Original Article

Validity and Reliability of The Turkish version of the Stigma Scale for Sexual and Reproductive Health in Young Women

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Abstract

In this study, the suitability of the "Sexual and Reproductive Health Stigma Scale in Young Women" scale for the Turkish society was investigated. This methodological study was conducted with 392 young women aged 18-24 years. The validity and reliability analyzes of the scale were performed. As a result of analysis; content validity was very good, the scale had a 3-factor structure and the 3-factor structure of the scale was valid. Cronbach alpha coefficient of the scale was found to be 0.83 and item-total score correlations ranged between 0.36 and 0.63 and no item was discarded from the scale. The correlation between the test-retest results was calculated as r=0.784 and p <0.001, and it was found that the scale had invariance to time.

The Turkish version of the Stigma Scale for Sexual and Reproductive Health in Young Women was found to be a valid and reliable instrument.

Keywords: Adolescent, Young women, Sexual and reproductive health, Stigmatization, Adaptation.

Introduction

The adolescent period that starts with puberty and continues into adulthood is a period in which biological and psychological changes occur (İnanc et al. 2005). The United Nations Population Fund [UNFPA] and the World Health Organization [WHO] defined the age of 10-19 as adolescents and the age group 15-24 as youth. UNFPA and WHO united these two groups and defined the 10-24 age group as “young population” (UNFPA). Health problems and causes of death among individuals in this age group include substance use, suicides, infectious diseases, risky sexual behaviors, and unwanted pregnancies (UNFPA ; WHO 2017b). Studies show that young people living in developing countries do not have sufficient knowledge of sexual and reproductive health issues (McManus and Dhar 2008; Kyilleh et al. 2018; Lim et al. 2015) . Young individuals who do not have sufficient information about sexual and reproductive health can easily turn to wrong and risky sexual behaviors (Kyilleh et al. 2018; Tenore and Lipsky 2000). As a result of such behaviors of young people, problems such as unwanted pregnancy, voluntary abortion, sexually transmitted infections (STI) may arise (Ozcebe 2002). Pregnancy, preterm labor, abortion, STI etc. situations are regarded as immoral and inappropriate behaviors by social, cultural and religious norms and cause the committing individuals to be stigmatized by society (Atuyambe et al. 2005; Fenton 2010; Hall et al. 2015;Kelly 1996; Levandowski et al. 2012; Wiemann et al. 2005). Stigmatization is described as a highly discrediting, humiliating action or process made by other people towards individuals (Goffman 1963) . Stigmatization may impair self-esteem in the young individual and cause increased feelings of guilt and shame in individuals (Taskın 2007) . This may lead young people to anxiety, depression, substance abuse and even suicide (Sarı 2017; Saewyc et al. 2008). In addition, stigmatization may cause individuals to experience fear of discrimination and exclusion, as well as preventing them from benefiting health services or treatment, or from accessing preventive services and consultancy services (WHO 2017a). Failure of young individuals to benefit from these services due to stigmatization

may lead to the spread of sexually transmitted diseases, insecure miscarriages, and increased maternal mortality (Hindin et al. 2013; Singh et al. 2010; UNFPA 2007).Stigmatization for sexual and reproductive health is an abstract concept and cannot be measured directly. Theoretical variables that cannot be measured directly can be measured with measurement instruments(DeVellis 2017). As a result of the literature review, no measurement instrument that can measure sexual and reproductive health stigmatization status in young women was found for our country. In the international literature review, "Stigma Scale for Sexual and Reproductive Health in Young Women", developed by Hall et al. (Hall et al. 2017) , is available. There has not been an adaptation of this scale into Turkish yet.

The aim of this study is to conduct the validity and reliability studies of the "Stigma Scale for Sexual and Reproductive Health in Young Women", developed by Hall et al. (Hall et al. 2017), for Turkish, and adapt it to the Turkish society.

Material and Method

Participants: The sample included 392 young women aged 18-24 who benefited from the Ataturk University student cafeteria. In scale adaptation studies, it is recommended that the sample size be at least 5-10 times the number of scale items (Gozum and Aksayan 2002) . Since the scale had 20 items to be adapted, it was calculated that the sample should be at least 100 to 200 women. Considering the possibility of data loss during the research process, more young women were included in the sample of the study than calculated. In the original scale by Hall et al. (Hall et al. 2017) , the study group consisted of women between the ages of 15-24. The sample of this study was planned to include women between the ages of 15-24, too, but formal permissions could not be obtained for women between the ages of 15-17. Therefore, the study was conducted with women aged 18-24. Women, who are at least high school graduates, who do not have hearing, vision, communication or mental health problems and who were volunteer to participate were included in the study.Socio-demographic characteristics of the young women participated in the study are given in Table 1.

Procedures: This research is a methodological study. The data of the study was collected at the cafeteria of Ataturk University in February-March 2018 by means of a "Personal Information Form" and the "Stigma Scale for Sexual and Reproductive Health in Young Women".

Personal Information Form: This form, prepared by the researcher, consisted of questions that determine the women's socio-demographic characteristics.

Stigma Scale for Sexual and Reproductive Health in Young Women [SSSRHYW]: It was developed by Hall et al. (Hall et al. 2017) in 2017 to determine the stigma of Sexual and Reproductive Health in women aged 15-24 years. The original scale consists of three sub-dimensions, being "Accepted Stigmatization", "Internalized Stigmatization" and "Attitudes on which Stigmatization is Based", and of 20 items. Items 1, 2, 3, 4, 5 and 6 were included in the "Accepted Stigmatization" sub-dimension. The lowest score that can be obtained from this sub-dimension is 0 and the highest score is 6. The "Internalized Stigmatization" sub-dimension consists of a total of 7 items. These items are 7, 8, 9, 10, 11, 12 and 13. The lowest score that can be obtained from this dimension is 0 and the highest score is 7. The sub-dimension of "Attitudes on which Stigmatization is Based" consists of a total of 7 items. These items are 14, 15, 16, 17, 18, 19 and 20. The lowest score that can be obtained from this dimension is 0 and the highest score is 7. The lowest score that can be obtained from the total of the original scale is 0 and the highest score is 20. Each item of the scale is rated as 0 = Disagree, 0 = Neutral, 1 = Agree. The higher the score, the higher the stigmatization. The Cronbach alpha value of the original scale was 0.74. It was stated that the scale is suitable for all social classes.

Language validity, scope validity and pilot study of the scale [Translation, content validity and pilot study]

Language Validity : Translation-back translation method was used for the language validity of the scale. The English form of the scale was translated into Turkish by three different experts who are fluent in both languages. The scale, which was tnslated into Turkish, was translated back into its original language, English, by a different expert.

Scope Validity: After the language validity process was completed, the original language items of the scale were also included below each item in the newly formed form and an expert opinion form was formed. The expert opinion form was sent by e-mail to 10 different specialists including 9 academicians specialized in Obstetrics, Women's Health and Diseases Nursing and 1 academician specialized in Child Health and Diseases Nursing. Experts examined the scale

items for clarity and cultural relevance and expressed their views. Davis Technique (Gozum and Aksayan 2002) was used for the scope validity which has been conducted based on expert opinions. The experts rated the items of the scale as; not appropriate (1 point), item needs to be brought into the appropriate form (2 points), appropriate but small changes required (3 points), very appropriate (4 points) (Gozum and Aksayan 2002) . In accordance with the recommendations of the experts, expression changes were made in 6 items. Content Validity Index (CVI) was calculated as per the opinions of the experts.

The scale re-designed according to the expert recommendations was applied to a group of 20 people in a pilot study and surface validity was tested. Women participated in the pilot study were not included in the study. After the pilot study, minor changes were made in articles 3, 9, 10 and 16.

Validity of scale

Construct Validity. For construct validity, explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed. Prior to the factor analysis, whether the sample size was sufficient for factor analysis was evaluated by Kaiser-Meyer-Olkin (KMO) analysis and Bartlett's Sphericity test. Principal component analysis was used in the EFA and the data were analyzed by rotating with varimax method. Structural equation modeling (SEM) was used for CFA.

Reliability of scale

Internal Consistency. Cronbach's alpha coefficient, item total score correlations and split-half technique were used to evaluate the internal consistency of the scale.

The invariance of the scale to time. The invariance of the scale to time was examined by test-retest method. The test was applied to 70 volunteer women who accepted to take the test again two weeks after the first application. Correlation between first and last measurement was evaluated using Pearson Product-Moment Correlation Coefficient (PPMCC) and the invariance of the scale to time was tested.

Evaluation of Data. SPSS 22.00 statistical package program and Lisrel 8.8 package program were used to analyze the data collected within the scope of the study. KMO index, Bartlett's Sphericity test, EFA, CFA, compliance index, Cronbach alpha coefficient, item total score correlation and Test-retest analysis were used in the study.

Ethical Principles of Research. Permission was obtained from Kelli Stidham Hall, one of the authors who developed the scale, for the adaptation of SSSRHYW into Turkish. Before commencing the research, permission was obtained from the ethics committee of Ataturk University Faculty of Nursing with the date of 31.05.2017 and number 217-5/11. In order for the study to be conducted, a written permission from Ataturk University Health Culture and Sports Department was obtained. Furthermore, Verbal consent was obtained from women who agreed to participate in the study.By explaining the purpose of the study to the participants, "*Informed Consent*"; by declaring that the obtained data will not be shared with third parties, "*Protection of Privacy and Confidentiality*"; by adhering the principle of being volunteer in participation to the study, "*Autonomy*" were secured. In general, ethical principles of "*Respect to Person and Life*", "*Doing no Harm / Providing Benefit*" have been followed.

Results

Scope Validity: After the original scale was translated, the scale was sent to 10 experts for the testing of scope validity. CVI scores of the scale items were calculated as per the experts' assessments for language suitability and intelligibility. The CVI score of each item calculated using the Davis technique was found to range between 0.90-1.0, and the CVI value of the scale was 0.99. As a result, the content validity of the scale was found to be very good.

Building Validity: The sufficiency of sample size and appropriateness of the data set for factor analysis were determined by using KMO analysis (KMO value of 0.79) and Bartlett's test ($X^2 = 1077.825$, $p < 0.001$), respectively. In order to determine the factor structure of the scale, a 5-factor structure with an eigenvalue of over 1.00 explaining 54% of the total variance was determined by Principal Component method and Varimax vertical rotation technique. Since this 5-factor structure did not fit the 3-factor structure of the original scale, Scree Plot test was used to limit the number of factors to 3 and the factor analysis was repeated with varimax rotation method. After the repeated factor analysis, it was found that the 20-item SSSRHYW, which was limited to three factors, had a 3-dimensional structure explaining

42% of the total variance and having an eigenvalue above 1 (Table 2).

After the varimax rotation method of SSSRHYW, the distributions of items in 3 factos and factor loads are given in Table 3.

After determining the 3-factor structure of the 20-item SSSRHYW, the factors were named. First Factor consisted of 1st, 2nd, 3rd, 4th, 5th, and 6th articles and named as "External Stigmatization". Second Factor consisted of 7th, 8th, 9th, 10th, 14th, 15th, 16th, 19th and 20th articles and named as "False Stigmatization Attitudes". Third Factor consisted of 11th, 12th, 13th, 17th and 18th articles and named as "Internal Stigmatization".

The correlations of the subscales of SSSRHYW with each other and with the whole scale, their arithmetic means, standard deviations, Cronbach's alpha coefficients, and ranges were calculated and presented in Table 4.

The compatibility of the 3-factor structure of SSSRHYW resulting from EFA was tested with CFA. Firstly, Kolmogorov-Smirnov (.095) and Shapiro-Wilks (.982) tests showed that the data of SSSRHYW showed normal distribution. Then, 3-factor structure of the scale was evaluated by SEM analysis and $X^2 = 388.07$; sd = 132, X^2 / sd = 2.83; $p < 0.001$ were calculated (Figure 1). It was found that the 20 items and 3-factor model of the SSSRHYW provided construct validity. In addition, model agreement indices were examined and RMSEA = 0.070, AGFI = 0.85 and GFI = 0.93 were calculated. These findings showed that the scale had an acceptable goodness of fit.

Reliability: The Cronbach's alpha coefficient, which was calculated for the internal consistency of SSSRHYW, was 0.83. It was found that the item total score correlations of the scale ranged from 0.36 to 0.63 and all items were uneventful. No items were discarded from the scale (Table 5).

Invariance to Time [Test-Retest]. The test-retest method was used to investigate the invariance of the scale to time. The correlation between the test and retest results of the scale was significant at r = 0.784 and $p < 0.001$ significance level. This result showed that both measurements of the scale were similar and the scale had invariance to time.

The two quasi-reliability values for the internal consistency of the SSSRHYW were calculated and found to be 0.701 for the first half and 0.765 for the second half. The Guttman Split-Half coefficient of the scale was 0.752 and the Spearman-Brown coefficient was 0.754. These values showed that the internal consistency reliability of the scale was high.

For the discrimination testing of SSSRHYW, slices of 27% from both the lower group and the upper group were taken into consideration. The t-values of the differences between the upper and lower groups related to each item and total score were found significant at $p < 0.001$ significance level. SSSRHYW was found to be capable of discriminating those who have high or low stigmatization attitudes towards Sexual and Reproductive Health in Young Women.

In the present study, the lowest score from the SSSRHYW was 0, the highest score was 20, and the average of scores taken from the overall scale was determined to be 9.96 ± 4.50.

Table 1. Demographic characteristics of the participants [n = 392]

Features	$\bar{X}$±SD	Min- Max
Age	20.76 ± 1.94	18-24
Monthly allowance	535.08 ± 400.15 tl	0-3500 tl
	S	%
Class		
Preparatory class	9	2.3
1st Class	151	38.5
2nd Class	100	25.5
3rd Class	56	14.3

4th grade	76	19.4
Mother education		
Primary school	242	61.7
Middle School	63	16.0
High school	60	15.4
University	27	6.9
Father education		
Primary school	134	34.2
Middle School	101	25.8
High school	101	25.8
University	56	2.14
Economic status of the family		
Good [Income is more than expense]	88	4.22
Medium [Income and expense equivalent]	286	73.0
Poor [Income less than expense	18	4.6
Staying with whom		
With mother & father	125	31.9
Student dormitory	238	60.7
Other	29	7.4

Table 2. Variance Explanation Ratios of Items and Factors of SSSRHYW, limited by three factors

Components	Initial Eigenvalues			Sum of Squares of Loads			Sum of Squares of Loads After Rotation		
	Total	% Of variance	Stacked %	Total	% Of variance	Stacked %	Total	% Of variance	Stacked %
1	4.846	24.232	24.232	4.846	24.232	24.232	3.194	15.969	15.969
2	2.121	10.607	34.839	2.121	10.607	34.839	3.037	15.187	31.156
3	1.446	7.228	42.067	1.446	7.228	42.067	2.182	10.911	42.067
4	1.316	6.582	48.649						
5	1.096	5.481	54.130						
6	.994	4.969	59.099						
7	.978	4.892	63.991						
8	.819	4.095	68.086						

9	.762	3.812	71.898						
10	.754	3.771	75.669						
11	.741	3.704	79.373						
12	.635	3.177	82.549						
13	.593	2.967	85.517						
14	.584	2.921	88.438						
15	.507	2.534	90.972						
16	.446	2.231	93.202						
17	.413	2.066	95.269						
18	.381	1.907	97.175						
19	.337	1.687	98.862						
20	.228	1.138	100.000						

Table 3 Distribution of SSSRHYW Items to Factors and Factor Loads

	1	2	3
EXTERNAL STIGMATIZATION			
1. People behave differently to a young person they know to have had sexual intercourse.	.749		
2. People behave differently to a young person they know to have aborted children.	.692		
3. People behave differently to the young person they know to use modern methods of family planning [effective contraceptive methods].	.309		
4. A young person's sexual intercourse often leads to physical beating or beating by his mother or father.	.322		
5. Being pregnant and having a baby when I am young makes people around me treat me differently.	.456		
6. Being pregnant and having a baby when I am young makes people mock, humiliate, swear, or gossip on me.	.529		
FALSE STIGMATIZATION ATTITUDES			
7. Sexual intercourse as a teenager is a form of disobedience [rebellion, uprising].		.474	
8. Young women who abort pregnancy are bad girls.		.603	
9. Young women who use modern family planning [effective contraceptive method] are promiscuous women who experience sexual intercourse casually.		.660	
10. Young people using modern family planning [effective contraceptive method] are seen as bad girls.		.590	
14. Young women who have had an abortion will encourage others to have an abortion.		.714	

15. It is unacceptable for unmarried women to use modern methods of family planning [effective contraceptive methods].		.691	
16. Modern family planning methods [effective contraceptive methods] have negative effects on women's health.		.533	
19. Young people have sexual intercourse for the first time by the pressure of their friends or partners [the person with whom they experience sexual intercourse].		.331	
20. Children born to parents aged 19 years and younger are worse off than those born to adult parents.		.354	
INTERNAL STIGMATIZATION			
11. Having sexual intercourse when young is disgraceful and embarrassing for the young woman and her family.			.666
12. Becoming pregnant and having a baby when I am young will disgrace my family.			.761
13. getting pregnant and having children when I am young will make me feel ashamed and bad.			.698
17. To abort children is to commit murder.			.668
18. Media, including television, the Internet and magazines, have a strong influence on the sexual behavior of young people.			.533
Explained variance%	15.969	15.187	10.911
Total variance% explained	15.969	31.156	42.067

Table 4. Correlation Matrix for SSSRHYW and sub-dimensions

	1	2	3	Total
1-External Stigmatization Dimension	1			
2- False Stigmatization Attitudes Dimension	.381**	1		
3-Internal Stigmatization Dimension	.552**	.525**	1	
Stigma Scale for Sexual and Reproductive Health in Young Women Total	.761**	.821**	.841**	1
Arithmetic mean	3.99	2.65	3.66	9.96
Standard deviation	1.63	2:37	1.82	4:50
Cronbach Alpha coefficient	.627	.756	.769	.831
Range	6	9	5	20
Min-Max	0-6	0-9	0-5	0-20

[**] p<0.001

Table 5. Cronbach's alpha coefficient for Twenty-Item SSSRHYW

ITEM NO	Arithmetic mean	Standard deviation	average of scale if item deleted,	Variance of scale if item deleted	Corrected Item-Total score correlation	Cronbach's alpha coefficient of scale if item deleted
Item 1	.75	.434	9.26	18.145	.389	.824
Item 2	.81	.396	9.20	18.577	.310	.828
Item 3	.48	.501	9.53	18.464	.247	.832
Item 4	.59	.493	9.42	17.973	.373	.825
Item 5	.74	.442	9.28	18.074	.400	.824
Item 6	.63	.485	9.38	17.791	.428	.822
Item 7	.32	.468	9.69	17.770	.452	.821
Item 8	.25	.435	9.75	18.157	.383	.824
Item 9	.17	.377	9.84	18.546	.332	.827
Item 10	.31	.464	9.70	17.834	.439	.822
Item 11	.55	.498	9.45	17.278	.544	.816
Item 12	.62	.487	9.39	17.443	.515	.818
Item 13	.62	.487	9.39	17.346	.541	.816
Item 14	.25	.431	9.76	17.929	.454	.821
Item 15	.34	.475	9.67	17.883	.414	.823
Item 16	.41	.493	9.60	17.960	.376	.825
Item 17	.73	.447	9.28	18.094	.395	.824
Item 18	.83	.372	9.17	18.436	.377	.825
Item 19	.30	.458	9.71	18.275	.329	.827
Item 20	.28	.452	9.72	18.171	.363	.825

SCALE's	Arithmetic mean	Variance	Standard deviation	Number of items	Cronbach Alfa coefficient	Range
	10.01	19.777	4.447	20	.831	20

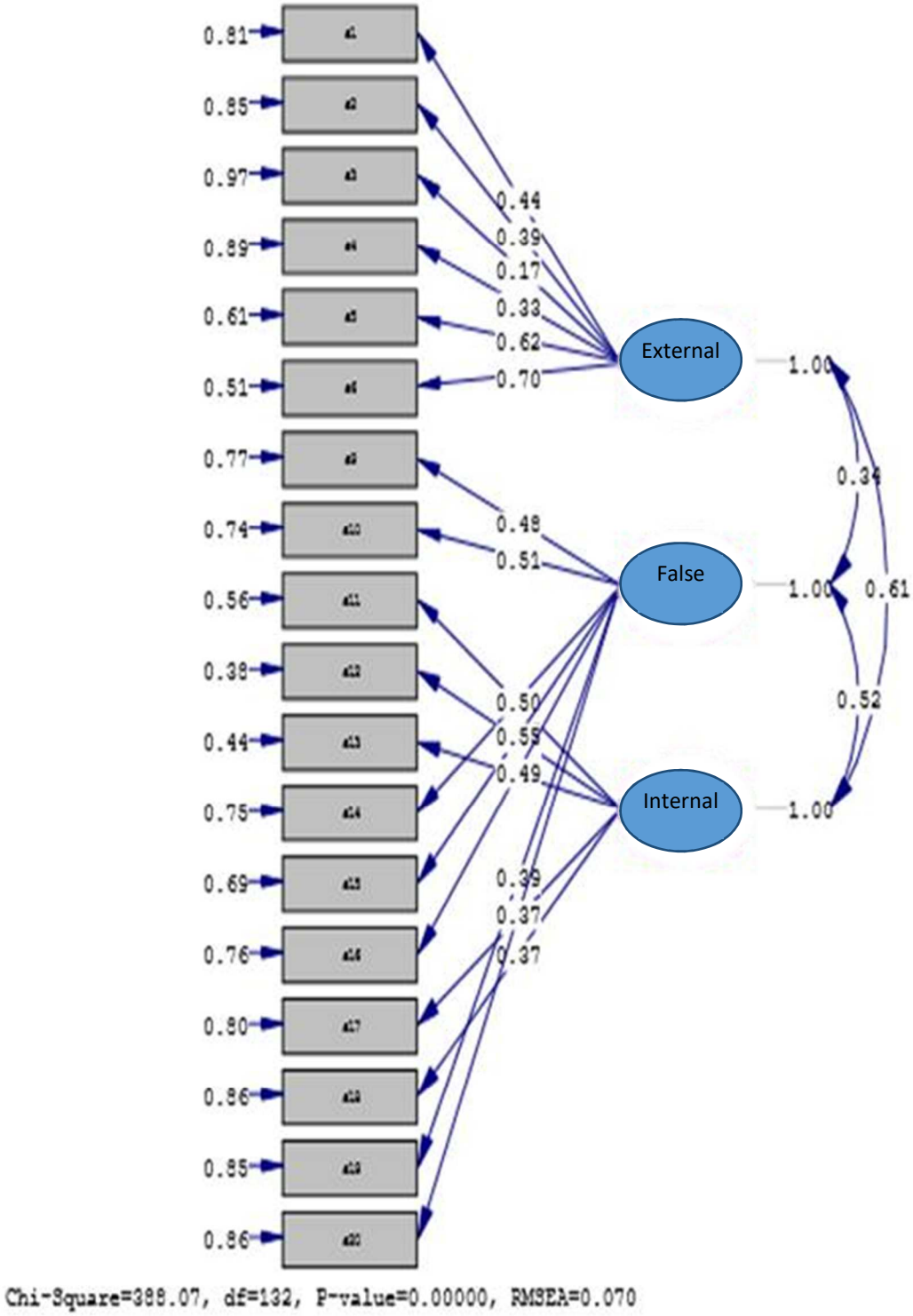

Figure 1. First Level CFA Results of SSSRHYW

Discussion

No measurement instrument that can measure the stigmatization status towards sexual and reproductive health in young women was available for Turkey. In this study, the validity and reliability studies of the "Stigma Scale for Sexual and Reproductive Health in Young Women", which can measure the sexual and reproductive

health stigma status in young women were aimed to be adapted to Turkish society.

In scale adaptation studies, psycholinguistic features should be the first to be examined and psychometric properties should be the second (Gozum and Aksayan 2002). First of all, translation of the original scale is done by taking into account the culture of the society to be adapted. The translation of the scale should be done by more than two translators who are fluent in both languages. The scale translated into the language to be adapted is then translated back into the original language by the back translation method (Secer 2015). In the current study, translation – back translation method, which is the most widely used method in the world, was used in accordance with the literature. Original scale was first translated into Turkish. The scale, once translated into Turkish, was translated back into English, the original language. The translation of the scale into Turkish and the back translation of translated Turkish scale into English were conducted by different experts.

It is reported in the literature that the scale should be submitted to the evaluation of a minimum of 3 to 20 experts for the validity of the scope (Tavsancıl 2002). In the present study, the draft scale, which was translated into Turkish, has been presented to the evaluation of 10 experts for the content validity in accordance with the literature. Experts' opinions were evaluated by Davis technique. In the literature, it is stated that CVI value should be greater than 0.80 in scope validity evaluated by Davis technique (Yurdugul 2005) . CVI value of all 20 items in the current scale were found to be greater than 0.90. The overall scope validity of the scale was determined to be 0.99. These results show that the current preliminary measurement instrument provides scope validity.

In scale studies, it is recommended to investigate construct validity after scope validity. For construct validity, EFA and CFA are examined. Factor analysis is carried out to determine the sub-dimensions under which the scale items are collected (Gozum and Aksayan 2003) . In the literature, it is stated that it is, at first place, necessary to analyze whether the sample group is sufficient to perform factor analysis (Tavsancıl 2002). KMO test is performed for this purpose (Secer 2015). KMO value, between 0.90-1 is excellent; between 0.80-0.89 is very good; between 0.70 and 0.79 is good; between 0.60 and 0.69 is medium; between 0.50 and 0.59 is weak, and less than 0.50 is considered unacceptable. For a good factor analysis, the KMO value is recommended to be over 0.60 at least (Alpar 2016). In this study, KMO value was found to be 0.79 and sample adequacy was "good". This finding shows that the sample size is sufficient for factor analysis. Since the KMO analysis results were not given in the article of the original scale, it could not be compared with the results of the present study.

In order to perform factor analysis, it is necessary to check the factorisability of the correlation matrix. The correlation matrix is evaluated by Barlett's sphericity test (Alpar 2016). If the result of this test is less than 0.05, the correlation matrix is appropriate (Alpar 2016). In the present study, the data set evaluated with Barlett's Sphericity test was found to be suitable for factor analysis.

In the second stage of EFA, the factor structure of the scale is examined. Principal Component method and Varimax vertical rotation technique are recommended for revealing the factor structure of the scale. In the present study, these analyzes were made and a 5-factor structure was determined. Since this result is not compatible with the factor structure of the original scale, the factor structure was limited to 3 and the tests were repeated. In this study, Scree plot test was performed and factor structure of the scale was limited to 3. It was found that the three-factor SSSRHYW explained 42% of the total variance. In the literature, it is stated that the variance of a scale should be between 40-60% in order to be regarded as adequate (Sencan 2005). In the present study, it is clear that the variance of the scale is adequate and consistent with the value suggested in the literature.

In the final stage of EFA, the factors are named by regarding the items in each factor (Kalaycı 2010). The items included in the factors of the SSSRHYW and the numbers thereof differed from those of the original scale. In the original scale, there were 6 items in factor 1, 7 items in factor 2 and 7 items in factor 3. In addition, in the original scale, the first factor was named "Accepted Stigmatization", the second factor "Internal Stigmatization"and the third factor "Attitudes on which Stigmatization is Based". The items in the present study were different from the original scale and factors were made differently. This difference may be due to the differences between the country in which the original scale was

developed and the one the scale is being adapted, in terms of cultural differences, the differences in religious beliefs, and social values.

While, in EFA, sub-dimensions of the items are determined, in CFA, the model compatibility of the items is examined (Capık 2014). For CFA, the data should be examined for whether it shows normal distribution. In the present study, it was determined that the data conformed to the normal distribution. Generally, in CFA, SEM analysis is employed. With SEM analysis, the relationship between the structures identified by EFA and the direction thereof are examined and shown in the Path Diagram graph (Tavsancıl 2002). In the literature, it is stated that having chi-square / degree of freedom ratio below ≤ 2 suggests that the scale model is a good model and having it below ≤ 5 means that the model has an acceptable goodness value. In the current study, X^2 / sd = 2.83. This result showed that the 20-item and 3-factor model of SSSRHYW provides construct validity.

Afterwards, model compliance indicators of the scale were examined in accordance with the literature (Meydan and Sesen 2015; Golob 2003). For CFA, the fit indices showing a scale's model goodness of fit are generally GFI, RMSEA, CFI, NFI, RFI, IFI and AGFI. In the literature, it is stated that acceptable fit values for fit indexes should be 0.80 for GFI, 0.85 for AGFI, 0.080 or smaller for RMSEA [36]. In the present study, the GFI value was 0.93, the AGFI value was 0.85 and the RMSEA value was 0.070. These results show that the model data fit is compatible with the reference values stated in the literature and the goodness of fit of the model is acceptable. The RMSEA value of the original scale was given as 0.074, and the RMSEA value of the Turkish adapted scale was similar to that of the original scale. The other goodness of fit values measured in the original scale were given as 0.614 for CFI, 0.065 for SRMR, but no goodness of fit values regarding X^2 / sd, AGFI, GFI were given.

It has been reported that Cronbach's alpha coefficient, item total score correlation, and split-half techniques should be used as internal consistency tests to determine reliability in scale development and adaptation studies (Secer 2015; Cakmur 2012). Cronbach's alpha coefficient indicates the level of compatibility of the items in the scale (Secer 2015) . In the literature, the reliability ranges of Cronbach's alpha coefficient were; $0.00 < \alpha < 0.39$ not reliable, $0.40 < \alpha < 0.59$ less reliable, $0.60 < \alpha < 0.79$ reliable, and $0.80 < \alpha < 1.00$ highly reliable (Alpar 2016). In the present study, the Cronbach's alpha coefficient of the SSSRHYW was found to be 0.83. Since the Cronbach's alpha coefficients of the sub-dimensions of the SSSRHYW were in the range of $0.60 < \alpha < 0.80$, it was seen that all sub-dimensions of the scale were very reliable. The Cronbach's alpha coefficient for the overall scale was 0.74 in the original scale, and the Cronbach's alpha coefficients for the sub-dimensions were reported to range between 0.82 and 0.93. The Cronbach's alpha coefficient of the current scale adapted to Turkish was found to be similar to the original scale's Cronbach's Alpha coefficient. These results show that SSSRHYW is highly reliable.

Another internal consistency measure is item-total score correlation. In calculating item-total score correlation, the relationship between the variance of a scale item and the total variance of scale items is examined. The high item-total correlation indicates that the item has a high level of discrimination, whereas the low correlation coefficient indicates that the item is not reliable enough and has a low level of discrimination. It is stated that, in a measurement instrument, the item total score correlation of an item should be at least 0.20 and that the item total score correlations should not be negative (Aiken 1994). It is reported in the literature that if the calculated item total score correlation value is between 0.00-0.19, there is little or no discrimination, if it is between 0.20-0.39, the discrimination is moderate, between 0.40-0.69, the discrimination is medium, between 0.70-0.89 discrimination is strong, between 0.90-1.00 discrimination is at a very high level (Alpar 2016). Except item 3 (medium level), all item-total score correlations of items were found to have good level of discrimination. These findings show that there are no problematic items in the SSSRHYW, consisting of 20 items.

The indicator of a scale whether it is stable over time or not is the test-retest method. In this method, the ideal time interval between the first measurement and the second measurement is 2-4 weeks. The correlation coefficient between the two measurements is expected to be at least 0.70 [26]. A significant relationship was found between the first and second measurement results of the present scale and it was found that the invariance of SSSRHYW to time was good.

Another proof of internal consistency is the splitting of the scale into two halves by the split-

half technique and the calculation of the Cronbach's alpha reliability coefficient (Gulec 2009) . The two halves reliability coefficients of SSSRHYW were examined and the correlation coefficient between the two halves was found to be 0.61. These findings show that the internal consistency reliability of SSSRHYW is high.

In the literature, in order to determine the distinctiveness of the items of a scale, the scores obtained from the scale are ranked from the highest to the lowest and the highest 27% upper group and the lowest 27% lower group are taken. The mean scores of the lower and upper groups are compared (Seker and Gencdoğan 2014). In the present study, it was found that the difference between the mean scores of the upper and lower groups of SSSRHYW was significant ($p < 0.001$) . This result shows that SSSRHYW can distinguish between high and low stigmatization attitudes in young women.

As a result of the study, the validity and reliability analyzes of the 20-item SSSRHYW which were adapted to Turkish society were found to be a valid and reliable measurement instrument. Thus, it was shown that the scale can be used to evaluate the stigmatization attitudes of sexual and reproductive health in young women in Turkish society.

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