

Turkish Adaptation Study of the Compulsive Internet Use Scale

Zorlantılı İnternet Kullanımı Ölçeğinin Türkçe Uyarlaması Çalışması

ABSTRACT

The widespread use of the internet in daily life has brought significant changes to individuals' personal and social lives. While the positive effects of internet use are undeniable, excessive and uncontrolled use has led to serious psychological and social problems. Compulsive internet use is a specific subset of problematic internet use, characterized by behaviors such as loss of control, mental preoccupation, withdrawal symptoms, and disruptions in daily life. This study aimed to adapt the Compulsive Internet Use Scale, developed by Meerkerk et al. (2009), into Turkish and evaluate its validity and reliability. The scale was translated and culturally adapted following standard procedures, including translation, back-translation, and expert evaluation. Data were collected from 400 participants aged 18–24 years. Exploratory factor analysis and confirmatory factor analysis confirmed the unidimensional structure of the scale, consistent with its original version. Reliability analyses revealed a high internal consistency (Cronbach's Alpha = 0.917). The findings indicate that the Turkish version of the Compulsive Internet Use Scale is a valid and reliable tool for assessing compulsive internet use. This study fills a significant gap in the Turkish literature and provides a comprehensive measurement tool for future research and clinical applications.

Keywords: Compulsive internet use, internet addiction, scale adaptation, validity, reliability.

ÖZET

İnternetin günlük yaşamda yaygın kullanımı, bireylerin kişisel ve sosyal hayatlarında önemli değişikliklere yol açmıştır. İnternet kullanımının olumlu etkileri yadsınmazken, aşırı ve kontrolsüz kullanım ciddi psikolojik ve sosyal sorunlara neden olmuştur. Zorlantılı internet kullanımı, problemli internet kullanımının bir alt kümesi olarak kontrol kaybı, zihinsel meşguliyet, yoksunluk belirtileri ve günlük yaşamda aksamalara yol açan davranışlarla karakterizedir. Bu çalışmada, Meerkerk vd. (2009) tarafından geliştirilen Zorlantılı İnternet Kullanımı Ölçeği'nin Türkçe'ye uyarlanması ve geçerlik ile güvenilirlik analizlerinin yapılması amaçlanmıştır. Ölçek, çeviri, geri çeviri ve uzman değerlendirmesi gibi standart prosedürler izlenerek Türkçe'ye uyarlanmıştır. Araştırma, 18–24 yaş aralığında 400 katılımcıdan elde edilen verilerle gerçekleştirilmiştir. Açıklayıcı faktör analizi ve doğrulayıcı faktör analizi, ölçeğin özgün versiyonuyla tutarlı tek boyutlu yapısını doğrulamıştır. Güvenirlilik analizleri, yüksek iç tutarlılık (Cronbach's Alpha = 0.917) göstermiştir. Bulgular, Zorlantılı İnternet Kullanımı Ölçeği'nin Türkçe versiyonunun geçerli ve güvenilir bir ölçüm aracı olduğunu ortaya koymuştur. Bu çalışma, Türkçe literatürde önemli bir boşluğu doldurmakta ve gelecekteki araştırmalar ile klinik uygulamalar için kapsamlı bir ölçüm aracı sunmaktadır.

Anahtar Kelimeler: Zorlantılı internet kullanımı, internet bağımlılığı, ölçek uyarlaması, geçerlik, güvenilirlik.

INTRODUCTION

The increasing influence of the internet in daily life has led to significant changes in both personal and social aspects of individuals' lives. This situation has brought to light not only the positive effects of internet use but also the negative consequences of excessive and uncontrolled use. In particular, problematic internet use and internet addiction have emerged as significant issues that negatively affect psychological and social functioning (Caplan, 2010; Demetrovics et al., 2016; Young, 1998). A review of the literature reveals that terms such as "compulsive computer use," "pathological internet use," "problematic internet use," and "internet addiction" are used to describe excessive internet use (Canoğulları Ayazseven & Cenkseven Önder, 2019). As an umbrella term, internet addiction is defined as a behavioral pattern in which individuals experience difficulties in controlling their internet use, feel a desire to increase their time online, and face disruptions in daily life activities (Chen et al., 2003; Nichols, 2004; Meerkerk et al., 2009; Pawlikowski, 2013). Compulsive internet use, on the other hand, is considered a more specific subset of problematic internet use and is primarily associated with compulsive behaviors developed by individuals toward internet use. In this context, compulsive internet use includes elements such as loss of control during internet use, mental preoccupation, withdrawal symptoms, coping with negative emotions, and conflicts in social or professional life (Meerkerk et al., 2009). These characteristics necessitate examining compulsive internet use not only within the framework of addiction but also in terms of its impacts on daily life.

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In Turkey, scales developed to measure internet addiction and problematic internet use aim to address significant gaps in this field. For instance, the Addiction Profile Index Internet Addiction Form (BAPINT), developed by Ögel et al. (2015), offers an 18-item structure to measure internet addiction and identifies three dimensions (the impact of internet use on life, addiction diagnostic criteria, and motivation). The general Cronbach's alpha coefficient of this scale was calculated as 0.88, indicating high reliability. Similarly, the Internet Addiction Scale (IAS), developed by Andiç and Durak Batıgün (2021) based on DSM-5 diagnostic criteria, has a seven-factor structure (e.g., escape/avoidance, withdrawal, mental preoccupation, and tolerance) and a general Cronbach's alpha value of 0.97. The internet addiction scale developed by Taş (2019) for adolescents is unidimensional, with a Cronbach's alpha coefficient of 0.81. Lastly, the Problematic Internet Use Scale (PIUS), developed by Ceyhan et al. (2007), evaluates three dimensions (negative consequences of the internet, social benefit/social comfort, and excessive use) and has a Cronbach's alpha value of 0.94. These studies provide a comprehensive evaluation of internet addiction and problematic internet use by addressing their various dimensions.

Adaptation studies conducted in Turkey in the field of internet addiction and problematic internet use have enriched the measurement tools in this field by introducing various scales into Turkish. The Turkish adaptation of the Generalized Problematic Internet Use Scale-2 (GPIUS-2), developed by Caplan (2010), demonstrated a four-dimensional structure (preference for online social interaction, mood regulation, lack of self-regulation, and negative consequences) and had a Cronbach's alpha value of 0.89 (Deniz & Tutgun Ünal, 2016). The same scale was adapted for high school students by Canoğulları Ayazseven and Cenkseven Önder (2019) and exhibited a four-dimensional structure (online social interaction, mood regulation, deficient self-regulation, and negative consequences), with a Cronbach's alpha value of 0.85. In another Turkish adaptation of the same scale, Caner-Yıldırım and Yıldırım (2023) identified three dimensions (deficient self-regulation, mood regulation, and preference for online social interaction) and reported Cronbach's alpha coefficients of 0.91, 0.90, and 0.69, respectively. Kayri and Günuç (2009) adapted the Internet Addiction Scale, developed by Nichols and Nicki (2004), into Turkish, and the scale, which exhibited a unidimensional structure, had a Cronbach's alpha value of 0.93. Şahin and Korkmaz (2011) adapted the Internet Addiction Scale, developed by Hahn and Jerusalem (2001), into Turkish and reported a three-dimensional structure (loss of control, desire to stay online longer, and negativity in social relationships), with Cronbach's alpha values ranging from 0.858 to 0.926. Kesici and Şahin (2010) adapted the Internet Addiction Scale, developed by Chen et al. (2003), into Turkish and identified a five-dimensional structure (compulsive use, withdrawal, tolerance, time management problems, and interpersonal/health problems), with a Cronbach's alpha value of 0.94. Çakır and Horzum (2008) adapted the Internet Addiction Test, developed by Young (1998), into Turkish and reported a three-dimensional structure (preferring online activities over daily life, desire to increase online time, and problems arising from being online), with Cronbach's alpha values ranging from 0.78 to 0.90. Kutlu et al. (2016) conducted the Turkish adaptation of the Young Internet Addiction Test-Short Form (YIAT-SF) and reported a unidimensional structure, with Cronbach's alpha values of 0.91 for university students and 0.86 for adolescents. Lastly, Göktaş et al. (2018) adapted the Problematic Internet Use Questionnaire-Short Form-6 (PIUQ-SF 6), developed by Demetrovics et al. (2016), into Turkish and reported a three-dimensional structure (obsession, neglect, and control disorder), with a Cronbach's alpha value of 0.82. These adaptation studies have made significant contributions to the literature by addressing various dimensions of internet addiction and problematic internet use.

Although various scales have been adapted into Turkish in the field of internet addiction and problematic internet use in Turkey, it is noteworthy that no specific measurement tool for compulsive internet use has been introduced. However, compulsive internet use is considered a more specific subset of problematic internet use and stands out as an important concept for understanding individuals' compulsive behaviors toward internet use. The Compulsive Internet Use Scale (CIUS), developed by Meerkerk et al. (2009), offers a comprehensive tool for evaluating individuals' compulsive behaviors, loss of control, and the effects of internet use on their lives. The Turkish adaptation of this scale will provide an opportunity to evaluate individuals' compulsive tendencies toward internet use in greater detail, offering significant contributions to both research and clinical practice.

The primary aim of this study is to adapt the CIUS, developed by Meerkerk et al. (2009), into Turkish and to evaluate its validity and reliability to assess its usability as a measurement tool suitable for Turkish culture. This study aims to fill a gap in the existing literature on measuring compulsive internet use and to bring a new perspective to research in this field. Additionally, the adaptation of this scale into Turkish will provide an important tool for better understanding individuals' compulsive behaviors related to internet use and for examining the individual and societal impacts of these behaviors.

METHOD

Population and Sample



The research population consists of adolescents from Turkey. The research sample was selected using convenience sampling. This method allows researchers to choose the most accessible and efficient way to recruit participants, based on their availability and proximity. Convenience sampling enables the selection of a sample group from easily reachable sources, making data collection quick, simple, and cost-effective, which is particularly beneficial given time and budget limitations (Creswell & Creswell, 2017).

On the other hand, sample size requirements can vary depending on several factors, such as study design, population size, confidence level, acceptable error, and the analyses employed. Consequently, there are various approaches to determining the minimum sample size. According to Bell et al. (2022), a sample of 100-200 individuals is adequate for social research. According to another approach, the sample size in scale adaptation studies should be 10 times (Costello & Osborne, 2005) or 20 times (Kline, 2013) the number of items in the scale. Accordingly, a sample size of 140-280 people would be sufficient for the 14-item scale used in this study. Furthermore, a formula that calculates sample size based on population and confidence level indicates that a sample of 384 individuals can represent populations exceeding one million, with a 5% margin of error (Rahi, 2017).

Considering these criteria, this study included a total of 400 participants. The average age of the participants was calculated as 19.4 years (Min. = 18, Max. = 24). In the sample, 56.5% (n = 226) were female, 36.8% (n = 147) were male, 1.5% (n = 6) were non-binary and 5.3% (n = 21) did not want to indicate their gender.

Measurement Instrument: The Compulsive Internet Use Scale (CIUS)

The CIUS developed by Meerkerk (2009) to measure problematic and pathological internet use. The scale consists of a total of 14 items and includes a single dimension. The scale is a five-point Likert scale (0=Never, 1=Rarely, 2=Sometimes, 3=Frequently, 4=Very Often). High scores obtained from the scale indicate a high level of problematic and pathological internet use. Cronbach's alpha reliability coefficient of the the scale was reported as $\alpha=0.90$ (Meerkerk, 2009).

Data Collection Procedure

In a month-long data collection process, adolescent volunteers were recruited to participate in the study. A Google Forms survey was created and distributed to participants via various online platforms, including social media, WhatsApp, and e-mail. The survey took approximately 15 minutes to complete. This method ensured efficient, reliable, and quick data collection with minimal data loss.

Participation in the study was completely voluntary, and all participants were provided with an informed consent form at the beginning of the survey. The form clearly stated that participation was voluntary, and no personal identification information was requested to ensure participant anonymity. The data collected was kept strictly confidential, and participants had the right to withdraw from the study at any time. Participants were required to declare their informed consent before proceeding with the survey.

After the data collection process was completed, the researcher downloaded the data to their computer and secured it using encryption to maintain the confidentiality and integrity of the collected information.

Translation

The adaptation study aimed to adapt the CIUS, developed by Meerkerk et al. (2009), into Turkish. For the adaptation study of the scale, initial contact was established with Gert-Jan Meerkerk, and necessary permissions were obtained.

The translation process of the scale followed the method proposed by Brislin et al. (1973). This method involves a series of steps: initial translation into the target language, evaluation of the first translation, back-translation to the source language, re-evaluation of the back-translation, and consultation with expert opinions. Within this framework, the scale was first translated into Turkish by two English Language and Literature instructors who are native Turkish speakers and proficient in the field.

The initial translation was then subjected to evaluation by a three-member expert panel in the field. They reviewed the comprehensibility of the questions, word and sentence structures, and cultural appropriateness. Following the initial assessment, the agreed-upon Turkish translation of the scale was then back-translated into English. This back-translation was performed by two different English Language and Literature instructors, also native Turkish speakers, who were not involved in the initial translation.

The resulting back-translated scale was compared with the original scale, and minor adjustments that did not significantly alter the meaning were made to finalize the scale. As a final step, the scale was presented to two experts in the field with academic backgrounds and proficient English skills for their evaluation. Upon receiving

positive feedback from these evaluations, the final version of the scale was established and deemed ready for use in the adaptation study.

Analysis Method

In this study, the validity and reliability analyses of the Turkish adaptation of the CIUS were conducted. The analyses were performed using SPSS v26 and AMOS v22 software. For validity analyses, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. Additionally, Cronbach's Alpha internal consistency coefficient and Composite Reliability (CR) were calculated to evaluate the reliability of the scale.

FINDINGS

Pilot Study

After completing the Turkish translation process of the scale, a pilot study was conducted to preliminarily assess the validity and reliability of the finalized scale. The study included 81 volunteer students from a university in Istanbul. Participants' ages ranged from 18 to 24 years, with a mean age of 21.0 (SD = 1.7). The gender distribution of the participants was as follows: 51.9% male (n = 42) and 48.1% female (n = 39). Participation in the study was entirely voluntary.

In the pilot study, the construct validity and reliability of the scale were examined. EFA and CFA were performed to evaluate construct validity. The EFA results indicated that the scale exhibited a single-factor structure consistent with its original version. The analysis yielded a Kaiser-Meyer-Olkin (KMO) value of .93, and Bartlett's Test of Sphericity result was $\chi^2(91) = 972.8$ ($p < .001$). The scale explained 65.1% of the total variance, and item factor loadings ranged between .743 and .866.

The CFA results confirmed that the factor structure of the scale was valid for the Turkish sample. The model fit indices were as follows: $\chi^2/df = 1.51$, CFI = .961, TLI = .952, RMSEA = .080, and SRMR = .051. These findings demonstrate that the single-factor structure of the scale exhibited good model fit.

Additionally, the reliability of the scale was assessed using Cronbach's Alpha internal consistency coefficient and composite reliability. The Cronbach's Alpha coefficient was calculated as .957, and the composite reliability value was also .957. These results indicate that the scale is a highly reliable measurement tool.

The findings of the pilot study suggest that the Turkish version of the scale is both valid and reliable. Accordingly, it was decided to proceed with data collection for the main study using this finalized version of the scale.

Main Analyses

The results of the analyses conducted with the data obtained from 400 participants within the scope of the main study are presented in the following sub-headings.

Exploratory Factor Analysis

Firstly, EFA was conducted to examine the construct validity of the CIUS scale. Within the scope of EFA, KMO and Bartlett's test results are first examined to assess the suitability of the data set. KMO is a statistical test used to assess the suitability of the data set for factor analysis. The KMO value takes a value between 0 and 1. The higher the KMO value, the more appropriate the data set is for factor analysis. Generally, a KMO value of 0.5 or higher indicates that the data set is suitable for factor analysis. On the other hand, Bartlett's Test examines whether the correlation matrix is a unit matrix. In other words, it evaluates whether the relationship between variables in a data set is statistically significant. Before conducting factor analysis, some kind of relationship between variables is expected. Bartlett's Test tests whether this hypothesis is valid. A statistically significant result of Bartlett's Test ($p < 0.05$) indicates that there is a relationship between the variables and that the data is suitable for factor analysis (Hair et al., 2019).

Exploratory factor analysis can be performed using methods such as principal components technique and varimax rotation technique. The principal components technique is used to identify the underlying principal factors underlying a large number of variables belonging to a large number of observations. The principal components technique creates new variables by taking into account the correlations between the variables in the dataset and these new variables represent the principal factors. On the other hand, varimax rotation technique is used to make the principal factors obtained as a result of the principal components technique more meaningful and easily interpretable. The principal components technique usually results in coefficients called factor loadings. These factor loadings show the relationship of each variable to each principal factor. However, these factor loadings can often be complex and difficult to interpret. The Varimax rotation technique rotates the factor loadings so that each

factor is strongly associated with several variables. This rotation makes the factors more independent and meaningful, so that each factor has a more specific meaning and is easier to interpret (Hair et al., 2019).

In this process, the eigenvalues of the items included in the analysis that are greater than 1 are accepted as factors and the total variance, which is expressed as the ratio of factors explaining the scale, is found. In the field of social sciences, it is stated that an explained variance of 40% and above is sufficient. On the other hand, it is a good criterion that the factor loadings of the scale items should be 0.45 or higher (Hair et al., 2019).

To examine the factor structure of the Compulsive Internet Use Scale, an EFA was conducted taking into account the above-mentioned issues. The results of the analysis are presented in Table 1.

Table 1: Compulsive Internet Use Scale EFA Results

Factor	Item	Factor Loading	Variance Explained	KMO and Bartlett's Test
Compulsive Internet Use	1. Ne sıklıkla çevrimiçi iken interneti kullanmayı bırakmakta zorlanıyorsunuz?	,950	52.79	KMO = ,736 Bartlett's Test: $\chi^2 = 3993.443$ df = 91 p = ,000
	2. Ne sıklıkla interneti kullanmayı bırakma niyetinize rağmen kullanmaya devam ediyorsunuz?	,588		
	3. Ne sıklıkla başkaları (örneğin eşiniz, çocuklarınız, ebeveynleriniz, arkadaşlarınız) interneti daha az kullanmanız gerektiğini söylüyor?	,638		
	4. Ne sıklıkla başkalarıyla (örn. eş, çocuklar, ebeveynler, arkadaşlar) vakit geçirmek yerine interneti kullanmayı tercih ediyorsunuz?	,618		
	5. Ne sıklıkla internet yüzünden uykusuz kalıyorsunuz?	,633		
	6. Ne sıklıkla çevrimiçi değilken bile interneti düşünüyorsunuz?	,702		
	7. Ne sıklıkla bir sonraki internet oturumunuzu dört gözle bekliyorsunuz?	,698		
	8. Ne sıklıkla interneti daha az kullanmanız gerektiğini düşünüyorsunuz?	,599		
	9. Ne sıklıkla internette daha az zaman geçirmeyi deneyip başarısız oldunuz?	,703		
	10. Ne sıklıkla internete girmek için (evdeki) işlerinizi aceleyle yapıyorsunuz?	,684		
	11. Ne sıklıkla internete girmeyi tercih ettiğiniz için günlük yükümlülüklerinizi (iş, okul veya aile hayatı) ihmal ediyorsunuz?	,665		
	12. Ne sıklıkla kendinizi kötü hissettiğinizde internete giriyorsunuz?	,940		
	13. Ne sıklıkla üzüntülerinizden kaçmak veya olumsuz duygulardan kurtulmak için interneti kullanıyorsunuz?	,941		
	14. Ne sıklıkla interneti kullanmadığınızda kendinizi huzursuz, sinirli veya öfkeli hissediyorsunuz?	,663		

The KMO value being greater than 0.5 (.736) indicated that the sample size was sufficient. The statistically significant result of Bartlett's test of sphericity ($\chi^2(91) = 3993.443$, $p < .001$) demonstrated that the data were adequately correlated for EFA. As a result of the factor analysis, a single factor with an eigenvalue greater than 1 was identified. This single factor consisted of 14 items and explained 52.79% of the variance. No item had a factor loading below .45. The factor structure of the scale was consistent with the original scale. These findings indicate that the CIUS used in the study has a structure consistent with the original scale.

Confirmatory Factor Analysis

CFA is a method used to test how well theoretically determined factor structures fit the data (Brown, 2015). Within this framework, CFA was conducted for the CIUS to evaluate construct validity and convergent validity.

Construct validity refers to the degree to which a scale measures the construct it is intended to measure. In CFA, construct validity is assessed by examining model fit indices. In this study, χ^2 , CFI, TLI, RMSEA, and SRMR were evaluated to assess the construct validity of the CIUS tested in CFA. The generally accepted criteria for fit indices are as follows:

- ✓ For χ^2/df , <5 indicates acceptable fit, and <3 indicates excellent fit.
- ✓ For CFI and TLI indices, values >0.90 indicate acceptable fit, while values >0.95 indicate excellent fit.
- ✓ For RMSEA, <0.08 indicates acceptable fit, and <0.05 indicates excellent fit.
- ✓ For SRMR, values <0.10 indicate acceptable fit, and values <0.05 indicate excellent fit (Schumacker & Lomax, 2004; Kline, 2011).

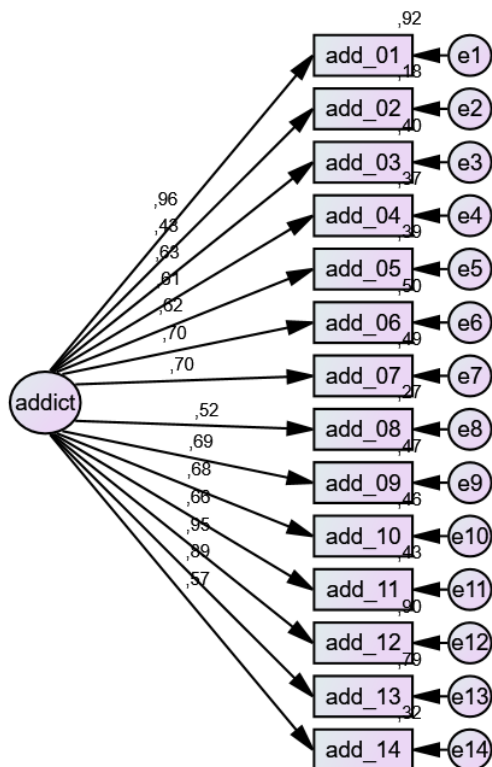
Convergent validity refers to the degree to which indicators measuring a construct are highly correlated with each other. In CFA, convergent validity is typically assessed using Factor Loadings, Average Variance Extracted (AVE), and Composite Reliability (CR):

- ✓ Factor Loadings: Each indicator's factor loading should be above 0.50.
- ✓ Average Variance Extracted: AVE should be 0.50 or higher, indicating that the variance explained by the indicators for a construct is sufficient.
- ✓ If the AVE value is below 0.50, convergent validity can still be accepted if CR is above 0.60, as AVE is considered a conservative criterion (Fornell & Larcker, 1981; Malhotra et al., 2010).

In this context, the construct validity and convergent validity criteria of the CIUS were examined. The CFA results for the CIUS are presented in Table 2, and the measurement model is shown in Figure 1.

Table 2: Compulsive Internet Use Scale CFA Results

Factor	Item	Standardized Regression Weighth	Cronbach Alpha	CR	AVE
Compulsive Internet Use	add_01	0,960***	.917	0.929	0.493
	add_02	0,429***			
	add_03	0,631***			
	add_04	0,607***			
	add_05	0,624***			
	add_06	0,704***			
	add_07	0,703***			
	add_08	0,522***			
	add_09	0,687***			
	add_10	0,678***			
	add_11	0,657***			
	add_12	0,947***			
	add_13	0,890***			
	add_14	0,566***			



$\chi^2/df = 4.571$ ($p = .000$), CFI = 0.942, TLI = 0.918, RMSEA = 0.065, SRMR = 0.087

Figure 1: Compulsive Internet Use Scale CFA Measurement Model

The results of the CFA support the construct validity of the scale. The model fit indices indicate that the theoretical structure of the scale aligns well with the data. According to the analysis results, the χ^2/df value was calculated as 4.571, indicating acceptable fit ($p = .000$). Additionally, CFI = 0.942 and TLI = 0.918 values show that the scale demonstrates acceptable fit. The fit indices RMSEA = 0.065 and SRMR = 0.087 also indicate acceptable fit. These results suggest that the construct validity of the scale is adequate.

In terms of convergent validity, the factor loadings of the scale items were at an acceptable level, ranging from 0.429 to 0.960. The CR value was found to be 0.929, exceeding the 0.60 threshold. However, the AVE value was calculated as 0.493, which is slightly below the 0.50 threshold. Nonetheless, as AVE is considered a conservative criterion, it has been suggested by Fornell and Larcker (1981) and Malhotra et al. (2010) that convergent validity can still be accepted when the CR value exceeds 0.60. In this context, since the CR value of the scale is greater than 0.60 (0.929), it was concluded that the scale achieves convergent validity.

Reliability Analyses

In this study, the reliability of the CIUS was assessed using internal consistency (Cronbach's alpha) and composite reliability methods. A Cronbach's Alpha coefficient above 0.70 indicates sufficient internal consistency of a scale. Similarly, a CR value above 0.70 supports the reliability of a scale (Hair et al., 2019). The Cronbach's Alpha coefficient of the scale was 0.917, indicating that the scale has high internal consistency. The CR value was calculated as 0.929, further supporting the reliability of the scale. These results demonstrate that the CIUS is a reliable measurement tool.

CONCLUSION

This study aimed to adapt the CIUS, developed by Meerkerk et al. (2009), into Turkish and to evaluate its validity and reliability as a measurement tool suitable for Turkish culture. The results of the EFA and CFA conducted in the study revealed that the scale has a unidimensional structure consistent with its original form. The EFA results demonstrated that the scale explains a significant portion of the total variance and that all item factor loadings are at acceptable levels. The CFA results supported that the theoretical model of the scale shows a good fit in the Turkish sample. Furthermore, the Cronbach's Alpha internal consistency coefficient and the composite reliability values of the scale indicated that it is highly reliable. The findings of the study demonstrate that the Turkish version of the scale is both a valid and reliable measurement tool. These results confirm that the scale is an effective tool adapted to Turkish culture for assessing individuals' compulsive internet use behaviors.

Compulsive internet use emerges as a significant issue that negatively affects individuals' daily lives, social relationships, and psychological well-being. In the literature, compulsive internet use is considered a more specific subset of problematic internet use. This issue encompasses elements such as compulsive behaviors toward internet use, loss of control, mental preoccupation, withdrawal symptoms, and coping with negative emotions (Meerkerk et al., 2009). The scale used in this study provides a comprehensive tool to measure and evaluate such behaviors in individuals.

Although various scales have been developed (Andiç & Durak Batıgün, 2021; Ceyhan et al., 2007; Ögel et al., 2015; Taş, 2019) or adapted into Turkish (Caner-Yıldırım & Yıldırım, 2023; Canoğulları Ayazseven & Cenkseven Önder, 2019; Çakır & Horzum, 2008; Deniz & Tutgun Ünal, 2016; Göktaş et al., 2018; Kayri & Günuç, 2009; Kesici & Şahin, 2010; Kutlu et al., 2016; Şahin & Korkmaz, 2011) to measure internet addiction and problematic internet use in Turkey, the lack of a specific measurement tool for compulsive internet use was notable. In this context, the Turkish adaptation conducted in this study has filled an important gap in the literature and provided a reliable tool for evaluating individuals' compulsive internet use. Additionally, the adaptation of this scale into Turkish offers significant contributions to both academic and clinical fields. Specifically, it provides a new perspective to better understand individuals' tendencies toward compulsive internet use and to examine the individual and societal impacts of these behaviors.

Moreover, the findings of this study offer a more specific understanding of compulsive internet use. In particular, the unidimensional structure of the scale indicates that individuals' compulsive internet use behaviors can be addressed as a whole, aligning with certain other studies in the literature (Kayri & Günuç, 2009; Kutlu et al., 2016; Taş, 2019). This differs from multidimensional scales, such as the problematic internet use scale (Caner-Yıldırım & Yıldırım, 2023; Canoğulları Ayazseven & Cenkseven Önder, 2019; Ceyhan et al., 2007; Deniz & Tutgun Ünal, 2016; Göktaş et al., 2018) or the internet addiction scale (Andiç & Durak Batıgün, 2021; Çakır & Horzum, 2008; Kesici & Şahin, 2010; Ögel et al., 2015; Şahin & Korkmaz, 2011), which conceptualize problematic internet use as a broader construct. This distinction provides a new perspective for understanding the more specific aspects of compulsive internet use.

This study has some limitations. First, since the study sample consisted only of young adults, the generalizability of the results to different age groups may be limited. Considering that internet usage behaviors may vary by age, it is recommended to conduct validity and reliability analyses of the scale in different age groups. Additionally, as the study employed a cross-sectional design, it was not possible to examine changes in compulsive internet use over time or the reasons for these changes. Longitudinal studies could provide more comprehensive information on this

topic. Furthermore, since the sample used in this study consisted solely of participants from Turkey, the generalizability of the results to other cultures is limited. Future studies could test the validity and reliability of the scale in different cultures, enabling international comparisons. Additionally, studies examining the psychological, social, and biological determinants of compulsive internet use could enrich the knowledge base in this field.

In conclusion, this study successfully adapted the CIUS into Turkish and demonstrated that it is a valid and reliable measurement tool. This scale provides an important tool for assessing individuals' compulsive internet use and examining the individual and societal impacts of these behaviors. In the future, repeating validity and reliability analyses of this scale in different populations and contexts could expand its applicability. Furthermore, studies investigating the causes, consequences, and coping strategies for compulsive internet use could enhance the knowledge base in this field and contribute to developing effective intervention strategies.

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