Research Article / Araştırma Makalesi

Parental Version of The Diabetes-Specific Self-Compassion Scale Scs-(Dp) Turkish Validity and Reliability Study

Diyabete Özgü Öz Merhamet Ölçeği Ebeveyn Versiyonu Ömö-(De) Türkçe Geçerlilik ve Güvenilirlik Çalışması

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ABSTRACT

Objective: This study aimed to evaluate whether the Turkish version of the 'Parental version of the Diabetes-Specific Self-Compassion Scale SCS-(Dp)' is valid and reliable.

Material and Method: In the study, 102 parents of children with Type 1 diabetes who continued their routine check-ups in a training and research hospital between July 2021 and October 2021 were interviewed. The questionnaire and scale questions collected data about sociodemographic characteristics, diabetes-related characteristics, and self-compassion. Exploratory factor analysis, correlation test analyses, and Cronbach α reliability coefficient were used to evaluate the data.

Results: The present study found that SCS-(Dp) had appropriate language and content validity. The study's scale reliability and internal consistency were evaluated by item analysis, Cronbach's alpha. As a result of the item total score correlation, the values of all items were between 0.312 and 0.648. When the 27% scores of the item groups and the upper and lower group scores were compared using the independent Group t-test to determine the upper 27% differentiation of the subscale items, a statistically significant difference was found between the item score averages. The Cronbach Alpha coefficient of the scale was found to be 0.825 for the negative sub-dimension, 0.763 for the positive sub-dimension, and 0.817 for the total scale.

Conclusion: The Turkish version of the SCS-(Dp) used in the present study has appropriate language and content validity. According to exploratory factor analysis, correlation test analysis, and Cronbach α reliability coefficient analysis, it was found that SCS-(Dp) was an excellent and reliable measurement tool.

Key Words: Self-Compassion, Type 1 diabetes, Parent, Validity, Reliability

ÖZ

Amaç: Bu çalışmada 'Diyabete Özgü Öz-Merhamet Ölçeği ÖMÖ-(De) Ebeveyn Versiyonu' Türkçe versiyonunun geçerli ve güvenilir olup olmadığının değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Çalışmada Temmuz 2021-Ekim 2021 tarihleri arasında bir eğitim ve araştırma hastanesinde rutin kontrollerini sürdüren Tip 1 diyabetli çocuğu olan 102 ebeveyn ile görüşülmüştür. Anket ve ölçek soruları ile sosyodemografik özellikler, diyabetle ilgili özellikler ve öz-merhamet hakkında veriler toplandı. Verilerin değerlendirilmesinde açıklayıcı faktör analizleri, korelasyon testi analizleri ve Cronbach α güvenirlik katsayısı kullanılmıştır.

Bulgular: Çalışma dil ve kapsam geçerliği açısından ÖMÖ-(De) uygun bulunmuştur. Araştırmanın ölçeğin güvenirliği ve iç tutarlılığı madde analizi, Cronbach alfa ile değerlendirilmiştir. Madde toplam puan korelasyonu sonucunda tüm maddelerin değerleri 0,312 ile 0,648 arasındadır. Alt ölçek maddelerinin üst %27'lik farklılaşmasını belirlemek için bağımsız Grup t-testi kullanılarak madde gruplarının %27'lik puanları ile üst ve alt grup puanları karşılaştırıldığında, madde puan ortalamaları arasında istatistiksel olarak anlamlı bir fark bulunmuştur. Ölçeğin Cronbach Alpha katsayısı olumsuz alt boyut için 0,825, olumlu alt boyut için 0,763 ve toplam ölçek için 0,817 olarak bulunmuştur.

Sonuç: Bu çalışmada kullanılan ÖMÖ-(De)'nin Türkçe versiyonu uygun dil ve içerik geçerliliğine sahipti. Açıklayıcı faktör analizi, korelasyon testi analizi ve Cronbach α güvenirlik katsayısı analizine göre ÖMÖ-(De)'nin mükemmel ve güvenilir bir ölçme aracı olduğu görülmüştür.

Anahtar Sözcükler: Öz-Merhamet, Tip 1 diyabet, Ebeveyn, Geçerlik, Güvenilirlik

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Introduction

Compassion is a feeling of compassion or closeness towards other people suffering and a vital aspect of patient care (1). To put it another way, compassion, rather than condemning people for failing or being wrong, is explained as seeing their unqualified actions and behaviours as common human breaks, that is, evaluating them in the context of the existence of the margin of error that all people can experience (2). Compassion happens with five ingredients: recognising the expression of pain, understanding the universality of human suffering, being able to feel the sufferer, tolerating disturbing emotions, and having the motivation to act to alleviate the pain (3).

The pain experienced by an individual, the suffering, and the difficulty of his/her life can often be inevitable. At this point, what needs to be done is to cope with the difficulty encountered, and the concept of self-compassion needs to be addressed to cope with the difficulty. It is thought that the events in early childhood and the reactions given by the caregiver are important in the development of self-compassion. Revealing the feelings of self-compassion in the face of painful and difficult life events helps to develop the ability to evaluate real life more harmoniously (4).

Self-Compassion (SC) is an individual's positive and related behaviour towards oneself despite his/her failure due to any situation. A person who adopts the SC behaviour becomes more open to their work experimentations, particularly negatory feelings (guilt, fear, helplessness) (5,6). The source of SC is the Buddhist philosophy, which emphasises that the ego should be purified from emotions that cause negative effects and that the individual should show SC (7). On the other hand, SC is the ability to deal with situations with kindness, understanding, and calmness, and with it all, being aware of the everyday experience of humanity (8). Additionally, SC is being aware of negative emotions or contradictions in the individual and approaching events in a balanced way with a perspective developed against one's weaknesses (9)

SC enables parents to recognise negative thoughts. Parents can be aware of negative thoughts, get away from them and make them less responsive to problems. As a result, their talent to answer more precisely and flexibly to their kids' requirements may be increased (10).

SC is a potential "antidote" to negative self-evaluations such as self-criticism, especially for patients with chronic medical conditions. At the same time, SC helps in self-medication in distressing situations brought about by the disease and aims to raise awareness about the disease instead of blaming oneself. For families of kids with or without chronic disease, the benefits of Self Mercy are enormous. Recent studies have shown that Self Mercy, which parents feel towards themselves, will also benefit their kids' quality of life and strengthen the parent-kids relationship (11).

Parents of children with chronic diseases such as Type 1 Diabetes (T1D) experience shock, denial, anxiety, anger, and guilt, as do parents of children with other chronic diseases. Although there is a decrease in these emotions over time, due to the difficulties brought by diabetes, the amount of emotions may be the same as in the diagnosis period (12). As a result of these feelings, parents of children with type 1 diabetes may feel helpless and blame themselves for the cause of the diagnosis (13).

Some studies of adolescents with T1D and adults with type 2 diabetes (T2D) have shown that attempts to increase SC can help improve psychological mood and diabetes self-care (11,14,15). Additionally, literature studies showed that compassion-based interventions could improve the parents' awareness of caregiving as a positive coping attitude and increase families' resilience to children with chronic diseases or disabilities (16).

In Turkey, there is no systematic or psychometric evaluation tool for SC in parents of children with T1D. Therefore, to fill this literature gap, it aimed to evaluate whether the Turkish version of the 'Parental version of the Diabetes-Specific Self-Compassion Scale SCS-(Dp)' is valid and reliable (11).

Material and Method

Study Population

This methodological study included parents aged 20 years and over with a child aged 2-18 with T1D who had routine controls in a hospital. While conducting a scale's validity and reliability study, a population of 5-10 times the total number of items in the scale should be reached (17). For this reason, 102 volunteer parents were included in the present study, considering the number of items in the sample (19 items).

Inclusion and Exclusion Criteria

A total of 102 parents with a child with T1D, who can read and write in Turkish, who can be reached and communicated with, who have orientation and cooperation, and who have no hearing, comprehension or vision problems were included in the study. Parents with a child T1D under two were excluded from the study.

The original version of the (SCS-(Dp))

First, the SCS-(Dp) was improved by Tanenbaum et al. in 2020 (11). This scale includes 19 items and a 5-point Likert-type scale. The scale has two sub-dimensions: the positive and negative dimensions. The total score is calculated by taking the average of all elements. High scores indicate higher self-compassion typical of diabetes. The internal consistency of Tanenbaum et al.'s scale was relatively high (Cronbach alfa 0.94) (11).

Language Translation

The validity and reliability study of SCS-(Dp) was carried out by considering the opinions of experts and linguists as indicated by the literature (20, 21). Three linguists who know English at an advanced level prepared three separate translation texts from English to Turkish. The translations were examined, and then a common text was created. The translation text was translated back from Turkish to English by a linguist whose native language is Turkish and who was given detailed information about this topic. Finally, a Turkish language specialist checked the scale's Turkish translation. After the necessary corrections were made on cognitive-conceptual differences in Turkish and English, expert opinion was sought to compare the scale with its original version and to question the cognitive-conceptual differences.

Content Preparation

English to Turkish scale was presented to 12 expert opinions to appraise the comprehensibility of the elements constituting the SCS-(Dp) and the Turkish language. In the expert opinions, a Likert-type rating tool prepared according to the Davis technique and in the style of "1-not suitable" for each statement, 2= Slightly appropriate, comments need to be shaped; 3=Appropriate, minor changes are required for the statement; 4= Absolutely appropriate" was used.

The results obtained from the expert opinions were calculated in the form of a Content Validity Index (CVI). The value of 0.80, recommended as the CVI value, is considered a criterion for scope validity (22).

Data Collection

In data collection, a 16-question questionnaire created by the researchers using literature knowledge (11, 18, 19) and the

SCS-(Dp) consisting of 19 questions, the validity and reliability of which was made in Turkish, were used to measure the SC levels of the parents. To identify the scale's reliability, the scale was applied face-to-face to parents.

Data Analysis

SPSS (Statistical Package for Social Sciences) for Windows 23.0 program and AMOS 24 program were used data analysis. Mean, standard deviation and ranges (minimum-maximum) were used in descriptive statistics for quantitative variables, and numbers and per cents were used for qualitative variables. Exploratory Factor Analysis (EFA) was conducted firstly to test the structure of SCS- (Dp), and then Confirmatory Factor Analysis (CFA) was performed to confirm that the clarified construct was inclusive. To determine the compatibility of the data obtained from the Turkish version of the SCS-(Dp) with the factor analysis of the scale, firstly, Kaiser-Meyer-Olkin (KMO) Test and Bartlett's Sphericity Test analysis results were examined. After determining that the scale was suitable for CFA on the data obtained from the Turkish form, EFA was performed using 'Principal Components Analysis' as a factorisation method and 'Oblimin with Kaiser normalisation' as a rotation method. x2/SD value, Goodness of Fit (GFI), Adjusted Goodness of Fit (AGFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Squared Residual (SRMR), and Normed fit index (NFI) fit indices were used in confirmatory factor analysis. Cronbach's Alpha was used to determine internal consistency. Pearson product-moment correlation coefficient was used for item-total scale analysis and to determine test-retest reliability. Additionally, the t-test was used in dependent-independent groups.

Ethical Principles of Research

To conduct a Turkish validity and reliability study of the scale to be used in this research, permission was obtained from Molly L. Tanenbaum, the corresponding author of the original scale, by e-mail. Firstly, the ethics committee permit was received from the local ethics committee. Institutional permission was obtained from Van Education and Research Hospital where the research was conducted.

Verbal and written consent was obtained from the parents who volunteered for the study after introductory explanations regarding the purpose of the research and the application method. All work has been planned in line with the principles of 'Confidentiality and Protection of Confidentiality' and 'Respect for Autonomy'. In addition, the Helsinki Declaration of Human Rights carried out all the work.

Results

SCS-(Dp) validity findings are given as content and construct validity.

The Results of Content Validity of the (SCS-(Dp))

It has been observed that consensus has been reached among experts regarding the content of SCS-(Dp) and that the CVI value of the scale elements is between 0.83 and 1.00. For this reason, no item has been removed from the scale in scope/content validity conditions. After the scope validity was found to be appropriate, a preliminary application was made to 20 families with children with T1D to measure the comprehensibility of the questions, and it was determined that there was no need for changes after the application.

The Results of Exploratory Factor Analysis

The obtained values from KMO Test and Bartlett's Sphericity Test analysis are given in Table 1. The KMO coefficient was found as 0.772. The chi-square value of Bartlett's Sphericity Test ($p<0.000$) was found statistically significant, showing the data's adequacy for factor analysis and a significant relationship between the variables.

Table 1. Values of KMO and Bartlett's Sphericity Test Analysis.

Kaiser-Meyer-Olkin Sample Consistence (KMO)		.772
Bartlett's Sphericity Test	X2	621.473
	Sd	171
	p	.000

The variance values explained by the SCS-(Dp) items are included in Table 2. Table 2 shows that the scale comprising two factors with eigenvalues greater than 1 and 19 items compatible with the original scale due to EFA explains 39.161% of the total variance. 1. 25.300% of the total variance of the factor (Negative Dimension), 2. On the other hand, the Factor (Positive Dimension) explains 13.861% of the total variance.

Table 2. The Explained Total Variance Table of SCS-(Dp).

Factors	Factor Self-Values	The Described Variance %	Additive Variance %
Negative Dimension	4.807	25.300	25.300
Positive Dimension	2.634	13.861	39.161

In this study, the data obtained were examined by applying the EFA factor loads of 19 items, and the similarities and differences were tried to be determined based on the developed basis of the two variables expressing the distribution of many factors (positive and negative dimension size) under the original structure of the scale. As a result of the first EFA carried out on the data obtained with the Turkish form of the scale, the elements collected under the two dimensions of the scale and information about the factor load values of the elements are given in Table 3. As shown in Table 3, it was determined that the factor loadings of the items under the 'negative dimension' were between 0.374 and 0.729, and the factor loadings of the items under the 'positive dimension' were between 0.512 and 0.717. In the Turkish form of SCS- (Dp), which has a two-dimensional structure, all substances are in the lower dimension they were loaded in the original. Turkish form of SCS-(Dp) with 19 items in the original two sub-dimensional structure with the same data obtained with the obtained data shows that the Turkish form is also verified in the same way.

Confirmatory Factor Analysis

Confirmatory factor analysis was applied to test the suitability of the 2-factor structure formed because of the EFA of the SCS-(Dp) scale. The confirmatory factor analysis results applied to the scale discussed in the study were made by considering these compliance indices. In addition, corrections were required to achieve acceptable compliance values in the model. AMOS modification of the values by the program by looking at the "Negative" sub-dimension among its ingredients, e5-e9, e6-e7 and e8-e9 among the proposed items, are reviewed.

As a result of the confirmatory factor analysis performed for SCS-(Dp), Chi-Square and Chi-Square/df ($\chi 2$ =191,682, p<the values of 01, df=148, $\chi 2$/df=1,295), as well as the detected compliance coefficients (NFI=.916, CFI=.912, GFI=.902, AGFI=.868, RMSEA=.054, and SRMR=.072) shows that the scale is acceptably compatible with the previous factor structure.

Findings on the Reliability of the SCS-(Dp)

In this section, Cronbach's alpha values of the Turkish form of SCS- (Dp), item analysis based on element total score correlation and item analysis findings based on lower-upper group element

score averages of 27% are inclusive (Table 4). According to Table 4, it was found that 0.825 for the negative sub-dimension of the scale, 0.763 for the positive sub-dimension of the scale, and 0.817 for the total scale. According to these results, SCS-(Dp) is a very reliable scale.

Table 3. Factor Loads of SCS-(Dp) Items.

Item Number	Factors	
	Negative Dimension	Positive Dimension
Item 3	.729	
Item 9	.726	
Item 2	.686	
Item 6	.659	
Item 5	.658	
Item 18	.643	
Item 15	.611	
Item 1	.539	
Item 14	.491	
Item 12	.437	
Item 19	.374	
Item 17		.717
Item 10		.697
Item 11		.668
Item 7		.595
Item 4		.553
Item 16		.550
Item 8		.514
Item 13		.512

In addition, the independent group t-test results showing the discrimination power of all items and item-total score correlation values are also included in Table 4. While calculating the item-total score correlation, each item was evaluated in its sub-dimension. When the table was examined, it was determined that there was no item with an item total score correlation value below 0.30, and item-total score correlation values for all items were between 0.312 and 0.648. The correlation values of all items were between 0.312 and 0.648. As we can see from the item total score correlation table, it has been determined that all the remaining items are related. To assess the distinctiveness of the items in the scale, the item score averages of the lower 27% and upper 27% groups were compared with the "independent group t-test". It was observed that there was a statistically significant difference between the mean scores of the elements. Considering all these, it can be said that SCS-(Dp) is distinctive.

Table 5 gives the correlation values of the SCS-(Dp) sum and its sub-dimensions. A positive relationship was found between the sum of the scale and the negative and Positive sub-dimensions ($p<0.05$). Another result is that a significant association was found between the 'Negative' sub-dimension and the 'Positive' sub-dimension in a negative direction ($p<0.05$). These findings show that SCS-(Dp) has a two-factor structure, revealing that the scale can be used this way.

Table 4. The Results of the Reliability Analysis of the Turkish Version of SCS-(Dp).

Items	Cronbach's Alpha value	Alpha Value When the Item Deleted	Item Total Score Correlation	t (Lower % 27* Upper %27*)
Negative	.825			
Item 1		.809	.447	4.931**
Item 2		.797	.624	5.811**
Item 3		.797	.648	6.093**
Item 5		.800	.572	4.194**
Item 6		.807	.527	6.654**
Item 9		.799	.639	6.380**
Item 12		.819	.370	4.539**
Item 14		.812	.382	3.892**
Item 15		.804	.497	4.798**
Item 18		.806	.515	4.917**
Item 19		.816	.316	3.476**
Positive	.763			
Item 4		.819	.370	4.419**
Item 7		.815	.445	2.767**
Item 8		.808	.407	2.548**
Item 10		.808	.562	2.655**
Item 11		.809	.542	2.533**
Item 13		.806	.434	2.661**
Item 16		.825	.312	4.619**
Item 17		.804	.612	2.131**
Scale Total	.817			

n = 102, * n1 = n2 =28, ** p<0.05.

Table 5. The Correlation Matrix of SCS-(Dp).

	Negative	Positive	Scale Total
Negative	1		
Positive	-.238*	1	
Scale Total	.789*	.409*	1

*=p<0.05

Discussion

This study was conducted as a validity/reliability study of the Turkish SCS-(Dp) version. The study found SCS-(Dp) appropriate regarding language and content validity. The study's scale reliability and internal consistency were evaluated by item analysis, Cronbach's alpha. As a result of the item total score correlation, the values of all items were between 0.312 and 0.648. When the 27% scores of the item groups and the upper and lower group scores were compared using the independent Group t-test to determine the upper 27% differentiation of the subscale items, a statistically significant difference was found between the item score averages. The Cronbach Alpha coefficient of the scale was found to be 0.825 for the negative sub-dimension, 0.763 for the positive sub-dimension, and 0.817 for the total scale.

The results of the original scale and the Cronbach α reliability coefficient found in this study are similar. According to the results of the research, it was seen that the SCS-(Dp) was quite reliable. The present study used factor analysis to evaluate the construct validity. Before the explanatory factor validity analysis, the KMO value and the results of Barlett's Sphericity tests were examined. The KMO sample adequacy test, found by Kaiser (1974) (23), is briefly referred to as the KMO test. The measurement criterion

of a factor of the sample varies between 0 and 1. The KMO value ranges are defined as "unacceptable" if it is less than 0.50, "0.50-0.60; bad", "0.60-0.70; weak", "0.70-0.80; medium", "0.80-0.90; good" if it is above "0.90; very good". Bartlett's Sphericity Test, on the other hand, explains the existence of a relationship between variables according to partial correlations. It can be understood that the difference between the matrices is significant when the p factor of this analysis is higher than 0.05 (21).

The factor of the KMO coefficient of 0.772 and the chi-square value ($p<0.000$) as a result of the Barlett's Test analysis showed that the data were suitable for factor analysis and that there was an important relationship between the variables. Explanatory factor analysis was used to evaluate the factor structure validity of the scale. Regardless of the sign of the factor load value of the substances, the load value under the factor to which it is loaded is expected to be 0.30 or higher; load values between 0.30 and 0.59 are considered moderate, while values of 0.60 and above are considered high (24).

When the analysis results were examined, it was concluded that the factor load values of the substances under two factors were sufficient. As a result of the EFA, it was found that the factor load values were above 0.40 except for item 19 (0.374), and the factor load values of the items under two factors were at a sufficient level and similarly consisted of two sub-dimensions. In the original study, the factor load values of the items 0.40% are over, and the negative dimension with factor load values of the items under 0,68 0.54 between "Positive" with 0.80 factor load values were found between the dimension of the items under 0.53 (11).

The results found in this study show similarities with the original scale. In the Turkish form of "SCS-(Dp)", which has a two-dimensional structure, it is seen that all substances are in the lower dimension than they were loaded in the original. Turkish form of "SCS- (Dp)" in its original form with 19 items, two sub-dimensional structures of the same way with the obtained data, it is seen that the Turkish form is also verified. In the present study, as a result of EFA, it was seen that the scale stated 39.161% of the total variance in accordance with the original scale (11). In the present study, confirmatory factor analysis was performed after EFA. Confirmatory factor analysis is the statistical confirmation of a determined structure again (25).

In confirmatory factor analysis, the $\chi 2/df$ ratio below two is considered a perfect fit, and the ratio between 2 and 3 or 3 and 5 is acceptable (26). The RMSEA of the appropriate value is 0.05, and below is the perfect fit, with values between .05 and .08 deemed adequate and appropriate (27, 28). CFI, NFI, GFI, and AGFI values are close to 1 perfect appropriate, with values between .90 and .95 % showing that it has acceptable Decency. Moreover, it is known that the value SRMR for values ranging from 0 to 1 is more suitable for the model (29). Consequently, the CFA conducted for the scale showed that it is acceptably compatible with the previous factor structure.

Conclusion and Recommendations

The status of families of children with T1D was used to measure the validity and reliability of research studies of self-pity: SCS(Dp) of items 19 and two sizes of 5-point Likert-type, and with high-level features that meet criteria for acceptable reliability and validity was considered reliable and valid measurement tool. The scale is practical and straightforward to implement scale. Therefore, the scale will be applied to families with children with T1D in Turkey, and it will be functional to use it in research to determine the SC levels of parents. The increasing use of this scale will prove that it is valid and reliable.

Ethics Committee Approval: This study was approved by Van Yüzüncü Yıl University Non-Interventional Research Ethics Committee (2021/08-14).

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