European Journal of Therapeutics
pISSN: 2564-7784
eISSN: 2564-7040

Eur J Ther. 2023;29(3):469-479.
https://doi.org/10.58600/eurjther.20232903-1596.y

Original Research

Turkish Validity and Reliability of the Hikikomori (Social Withdrawal) Scale (HQ-25)

Rabia Kaya [1], Safiye Özgüç [2], Derya Tanrıverdi [3]

[1] Department of Psychiatric Nursing, Harran University, Faculty of Health Sciences, Urfa, Turkey
[2] Department of Psychiatric Nursing, Gaziantep University, Faculty of Health Sciences, Gaziantep, Turkey
[3] Department of Psychiatric Nursing, Gaziantep University, Faculty of Health Sciences, Gaziantep, Turkey

Received: 2023-05-15 / **Accepted**: 2023-06-05 / **Published Online:** 2023-06-08

Correspondence
Derya Tanrıverdi
Address: Gaziantep University, Faculty of Health Sciences, 27310 Gaziantep / Türkiye
E-mail: deryalper@hotmail.com

This research will be held on 20-23 October VI. It was presented as an oral presentation at the International X. National Psychiatric Nursing Congress.

ABSTRACT

Objective: This study was conducted to determine the validity and reliability of the Turkish version of the Hikikomori (HQ-25) scale.

Methods: The sample of the study consisted of 418 nursing students. Language and content validity and exploratory and confirmatory factor analysis were used in the validity-reliability analysis of scale. In addition, Cronbach's Alpha coefficient, item-total score correlation, and test-retest reliability methods were used. CFA, it was observed that three-factor structure of scale was preserved in the Turkish sample as well. Significant correlations were found between the scale and other scales ($p<0.01$).

Conclusion: As a result, it was adapted into Turkish, revealing that the scale is valid and reliable in measuring the social withdrawal behavior of individuals. It is recommended to evaluate using the scale in risky groups in terms of social withdrawal.

Keywords: Hikikomori, social withdrawal, validity, reliability, nursing

INTRODUCTION

Social withdrawal is seen with different mental illnesses. Hikikomori is seen as an important problem as it hinders the healing of mental illnesses [1]. Hikikomori, which is expressed as a form of long-term social withdrawal, is seen as a serious problem in terms of both clinical and public health [2]. Hikikomori dates back to the 1970s/1980s in what has been termed "truancy from school" or "school refusal" (futoko). It was then widely accepted as "social withdrawal" or "hikikomori" [3].

Hikikomori is conceptualized as a psycho-sociological condition characterized by prolonged and severe social withdrawal for six months [2]. Teo et al. defined Hikikomori as Spending most of the day at home, avoiding social situations, avoiding social relations with family members, experiencing problems due to social isolation [4,5].

Primary (idiopathic) Hikikomori has been described as well as secondary Hikikomori with psychiatric comorbidity [1,6]. Comorbid psychiatric pathologies are diverse; psychotic disorders, personality disorders, affective disorders, and anxiety disorders are common [6]. Teo et al. determined that hikikomori can be seen together with avoidant personality, social anxiety disorder, and major depression [1]. Hikikomori is known to have a prevalence between 1% and 2% [1]. According to Kato et al., stated that Hikikomori is a latent epidemic in many countries and

should be included in diagnostic systems such as DSM and ICD-11 in the future [7].

There are studies in the literature stating that studies are needed to define the existence of Hikikomori in other cultures and that it is essential to investigate the relationship between Hikikomori and other mental disorders [8,9]. HQ-25 was developed by Teo et al. to assess the severity of hikikomori symptoms over the past six months. HQ-25 is a self-report tool with the new potential to assist in the assessment of a relatively new mental health problem. HQ-25 scale is a new tool to identify individuals in the risk group [2]. In our country, no assessment tool is valid for this mental health problem, which has become an increasing concern. This study was conducted to describe and evaluate the psychometric properties of a scale that allows the assessment of Hikikomori (Social Withdrawal).

MATERIALS AND METHODS

This research was conducted at a state university. Individuals can be selected 5-10 times total number of items in questionnaire [10]. In this direction, when it is calculated by taking ten samples (25*10) for each item, it will be sufficient for 250 people to participate in the research. Similarly, while Tabachnick and Fidell (2001) [11] stated that at least 300 samples were good for factor analysis, Comrey and Lee [12] went for classification and classified 100 samples as poor, 300 samples as good, and 1000 samples as excellent [13]. In this direction, the sample of research consisted of 418 students.

Data Collection Tools

Personal Information Form: The form containing introductory characteristics of individuals was developed by the research team into relevant literature.

The 25-item Hikikomori Questionnaire (HQ-25): HQ-25 was developed by Teo et al (2018) [2]. as a self-administered tool to assess severity of hikikomori symptoms over past 6 months. HQ-25 consists of 25 items. 6 out of 25 questions are reverse scored. HQ-25 has an in score between 0-100. Developers of HQ-25 suggested a cut off score of 42 for the scale. Teo et al. (2018) identified 3 sub-dimensions [14]. These sub-dimensions are Socialization (items 1, 4, 6, 8, 11, 13, 15, 18, 20, 25, 23), Isolation (items 2, 5, 9, 12, 16, 19, 22, 24) and Emotional Support (3, 7, 10, 14, 17, 21) [14].

The Multidimensional Scale of Perceived Social Support (MSPSS): Scale was developed by Zimet et al. (1988) [15]. It was adapted to Turkish society by Eker and Arkar (1995) [16]. In 2001, "Multidimensional Scale of Perceived Social Support Revised" was reviewed by the same authors and internal consistency of MSPSS and subscale scores was found to be acceptable (Cronbach's alpha coefficients = 0.80-0.95) [17]. It is a scale consisting of 12 items.

The Preference for Solitude Scale (PSS): PSS developed by Burger (1995) measures how much people prefer to be alone. The adaptation of scale into Turkish was carried out and evaluated by Erpay and Atik (2019) [18]. It consists of 12 items. One of options in the items reflects preferring to be alone (for example, "I enjoy being by myself"), while the other reflects preferring to be with others (for example, "I enjoy being around people"). When the option of choosing to be alone is selected from the options in the items, this item is calculated as a score [19].

The UCLA Loneliness Scale (ULS-8): The scale was developed internally by Hays and DiMatteo. The adaptation of scale into Turkish was conducted at evaluated by Doğan, Akıncı-Çötok, and Göçet-Tekin. Scores from the scale range from 8 to 32 points. Cronbach alpha was found to be .72. [20].

Research Process

Permission was obtained from scale developers for the Turkish adaptation of HQ-25. For language adaptation, original scale was translated into Turkish by English language experts. Then these Turkish forms were translated back to English and the consistency between Turkish and English forms was examined. Depending on evaluations made by the experts,

Main Points;

- Social withdrawal is a serious concern for mental health professionals and researchers because it is frequently observed in a variety of psychiatric disorders and interferes with recovery.
- There is no validated assessment tool in our country regarding this mental health problem, which is increasingly becoming a source of concern.
- In this study, it was determined that the use of the social withdrawal scale in Turkish society is valid and reliable. This scale is made available to healthcare professionals for use in determining social withdrawal.

necessary corrections were made to questionnaire items. After these opinions, a pre-application was made with 25 individuals with the scale created. After the pre-application, the scale was finalized with the necessary adjustments. The data of the pre-treated group were not included in the study. Pre-application data was not included in the study. After the first application was made to 418 individuals to whom the study would be conducted, the second application was made to 27 individuals 15 days later to evaluate the test-retest reliability.

Data Analysis

Data was analyzed using SPSS 22.0 and AMOS 16 program. In reliability study of HQ-22, item-total score correlation and Cronbach Alpha coefficient and Hotelling's T-Square analysis, and test-retest correlation coefficient were used to reveal its reliability over time. To test validity of HQ-22, content validity index (CVI), construct validity and criterion-related validity studies were conducted. The factor structure of HQ-22 was examined by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). After Kaiser-Meyer-Olkin (KMO) and Bartlett tests were applied to the suitability of data for factor analysis in construct validity, explanatory factor analysis was performed in SPSS program. After factors were obtained, Eigenvalues statistics and Scree Plot graphics were drawn. The elements were tested with CFA in AMOS program. At this stage, fit indices such as CMIN/DF, RMSEA, NNFI, CFI, RMR, GFI, AGFI, and p-value were used. In the confirmatory factor analysis, the statistics of goodness of fit were evaluated and Path model of questionnaire was given its final form.

In criterion-related validity study, the correlation between Hikikomori (Social Withdrawal) Questionnaire and the MSPSS, the PSS, and ULS-8 scores were calculated with ith Pearson correlation coefficient.

RESULTS

The findings obtained in the research were analyzed under three headings.

1. Introductory Characteristics of the Participants

Participants was determined that 77.5% of them were female, 39% of them were fourth-year students, 88.8% of them lived with their families, and 44% of them rarely left the house for any activity.

Findings Regarding Validity of Scale

Content and Language Validity

The opinions of 8 experts in the field of psychiatry were taken for content validity of scale whose language translation was completed. To say that scale has content validity, the score must be 0.80 and above [10]. In this study, the CVI score was found to be 0.91.

Construct Validity

Factor Analysis

In factor analysis, regardless of its sign, data quality of 0.60 and above is considered high-level quality, and a quality value between 0.30-0.59 is regarded as moderate quality [21].

Exploratory Factor Analysis (EFA)

"Kaiser-Meyer-Olkin"test was used to determine sample adequacy. In addition, "Barlett's Test of Sphericity" analysis was applied to determine whether the scale was suitable for factor analysis. Sample adequacy of Hikikomori Questionnaire, determined by KMO, was found to be 0.919. As a result of the Barlett Test, x^2 was found to be 3051,237. As a result of both analyzes, it was determined to be significant at the $p<0.001$ significance level. In Figure 1, a line graph is presented according to the eigenvalues of the Hikikomori Questionnaire.

Table 1. The distribution of average scores of total and sub-dimensions of the Hikikomori (social withdrawal) questionnaire

Questionnaire	Minimum and Maximum Values That Can Be Taken from the Questionnaire	X	SD
The Hikikomori Questionnaire Total	0-88	35.18	14.54
Sub-Dimensions			
Socialization	0-44	18.08	8.36
Isolation	0-24	10.26	4.12
Emotional Support	0-20	6.83	4.15

***Component Number**: Factor Number

The total score of the scale is 35.18±14.54 (Table 1).

Table 2. The factor matrices (F.M), factor loads (F.L) and data quality (D.Q) of 22 items in the questionnaire

Items			F.M	F.L
The number of the item in the original questionnaire	**The number of the item in the new questionnaire**			
1	1	I stay away from other people.	1	1.00
3	2	There really isn't anyone with whom I can discuss matters of importance.	1	1.00
4*	3*	I love meeting new people.	1	1.36
5	4	I shut myself in my room.	1	1.00
6	5	People bother me.	1	1.80
7*	6*	There are people in my life who try to understand me.	1	0.77
8	7	I feel uncomfortable around other people.	1	1.87
9	8	I spend most of my time alone.	1	0.95
11	9	I don't like to be seen by others.	1	1.91
12	10	I rarely meet people in-person.	1	0.92
13	11	It is hard for me to join in on groups.	1	2.13
14	12	There are few people I can discuss important issues with.	1	0.63
15*	13*	I enjoy being in social situations.	1	1.55
17	14	There really isn't anyone very significant in my life.	1	0.65
18	15	I avoid talking with other people.	1	2.39
19	16	I have little contact with other people talking, writing, and so on.	1	1.35
20	17	I much prefer to be alone than with others.	1	2.24
21*	18*	I have someone I can trust with my problems.	1	0.75
22	19	I rarely spend time alone.	1	-0.53
23	20	I don't enjoy social interactions.	1	2.13
24	21	I spend very little time interacting with other people.	1	0.95
25*	22*	I strongly prefer to be around other people.	1	1.25

Table 3. Confirmatory factor analysis concordance values of the Hikikomori (social withdrawal) Questionnaire (n=418)

Fit Indexes	Normal-Acceptable Fit	Analysis result
Chi-square/df (CMIN/DF)	CMIN/DF ≤3* CMIN/DF ≤5 **	2.53
P-Value for Test of Close Fit	p<.05*	0.000
Root Mean Square Error of Approximation (RMSEA)	RMSEA<0.08**	0.06
Comparative Fit Index (CFI)	CFI value close to or above 0.90 ***	0.89
Root Mean Square Residual (RMR)	0<RMR<0.08*	0.08
Goodness of Fit Index (GFI)	GFI≥0.85*	0.90
Adjusted Goodness of Fit Index (AGFI)	AGFI≥0.85*	0.88

Source: *32, ** 18, ***30

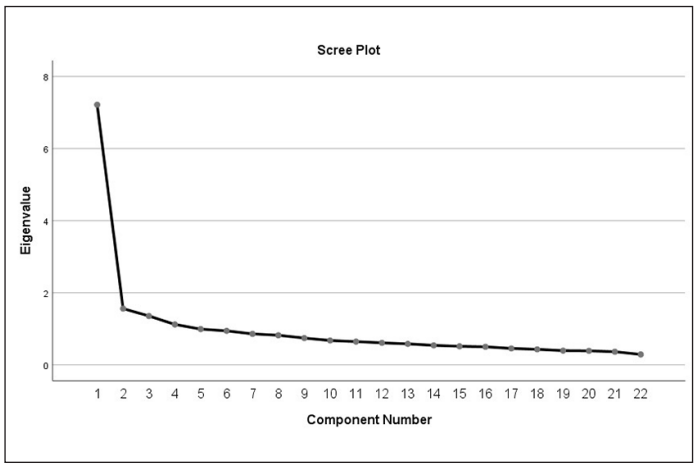

Figure 1. The Scree Plot of the Hikikomori (Social Withdrawal) Questionnaire's Factor Analysis

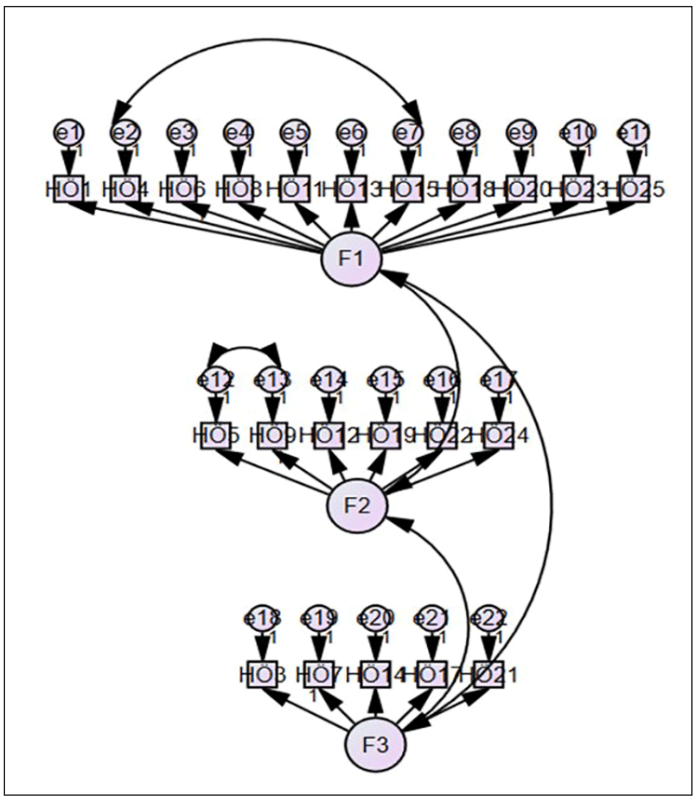

Figure 2. Path diagram and parameter estimates for the Hikikomori Questionnaire

CFA

CFA is applied to test the three-factor structure of Hikikomori (Social Withdrawal) questionnaire. To obtain a stronger structure, the estimation values and items with factor loads below 0.3 in the first measurement (items 2, 10, 16) were removed. CFA was performed on the remaining items. According to this factor analysis, estimates and factor load values of 22 items giving data quality are presented in Table 2. The findings of the goodness-of-fit indices obtained for the CFA are presented in Table 3, and the parameter estimates are presented in Figure 2.

PATH Diagram; As seen in Path, the questionnaire confirmed a three-factor structure and acceptable good fit indices.

It was observed that there was a high rate of covariance (correlation) between the 4th and 8th items and 3rd and 13th items of scale. It was observed that assigning covariance to these items brought the goodness of fit indexes (CMIN/DF, p-value, RMSEA, CFI, RMR, GFI, AGFI) and standardized regression coefficients (estimate) to the desired level, which is vital in CFA.

Criterion Dependent Validity

Within the scope of criterion-dependent validity, Hikikomori (Social Withdrawal) Questionnaire, together with the MSPSS, the PSS, and the ULS-8 were applied to the sample group of 418 people. Correlation values obtained between the scales are presented in Table 4.

A negative correlation was found between Hikikomori Questionnaire and the MSPSS ($r=-0.573$, $p<0.01$); a significant positive correlation was found between Hikikomori Questionnaire and PSS ($r=0.492$, $p<0.01$), and between Hikikomori Questionnaire and the ULS-8 ($r=0.683$, $p<0.01$) (Table 4). According to these results, it was seen that the Hikikomori Questionnaire was valid.

Item Analysis and Reliability

The consistency of the scale within itself (the significance of relationships among the items forming scale) was determined by the Pearson product-moment correlation coefficient. With this coefficient, how much the things that make up the scale contribute to the measurement tool and their relationship with the measurement tool were evaluated.

When the questionnaire's item-total-item correlations and the Cronbach alpha values that occur when items were deleted in Table 5 were evaluated, a very low increase in the Cronbach's alpha value was observed when item 19 was deleted. For this reason alone, removal of the item was not considered.

Cronbach α reliability coefficient of total questionnaire was determined as 0.885 (Table 6). Hotelling's t was 1060,712 ($p=0.000$).

Tablo 4. The Correlation of Hikikomori (Social Withdrawal) Questionnaire with Similar Scales

	1	2	3	4
1. The Hikikomori (Social Withdrawal) Questionnaire	1			
2.The Multidimensional Scale of Perceived Social Support	-0.573**	1		
3. The Preference for Solitude Scale	0.492**	-0.287**	1	
4. The UCLA Loneliness Scale	0.683**	-0.562**	0.204**	1

**p<0.01

Table 5. The Item-Total Item Correlations and Cronbach Alpha Values Resulting When the Items Were Deleted

Items		Item-Total Item Correlation	Cronbach Alpha Value if the Item is Deleted
1	I stay away from other people.	0.341	0.883
2	There really isn't anyone with whom I can discuss matters of importance.	0.564	0.877
3*	I love meeting new people.	0.400	0.882
4	I shut myself in my room.	0.484	0.880
5	People bother me.	0.581	0.877
6*	There are people in my life who try to understand me.	0.451	0.880
7	I feel uncomfortable around other people.	0.570	0.877
8	I spend most of my time alone.	0.490	0.879
9	I don't like to be seen by others.	0.605	0.876
10	I rarely meet people in-person.	0.488	0.879
11	It is hard for me to join in on groups.	0.590	0.876
12	There are few people I can discuss important issues with.	0.405	0.882
13*	I enjoy being in social situations.	0.462	0.880
14	There really isn't anyone very significant in my life.	0.399	0.882
15	I avoid talking with other people.	0.704	0.873
16	I have little contact with other people talking, writing, and so on.	0.659	0.874
17	I much prefer to be alone than with others.	0.624	0.875
18*	I have someone I can trust with my problems.	0.405	0.882
19	I rarely spend time alone.	-0.245	0.899
20	I don't enjoy social interactions.	0.648	0.875
21	I spend very little time interacting with other people.	0.528	0.878
22*	I strongly prefer to be around other people.	0.394	0.882

* Reverse items on the questionnaire

Table 6. Investigation of internal consistency reliability coefficient of total and sub-dimensions of the Hikikomori (Social Withdrawal) Questionnaire (Cronbach Alpha (α))

The Hikikomori (Social Withdrawal) Questionnaire	Cronbach Alpha (α)
Total Questionnaire	0.885
Sub-dimensions	
Socialization	.854
Isolation	.519
Emotional Support	.698

Table 7. The test-retest mean scores according to total and sub-dimensions of the Hikikomori (Social Withdrawal) Questionnaire and correlation analysis

Sub-dimensions		X	SD	r	p
Socialization	Test	18.08	8.36	0,753	<0,001
	Retest	19.11	10.98		
Isolation	Test	10.26	4.12	0,677	<0,001
	Retest	9.96	5.10		
Emotional Support	Test	6.83	4.15	0,861	<0,001
	Retest	5.70	4.79		
Total Questionnaire	Test	35.18	14.54	0,842	<0,001
	Retest	34.77	18.94		

Invariance

Test-Retest Method

The questionnaire's correlation value of total and sub-dimensions of test-retest used to determine the reliability of Hikikomori Questionnaire is indicated in Table 7. It was determined that there was a highly significant relationship in scale and all sub-dimensions between the two measurement results ($p<0.001$).

DISCUSSION

By adopting this scale to Turkish society, it is predicted that it will make a significant contribution to monitoring and correcting the Hikikomori processes experienced by the individuals.

Validity

Three different methods were used to evaluate the validity of the questionnaire. These are content (scope) validity, construct validity (factor analysis), and criterion-related validity.

Content (Scope) Validity of the Questionnaire;

The correlation between the feature to be measured and questionnaire items are related to the validity of scale tool. It is necessary to determine whether the questionnaire item covers the feature that is intended to be measured (content validity) or the power of the item to predict the related construct (construct validity). Consistency/inconsistency between the expert opinions about the questionnaire was also used as an estimation for construct validity [22].

Content Validity Index (CVI) was conducted to evaluate whether each item and the whole questionnaire measure the concept to be measured and whether they contain different concepts. A measurement tool has content validity if it has measured all the features to be measured, and if it is validly measuring every item it covers. For this, the opinions of the relevant experts were taken for content validity. CVI was used as a rating criterion to evaluate expert opinions. In this technique, experts evaluated each questionnaire item by scoring between 1-and 4. To say that questionnaire has content validity, a score of 0.80 and above is expected [23] for questionnaires had content validity.

Factor Analysis

In construct validity, items of the questionnaire should be homogeneous or similar to each other, and best way to evaluate this statistically is factor analysis. Before the factor analysis is carried out to determine to construct validity, the sufficient number of data and their suitability for factor analysis are evaluated [24]. Factor analysis is used for the questionnaires with sub-dimensions other than the total score. The main goal of factor analysis is to determine under which sub-dimensions questionnaire items will be collected. Factor analysis not only tests the integrity of the scale but also helps to clear the subject to be measured from unrelated variables. The purpose of factor analysis is to express a large number of items with a smaller number of factors. Items with a high correlation among themselves constitute factors [25]. Factor analyzes are performed with two different methods, namely EFA and CFA.

Explanatory Factor Analysis

Factor analysis of the sample (Construct validity): First, the KMO analysis was used to determine whether sample size was sufficient. A KMO value close to 1 indicates that data is suitable for factor analysis, while a KMO value below 0.50 is unacceptable [26]. In study, KMO value of the questionnaire was found to be 0.919. These findings showed that sample was suitable and sufficient for factor analysis [27]. According to the result of Barlett's test, x^2= 3051,237 was found to be significant

at a p<0.001 significance level. Significance of this finding indicates that sample size is at a good level and correlation matrix is suitable for factor analysis [28].

Eigenvalue (eigenvalue) statistics and a Scree plot graph should be drawn to obtain the factors. The higher the eigenvalue, the higher the variance explained by the factor [28].Three factors with more than 1point eigenvalues were defined.

After examining results of specified explanatory factor structure of model, factors were rotated to interpret the confirmatory factor analysis. For this, the Varimax Rotation process was applied. However, Direct Oblimin and Maximum Likelihood were used as the rotation methods because the number of samples was less than a thousand, and a correlation was expected between the factors [28]. The questionnaire consists of three sub-dimensions as in the original questionnaire.

CFA

In study, CFA was applied to 25 items in questionnaire. The literature shows that λ values above 0.32 are acceptable [11]. To obtain a stronger structure, the estimation values, and items with factor loadings below 0.3 in first measurement (items 2, 10, 16) were removed. CFA was performed on remaining items. Since estimated values and factor loads of items changed with the new CFA, the goodness of fit values of sub-dimensions of the questionnaire were re-examined. Among these fit indices, most commonly used ones are Chi-Square Fit Test, GFI, AGFI, CFI, NFI, RMR or RMS and Root Mean Square of Approximate Errors. Ratio of chi-square value to degrees of freedom (CMIN-DF) is 2 and below 2 shows that the model is good, and 5 and below 5 show at the model has an acceptable goodness of fit [10,30,31]. In this study, ratio of chi-square value to degrees of freedom (2.53) was found to be less than 5. Furthermore the fit indicate CFI valid close to or above 0.90 [30]. RMS the EA value is less than 0.08 [21], GFI and AGFI values being equal to or greater than 0.85 indicate good fit [32] this study, the fit indices were found to be RMSEA= 0.060, RMR= 0.08, GFI= 0.90, NFI= 0.83, AGFI= 0.88, CFI= 0.89. According to findings of the goodness of fit index obtained based on these criteria, it can be said that the three-factor structure of scale was also confirmed in data obtained from Turkish sample.

PATH Diagram: As a result of analyzes made in structural equation model, diagrams called “path diagrams” can be obtained. These diagrams represent graphical representation of the outputs of the model [28,33]. Scale confirmed a three-factor structure and acceptable good fit indices.

Criterion-related Validity

Correlation values of the Hikikomori (Social Withdrawal) Questionnaire were examined with similar scales to reveal the criterion-related validity. The correlation coefficient calculated in this method is expected to be high [10]. There was a negative correlation between the Hikikomori Questionnaire and the MSPSS, a positive correlation between Hikikomori Questionnaire and the PSS, and a positive correlation between Hikikomori Questionnaire and the ULS-8. These results reveal the validity of Hikikomori Questionnaire.

Reliability of the Questionnaire

Internal Consistency

Internal consistency is reliability that determines whether all aspects of the questionnaire are capable of measuring. This criterion method is an analysis that researchers generally use because it gives the result with a single measurement, and it is economical. For a questionnaire to have internal consistency reliability, it is necessary to prove that all sub-dimensions of scale measure same feature [10]. In this study, Cronbach’s alpha internal consistency coefficient, Hotelling’s T Square Analysis, item-total score correlation, and test-retest reliability were examined for internal consistency.

Cronbach’s Alpha Coefficient of Reliability is frequently used as a method of estimating the internal consistency of Likert-type models [34,35]. The most appropriate way to determine that each item of the questionnaire measures the same attitude within itself is to calculate Cronbach’s alpha coefficient [10]. There can be a single α value for each item or an average α value for all items. Cronbach’s alpha internal consistency coefficient is a value found by ratio of the sum of the item variances in the model to the general variance. This value is between 0 and 1. Higher Cronbach alpha coefficient of a scale, it can be said that questionnaire consists of consistent items measuring elements of same feature. The ranges in which the Cronbach’s alpha coefficient can be associated with reliability of questionnaire are expressed as follows in the relevant literature: If it is between 0.00<α<0.40, the questionnaire is unreliable if it is between 0.40<α<0.60, the questionnaire has low reliability if it is between 0.60<α<0.80, the questionnaire has considerable reliability, and if it is between 0.80<α<1.00, questionnaire has high reliability [24].When the original form of the questionnaire was compared

with the adaptation of the questionnaire to the Turkish samples, it was seen that the findings were similar in terms of reliability (Cronbach's alpha=0.96 for Japan, Cronbach's alpha= 0.89 for Turkey) [2]. In the study in which the questionnaire was developed, the Cronbach's alpha coefficients for sub-dimensions of the scale were found to be 0.94 for socialization, 0.91 for isolation, and 0.88 for emotional support, respectively [2]. In this study, the scale's sub-dimension Cronbach's alpha coefficients were found to be 0.85 for socialization, 0.51 for isolation, and 0.70 for emotional support, respectively. The findings obtained as a result of this research indicated that the scale is a reliable questionnaire due to its high-reliability coefficient and that it is generally similar to the original questionnaire.

Hotelling's T-Square Analysis: In study, Hotelling's T-Square test was used to investigate whether students answered according to their views or under the influence of the researcher and others [25]. Hotelling's T Square was 1060.712 (p = 0.000). It was concluded that difference between the item mean scores was significant, and scales did not show any response bias.

Test-retest Reliability

The test-retest application, which was carried out to determine the reliability of Hikikomori Scale, was applied to participants participating in the research at two-week intervals. The correlation coefficient (r-value) was calculated between the two application scores. This value should approach 1 and be above 0.70 at least [10]. In this study, a high, positive and significant relationship was found between first and second measurement (r= .84, p=0.01).

Item-Total Score Correlation

For an item to be acceptable, the item-total correlation coefficient must be positive and at least 0.20 [10,36,37]. In this study, the item-total correlation of scale was found to be 0.20 and above. Total score correlations of all items were sufficient for item analysis. These findings showed that the model scales have no problematic items in the final version and have internal consistency. When an item was deleted from scale, no item would significantly increase the calculated Cronbach Alpha values.

Limitations

This study, which was conducted to adapt Hikikomori Questionnaire into Turkish, has some limitations. Considering Cronbach's alpha values of questionnaire's sub-dimensions obtained in this study, it is seen that the isolation sub-dimension value is acceptable but low. This limitation can be eliminated by increasing the sample size in other studies to be conducted. The fact that university students constitute the sample creates a limitation in terms of representing individuals in samples consisting of different groups, this limitation can be eliminated by working with different sample groups for future studies.

CONCLUSION

Eventually, the questionnaire consists of 22 items and has three sub-dimensions. These sub-dimensions are Socialization (items 1, 3,5, 7,9,11, 13, 15, 17, 20, 22), Isolation (items 4, 8, 10, 16, 19, 21) and Emotional Support (2, 6, 12, 14, 18). 5 items (3, 6, 13, 18, 22) are reverse scored in the questionnaire. Lowest score that can be obtained from items is 0, and highest score is 4. Score range of scale is 0-88. The increase in total score obtained from scale in the dictates that level of social withdrawal behavior of the individual increases. An increase in the total score obtained from the sub-dimensions of the scale also indicates an adverse increase in the relevant area. This scale, whose validity and reliability studies were conducted, is thought to be a valid and reliable measurement tool for this mental health problem, which has become an increasing concern in Turkey. It is recommended that the social withdrawal scale be used both in individuals with and without a diagnosis of mental illness. In addition, it is recommended to evaluate the effects of Hikikomori on loss of workforce.

Acknowledgments: This research will be held on 20-23 October VI. It was presented as an oral presentation at the International X. National Psychiatric Nursing Congress.

Conflict of interest: The authors declare that there is no conflict of interest.

Funding: This research was not supported by a grant.

Authors' Contributions: Conception: RK, DT; Design: RK, SO; Supervision: DT; Fundings: SO, DT; Materials: RK; Data Collection and/or Processing: RK; Analysis and/or lnterpretation: SO, DT; Literature Review: RK, SO; Writing: SO; Critical Review: DT.

Ethics Committee Approval: Ethics committee approval was received for this study from Gaziantep University Clinical Research Ethics Committee (Approval date: 04.11.2020; approval number: 2020/312).

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How to Cite;

Kaya R, Özgüç S, Tanrıverdi D (2023) Turkish Validity and Reliability of the Hikikomori (Social Withdrawal) Scale (HQ-25). Eur J Ther. 29(3):469-479. https://doi.org/10.58600/eurjther.20232903-1596.y