.

The MHLq-SVa has garnered the interest of researchers from various countries due to its robust theoretical underpinnings and notable usability. The rapid adaptation of the scale to diverse cultural contexts, evident in numerous countries including Portugal, Serbia, Thailand, China, Indonesia, and India, has also led to an augmentation of opportunities for cross-cultural research. In this study, the mean mental health literacy scores of the participants ($\bar{X}$ = 71.16, SD = 6.85) were found to exceed those of other countries (USA $\bar{X}$ = 63,04, SD = 13,28; Portugal $\bar{X}$ = 66,72, SD = 6,24; Serbia $\bar{X}$ = 68,16, SD = 7,04; Thailand $\bar{X}$ = 66,08, SD = 6,72; China $\bar{X}$ = 67,36, SD = 6,24; Indonesia $\bar{X}$ = 65,92, SD = 8,01; India $\bar{X}$ = 66,88, SD = 8,96) (Campos et al. 2022, Kovacevic Lepojevic et al. 2024). Given the prevailing consensus among studies on mental health literacy that individuals in developed countries exhibit higher levels of mental health literacy compared to those in developing countries, it is anticipated that the participants in the present study will demonstrate lower levels of mental health literacy (Furnham and Swami 2018; Sweileh, 2021). However, it is hypothesized that the observed differences in the socio-demographic characteristics of the groups from which the data were obtained, their personal experiences with mental health issues, and the data collection methods may also have influenced these findings.

The fact that the participants in the Turkish adaptation of the MHLq-SVa were primarily women and young adults, and that the participants were selected using a non-random sampling method, limits the generalisability of the findings. As more than three-quarters of the participants were female, additional analyses such as gender measurement invariance could not be performed. In addition, the test-retest reliability of the Turkish form could not be investigated because the scale could not be reapplied to the study group. The data on the presence of diagnosed individuals in their families or close circles and their experience of professional psychological support are based on participants' self-reports. Considering that the stigma of seeking psychological help and mental health problems in Turkey has started to decrease in recent years, the effect of social desirability should be taken into account in the participants' reports.

Conclusion

Despite the noted limitations, the psychometric properties of both the Turkish Form and the versions adapted in six countries with varying cultural characteristics demonstrate that the scale is a valid and reliable tool for assessing adults' mental health literacy levels. The good psychometric properties of the MHLq-SVa across a wide range of cultures are closely related to its strong theoretical underpinnings. In summary, the MHLq-SVa is a measurement tool that researchers and practitioners can use in screening studies to identify levels of knowledge and misconceptions about mental health among adults, to determine the intervention needs of different groups, and to evaluate the effectiveness of interventions to improve mental health literacy. In terms of time efficiency, both in practice and evaluation, the MHLq-SVa offers greater utility compared to previous mental health literacy scales and and other measurement approaches (responses to case scenarios, etc.) developed before it. Expanding the body of research in this area could facilitate the early identification of psychiatric disorders, ensure prompt access to necessary treatment services, enhance social support resources, mitigate stigmatizing attitudes and behaviors, and eliminate barriers that prevent individuals from seeking professional help.

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Addendum 1. Mental Health Literacy Questionnaire-Short Version for Adults: Turkish Version

Below are statements focusing on your thoughts on mental health and the sources of help that individuals can apply for mental health issues. Please indicate the extent to which you agree or disagree with each statement by selecting one of the following options: "1= I completely disagree", "2= I partially disagree", "3= I am undecided", "4= I partially agree", "5= I completely agree".

		1	2	3	4	5
1.	Fiziksel egzersiz iyi bir ruh sağlığına katkıda bulunur.					
2.	Ruhsal bozukluklar insanların davranışlarını etkilemez.*					
3.	İyi uyumak iyi bir ruh sağlığına katkıda bulunur.					
4.	Eğer ruhsal bir rahatsızlığım olsaydı bir psikologdan yardım isterdim.					
5.	Ruhsal bozukluklar insanların duygularını etkilemez.*					
6.	Sadece yetişkinlerin ruhsal bozuklukları vardır.*					
7.	Beyin fonksiyonlarındaki değişiklikler ruhsal bozuklukların ortaya çıkmasına neden olabilir.					
8.	Yakınlarımdan birinin ruhsal bir rahatsızlığı olsaydı, onu bir psikiyatriste gitmesi için teşvik ederdim.					
9.	Dengeli beslenme iyi bir ruh sağlığına katkıda bulunur.					
10.	Çoğu şeye yönelik ilgi kaybı veya çoğu şeyden zevk alamama depresyonun belirtilerinden biridir.					
11.	Semptomun ne kadar uzun sürdüğü, bir ruhsal bozukluğun teşhisi için önemli kriterlerden biridir.					
12.	Ruhsal bozukluklar insanların düşüncelerini etkiler.					
13.	Keyifli bir şeyler yapmak iyi bir ruh sağlığına katkıda bulunur.					
14.	Şizofreni tanısı almış bir kişi, başka hiç kimsenin görmediği ve duymadığı şeyleri görebilir ve duyabilir.					
15.	Aşırı stresli durumlar ruhsal bozukluklara neden olabilir.					
16.	Eğer ruhsal bir rahatsızlığım olsaydı, bir psikiyatristten yardım isterdim.					

Scoring

Items 2, 5 and 6 are reverse scored in the calculation of the total score.

Knowledge of mental health problems subscale: 7th, 10th, 11th, 12th, 14th and 15th items

Stereotypes subscale: 2nd, 5th and 6th items

Help-seeking skills subscale: 4th, 8th and 16th items

Self-help strategies subscale : 1st, 3rd, 9th and 13th items