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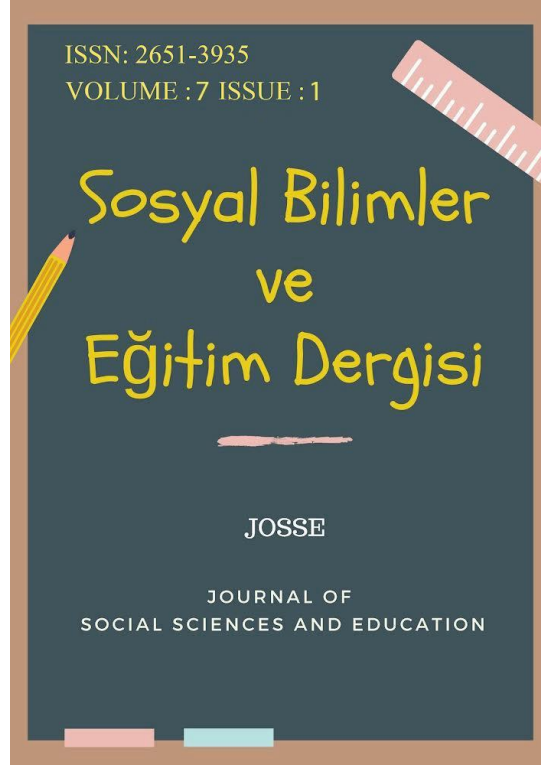
Psychometric Properties of Turkish Versions of the Non-Attachment Scale Short Form

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Abstract	Research Article
This study aimed to examine the psychometric properties of the Non-Attachment Scale Short Form in a Turkish sample. With the participation of 244 adults over 18 years of age, the Short Form of the Nonattachment Scale, the Resilience Scale and the Ontological Addiction Scale were used as data collection tools. Cronbach's alpha and McDonald's omega coefficient were used for the reliability of the Non-Attachment Scale Short Form. According to the results of the analyses, the internal consistency coefficient and McDonald's value were found to be .77 and .78, respectively. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used to test the construct validity of the scale. The results of the analyses showed that the model fit and Kaiser-Meyer-Olkin (KMO) values were at an acceptable level. Item factor loadings ranged between .40 and .67 and the scale was found to have a single factor structure. The statistically significant difference between the 27% lower and upper groups among the participants showed that the item discrimination index of the scale was at a good level. According to the correlation findings conducted to test the criterion validity of the scale, non-attachment was found to have positive significant relationships with resilience ($r = .60$) and negative significant relationships with ontological dependence ($r = -.39$). As a result, adaptation of the Short Form of the Non-Attachment Scale can be said to be a valid and reliable measurement tool.	
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Introduction

Attachment concept has been recognised as one of the main topics of psychology for many years. Especially in Western psychology, attachment encompasses the relationship established with important people, primarily caregivers, from childhood onwards (Bowlby, 1979). Attachment styles are generally considered in three different categories as secure, avoidant and anxious. Secure attachment meets the basic biological and psychological needs of the child. With avoidant attachment style, caregivers are uncaring and hostile towards the child. Whereas in anxious attachment style, parents behave inconsistently in meeting the needs of their children (Özbay, & Çelik, 2024). Studies on attachment styles have shown that anxious and avoidant attachment have positive relationships with various psychological problems (Gökdağ, 2021; Messina et al., 2023). On the other hand, secure attachment has been found to increase individuals' life satisfaction and well-being (Sagone et al., 2023). This situation is interpreted as the attachment figures make the individual feel safe and make it easier to manage stress and regulate emotions (Cassidy, & Shaver, 2018). Besides, another explanation may be that individuals who are in secure relationships feel supported and loved, which positively affects their psychological health (Sahdra et al., 2010).

As mentioned above, attachment is defined as a positive concept representing trust in relationships in Western psychology. However, in ancient Buddhist texts, human suffering is stated to be related to attachment (Wallace, 2008). Attachment is seen as a mental disorder that defines individuals' attachment to their self-image, other people, objects and the physical World (Ho et al., 2022). In other words, since everything in life is temporary and variable, this attachment can lead to disappointment. Individuals need to be able to recognise the illusion of permanence in order to get rid of suffering (Sahdra et al., 2010). For this reason, attachment is seen as being stuck or developing a kind of addiction (Sys et al., 2024). According to another definition, attachment is interpreted as the assignment of unrealistic characteristics by excessively directing emotional and cognitive resources to an idea or object (Shonin et al., 2014).

Attachment definitions of the Buddhist tradition are more similar to the anxious attachment-oriented approaches in Western psychology. This perspective, conceptualised as anxious clinging, has caused ambiguities in the Western and Buddhist psychology literatüre (Sahdra et al., 2010). There are also points of overlap between secure attachment in Western psychology and non-attachment in Buddhist tradition. High levels of both secure attachment and non-attachment are reported to be autonomous and self-confident (Sahdra et al., 2010).

However, in the discussions on the definitions of non-attachment (Sys et al., 2024), the negative conceptualisation of non-attachment as the opposite of attachment is rejected. Non-attachment is emphasised to be a structure independent of attachment and can be contextualised positively. This contextualisation includes acceptance, letting go, practicing deep presence, adopting a universally interconnected self-schema and developing perceptual distance in terms of experiences and reactions to them, which are inspired by Acceptance and Commitment Therapy, Dialectical Behavioural Therapy, Compassion Focused Therapy and Mindfulness Based Interventions (Tremblay et al., 2024).

Non-attachment is to establish a balanced relationship with negative experiences without suppressing them and clinging to positive experiences (Sahdra et al., 2010). This flexible way of establishing a relationship is emphasised to be important in preventing the individual from having rigid cognitions about himself/herself and his/her goals (Whitehead et al., 2018). This view leads individuals with high level of non-attachment to show higher levels of kindness and compassion to themselves and others (Roca et al., 2020; Yang et al., 2020). Studies on non-attachment have shown that non-attachment is associated with low levels of psychological distress and high levels of well-being. For example, non-attachment was found to have negative relationships with suicidal ideation, somatic symptoms, anxiety and depression (Weiss et al., 2014). Besides, in the meta-analysis study conducted on non-attachment, it was found that non-attachment had significant positive relationships with well-being and mindfulness (Ho et al., 2022). Especially in difficult crisis periods such as Covid-19, nonattachment is known to increase strong positive beliefs in humanity and life (Mak et al., 2023). One study conducted on a young population showed that non-attachment positively affected resilience (Goswami et al., 2024). Moreover, non-attachment positively predicts happiness through the sense of coherence (Siah, 2024).

Consequently, non-attachment has significant and important relationships with many psychological factors. Therefore, there is a need to better understand the effects of non-attachment in different cultures and societies. However, to the knowledge of the authors, there is not yet any study on non-attachment behaviour in Turkey. One of the reasons for this situation can be said to be the lack of a measurement tool that can measure non-attachment behaviour. In order to measure non-attachment behaviour, Sahdra et al. (2010) first developed the 30-item Non-Attachment Scale. This scale, which has a single-factor structure, has been validated on different cultures. Validity and reliability were found to be at the desired level in Chinese and Spanish samples (Feliu-Soler et al., 2016; Zhao et al., 2013). However, to overcome the time limitation in the application of the scale and to make it more useful, Chio

et al. (2018) developed the 8-item Nonattachment Scale Short Form. Although this scale, which was developed on the Chinese sample, is used in studies on non-attachment, no adaptation has been made in a different culture yet. For this reason, this study aims to adapt the scale to Turkish culture and make the concept of non-attachment studyable in Turkey.

Method

This study deals with the adaptation of the Non-Attachment Scale-Short Form (NAS-SF) developed by Chio et al. (2018) into Turkish. In this study, relational research design, one of the general survey models, was used. This section provides information about the adaptation process of NAS-SF into Turkish. The structure of the study group, the measurement tools used, and the adaptation process of the scale are explained in detail.

Participants

This study's participants consisted of 244 individuals over the age of 18. The mean age of the participants was 26.72 years (SD=8.39). Of the participants, 81 were male (33.2%) and 163 were female (66.8%). In addition, 26 (10.7%) of the participants were high school graduates, 195 were undergraduate students (79.9%), and 23 (9.4%) were graduate students. When the socioeconomic status was analyzed, 38 (15.6%) of the participants stated low, 195 (79.9%) stated medium and 11 (4.5%) stated high. Ethical approval was obtained from the Siirt University Ethics Committee with the decision dated 10.11.2023 and numbered 5839.

Measures

Non-Attachment Scale-Short Form (NAS-SF)

The Non-Attachment Scale (NAS) was developed to measure the level of attachment to thoughts, feelings, desires, and experiences of individuals (Chio et al., 2018). Based on the long form NAS (Sahdra et al., 2010), the 8 items selected for the Non-Attachment Scale - Short form (NAS-SF) in this study were used (e.g., I can accept the flow of events in my life without getting stuck or pushed by them. I see that I can be calm and/or happy even when things are not going my way). Participants answer a 6-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. Higher scores on the scale indicate higher levels of non-attachment. One item of the scale was removed because its factor loading was below .25.

The scale showed satisfactory reliability (Cronbach's alpha = .93) in its original 8-item form (Chio et al., 2018). In the present study, the reliability value of the scale was found to be .77.

Brief Resilience Scale (BRS)

The BRS was developed to measure a person's ability to "bounce back" from stressful situations (Smith et al., 2008). The scale contains 6 items (e.g., It does not take me long to recover from stressful situations), and each item is rated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The reliability value of the adapted scale was .83 and as a result of CFA, goodness of fit indices were found as x2/sd (12.86/7) = 1.83, NFI = 0.99, NNFI = 0.99, CFI = 0.99, IFI = 0.99, RFI = 0.97, GFI = 0.99, AGFI = 0.96, RMSEA = 0.05, SRMR = 0.03. A higher score on the scale indicates a higher level of resilience. BRS was translated into Turkish by Doğan (2015). In the present study, the Cronbach α value of the scale was calculated as .82.

Ontological Addiction Scale

The scale was developed by Barrows et al. (2022) to understand the level of self-dependency of individuals based on the ontological addiction theory. The long form of the ontological addiction scale, which has a single-factor structure, consists of 31 items and is in a 5-point Likert format. (e.g., How did you think you could avoid experiencing discomfort, did you find it difficult to cope with rejection?). The reliability value of the adapted scale was .87 and as a result of CFA, goodness of fit indices were found as CMIN/df=2.427; RMSEA=0.075; RMR=0.054; GFI=0.922; CFI=0.921; IFI=0.922. It is scored between never=0 and almost always=4. In addition, validity and reliability studies have also been conducted on the 24-item and 12-item short forms, and in this study, the 12-item short form was adapted, and the reliability value was found to be .84 (Ekşi & Şekerci, 2023). In the present study, the reliability value was found to be .75.

Procedure

This scale was adapted by the International Test Commission Test Adaptation Guide: A Criteria Checklist was taken into consideration (Hernández et al., 2020). Within this context, firstly, permission for adaptation was obtained from the developers of the original scale. Four researchers translated the instructions and items of the NAS-SF scale into Turkish. To determine the equivalence of the items in the original form and the translated form, an expert evaluation form was prepared. Eight experts from the fields of psychology and

linguistics evaluated the original and translated versions of the scale in the form. The final version of the Turkish form of the scale was created within the framework of the feedback received from these experts.

Statistical Analysis

The validity and reliability analyses of the data obtained within the scope of the study were analyzed with SPSS 26 and AMOS 24 programs. Construct validity, criterion validity, and content validity techniques were used to determine the scale's validity. Expert opinion was sought for the scale's content validity, and Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used for construct validity. To determine the reliability of the scale, Cronbach's Alpha reliability coefficient and Mc. Donald ω Value is used. For item analysis, the unrelated t-test was used to test the differences between the corrected item-total correlation and the item average scores of the lower 27% and upper 27% groups, which were formed according to the total scores of the test (Büyüköztürk, 2010).

Ethical Committee Approval

Ethical approval was obtained from the Siirt University Ethics Committee with the decision dated 10.11.2023 and numbered 5839.

Findings

Exploratory Factor Analysis (EFA)

Exploratory factor analysis was used to determine the construct validity of the adapted scale. When Table 1 is examined as a result of the EFA, it is seen that the NAS-SF explains % 34.05 of the variance as a single dimension.

Table 1

KMO ve Bartlett's Tests

Kaiser-Meyer-Olkin		.817
Bartlett's Test of Sphericity	Ki-kare Value	372.93
	Serbestlik Derecesi	21
	p	.001
Total explained variance	%	34.05

When Table 1 is examined, the KMO sample fit coefficient was found to be .817 (p<0.001). It is stated that the KMO should be higher than .60, and the Barlett test should be significant to determine whether the data are appropriate (Büyüköztürk, 2010).

Table 2

Factor Loads of the NAS-SF

Items	Factor Loads
	Turkish Form
1	,604
2	,656
3	,678
4	,555
5	,652
6	,407
7	,480

Table 2 shows that the scale has a single-factor structure, and the items on the scale range from 0.407 to 0.678 and have high load values. Büyüköztürk (2018) stated that factor loading values should be 0.45 and above, but the limit value can be reduced to 0.30 for scales with few items. The total score obtained from the scale gives the NAS-SF score.

Confirmatory Factor Analysis (CFA)

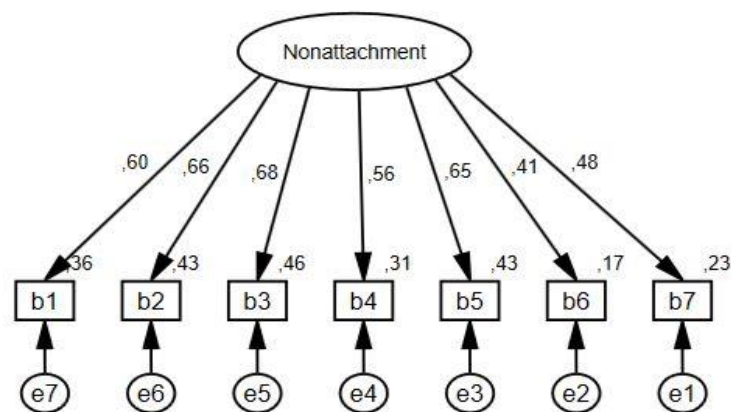CFA was used to measure the construct validity of the scale. Findings related to CFA are presented in Figure 1.

Figure 1. *Confirmatory factor analysis*

The acceptable fit indices of the model resulting from Schermelleh-Engel, Moosbrugger, and Müller's (2003) CFA were between 2≤ χ2/sd≤3 / χ2/sd for RMSEA, between 0.05≤ RMSEA≤0.08, and 0.85 for AGFI. That is, between ≤AGFI≤0.90, GFI 90≤GFI≤0.95 is sufficient. The one-dimensional and 7-item structure of the NAS-SF was analyzed by CFA and found to have appropriate fit values (CMIN/df= 2.424; RMSEA=0.077; CFI=0.944; TLI=0.916; IFI=0.945; RFI= 0.865). In this context, it is seen that the fit indexes of the model obtained for the NAS-SF as a result of CFA are at a suitable level.

Criterion Validity of the Scale

The correlation analysis performed to determine the criterion validity determined that the NAS-SF had a correlation value between .60 with resilience and -.39 with ontological addiction. The results regarding the criterion validity are shown in Table 3.

Table 3

Relationships between NAS-SF, resilience, and Ontological Addiction

Variables	M	SD	1	2	3
1. NAS-SF	26.06	6.55	-	.60*	-.39*
2. Resilience	18.01	4.42		-	-.42*
3. The ontological addiction	24.91	6.66			-

*p<0.001, N=244.

Reliability

To measure reliability, Cronbach Alpha (α) and Mc. Donald ω value in Table 4; The difference between 27% lower and upper scores is given in Table 5. Findings related to these are presented under this title.

Table 4

NAS-SF Internal Consistency Coefficient

Scale	Mc. Donald ω	Cronbach's Alpha
NAS-SF	.78	.77

When Table 4 is examined, Cronbach's Alpha value for NAS-SF is calculated as α=.77 and Mc Donald Omega value as ω=. 78.. The generally accepted alpha value in Social Sciences is 0.70 and above (Büyüköztürk, 2010). This shows that the scale has a good value in terms of reliability.

Table 5

T-Test Results of 27% Lower and Upper Groups of NAS-SF score

	Items	Corrected item-Total Correlation	t-test
1.	Yaşadığım olayları, onlara takılmadan veya onları bir kenara itmeden kabul edebilirim.	.52	13.53
2.	Geçmişte yaşadığım pişmanlıklarımı ve can sıkıcı duygularımı geride bırakabilirim.	.55	14.37
3.	Olaylar istediğim gibi gitmese bile sakin ve/veya mutlu olabileceğimi düşünüyorum.	.58	13.06
4.	Hayatımın herhangi bir anında, istenen ya da istenmeyen bir şey olduğuna bakmaksızın hayatın bana sunduklarına kapım açıktır.	.48	9.87
5.	Hayatımda neler olup bittiğine aldırış etmeden/takılmadan mutlu olabildiğimi düşünüyorum	.55	13.71
6.	Kusursuz olmayan, sıradan bir insan olmaktan memnunum.	.37	7.90
7.	Olumsuz veya acı verici de olsa aklıma gelen düşünce ve duygularla yüzleşebilirim.	.44	9.44

[**]p<0.001

The adjusted item-total correlation analysis in Table 5 and independent samples t-test were used to test the differences between the item mean scores of the lower 27% and upper 27% groups formed according to the total test scores. Büyüköztürk (2018) stated that an item-total correlation of 0.30 and above is sufficient. The adjusted item-total correlations ranged between .37 and .58, and the t (df=130) values for the differences in the item scores of the lower and upper 27% groups determined according to the total scores ranged between 7.90 (p<0.001) and 14.37 (p<0.001). Therefore, this result shows that the scale is successful in discriminating individuals.

Discussion and Results

The present study adapted the Non-Attachment Scale-Short Form (NAS-SF) developed by Chio et al (2018) to Turkish culture. The findings obtained in the study show that the single-factor structure of the NAS-SF was confirmed. Firstly, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to test the construct

validity of the scale. As a result of EFA, the KMO (Kaiser-Meyer-Olkin) value was found to be .817. The fact that this value is above .80 means that it is at an excellent level and the sample is sufficient (Marofi et al., 2020; Tabachnick, & Fidell, 2018). This study found that the total variance explained in the one-factor structure was 34.05%. Since the variance explained in single-factor structures should be at least 30%, the scale provides this sufficiency (Büyüköztürk, 2018). Moreover, as a result of the CFA, it was determined that the model fit values of the NAS-SF scale showed a good level of fit.

Factor loadings of the items of the NAS-SF scale were found to range between .40 and .67. Since item factor loadings should be at least .30 (DeVellis, 2017), the obtained values can be said to be acceptable. However, since one item in this study had a factor loading below .30, the 8-item structure of the scale was reduced to 7 items. Therefore, although the study was conducted by the theoretical substructure of non-attachment, adaptation studies can be affected by cultural differences. Furthermore, the 7-item structure of the NAS-SF scale is similar to the number of items in the short form developed by Sahdra et al. (2015). However, different studies in which this scale (Sahdra et al., 2015) was used showed that the model fit indices were not sufficient. Therefore, a new short-form was developed by Chio et al. (2018). This study tested its validity and reliability in the Turkish sample.

Analyses conducted to test the reliability of the scale showed Cronbach Alpha .77 and McDonald's .78. This result shows that the internal consistency coefficient is at an acceptable level as in the original scale (α=.93). According to the results of the item-total correlation analysis of NAS-SF, the difference between the lower and upper group of 27% was found to be significant. According to this result, the NAS-SF scale's item discrimination level can be said to be good. In order to test the criterion validity of the NAS-SF scale, Resilience and Ontological Addiction scales were used. Significant positive relationships were found between non-attachment and resilience (r = .60) and significant negative relationships with ontological addiction (r = -.39). Similarly, the limited number of findings in the literature show that non-attachment has a positive relationship with resilience (Goswami et al., 2024). Besides, ontological addiction and non-attachment are known to have negative relationships bilinmektedir (Barrows et al., 2022). These results suggest that increasing the level of non-attachment may play a critical role in strengthening resilience and preventing ontological addiction.

Finally, all analyses conducted in this study show that the Turkish form of the NAS-SF scale is a valid and reliable measurement tool. However, this study has some limitations. The first limitation is that the sample of the study consists only of adults over the age of 18.

Including different age groups in future studies in which this scale will be used may contribute to the generalisability of the non-attachment findings. Besides the validity and reliability analyses in this study, different approaches such as measurement invariance can be used. Another limitation of this study is that the data were obtained through self-report. To prevent the established method bias that may be caused by this situation, techniques such as interviews and observations can be used in future research. Despite these limitations, the presence of a tool that can measure the level of non-attachment of individuals in Turkey is thought to contribute to the understanding of the causes and consequences of non-attachment. Thus, especially academicians and mental health professionals may have the opportunity to examine the structure of non-attachment and develop various intervention programs to strengthen non-attachment.

Ethical Committee Approval

Ethical approval was obtained from the Siirt University Ethics Committee with the decision dated 10.11.2023 and numbered 5839.

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