



Araştırma Makalesi • Research Article

The Adaptation of Anxiety Scale Towards The Internet Into Turkish: A Validity And Reliability Study

İnternete Yönelik Kaygı Ölçeği: Türkçeye Uyarlama, Geçerlik ve Güvenirlik Çalışması

Zeynep TUNCER¹

Özlem PULAT²

Bülent ALCI³

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ABSTRACT

The purpose of this research is to adapt Anxiety Scale towards the Internet developed by Ekizoğlu and Özçınar (2011) into Turkish language. The scale which consists of 32 items and 3 factors was developed to determine preservice teachers' anxiety level towards the internet. This research also aims to determine linguistic equivalence, validity and reliability of the scale. The study has two samples. The first research group which is to administer the adapted form of the scale includes 100 teacher candidates, 66 of whom are females and 34 of whom are males, and the second research group which is to test the linguistic equivalence includes 39 English Language Teaching (ELT) students, 24 of whom are female and 15 of whom are male. The correlation coefficient of English and Turkish forms of the scale was found significant ($p < .01$ and $p < .05$). To determine the validity of the scale, exploratory and confirmatory factor analyses (EFA and CFA) were calculated. After analyses, 7 items were not found significant and removed from the scale. In the result of EFA, total variance was found 47.6%. Cronbach Alpha reliability coefficient was calculated .89 for the whole scale. In conclusion, it was determined that the Turkish form of Anxiety Scale towards the Internet was a reliable and valid measurement tool.

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ÖZ

Bu çalışmanın amacı, Ekizoğlu ve Özçınar (2011) tarafından geliştirilen Anxiety Scale towards the Internet adlı ölçeğin Türkçeye uyarlanmasıdır. 32 madde ve 3 faktörden oluşan ölçek, öğretmen adaylarının internete yönelik kaygı düzeylerini belirlemek için geliştirilmiştir. Bu çalışmada, ölçeğin dilsel eşdeğerlik, geçerlik ve güvenilirlik çalışmaları yapılmıştır. Çalışmada iki ayrı örneklem grubu kullanılmıştır. Ölçeğin uyarlanmış halinin uygulandığı birinci grup, 66'sı kadın, 34'ü erkek olmak üzere toplam 100 öğretmen adayından oluşmaktadır. Dilsel eşdeğerlik çalışmasının yapıldığı ikinci grupta ise, 24'ü kadın, 15'i erkek olmak üzere toplam 39 İngilizce Öğretmenliği öğrencisi bulunmaktadır. İngilizce ve Türkçe ölçeğin korelasyon katsayısı anlamlı bulunmuştur ($p < .01$ ve $p < .05$). Geçerlik çalışması kapsamında, açıklayıcı ve doğrulayıcı faktör analizleri yapılmıştır (AFA ve DFA). Analizlerin sonucunda, 7 madde anlamlı bulunmamış ve ölçekten çıkarılmıştır. AFA sonucunda toplam varyans %47.6 olarak bulunmuştur. Cronbach Alpha güvenirlik katsayısı tüm ölçek için .89 olarak hesaplanmıştır. Sonuç olarak, İnternete Yönelik Kaygı Ölçeği'nin geçerli ve güvenilir bir ölçme aracı olduğu tespit edilmiştir.

¹ Yüksek lisans öğrencisi, Yıldız Teknik Üniversitesi, Sosyal Bilimler Enstitüsü, Eğitim Programları ve Öğretim Ana Bilim Dalı, zeynepkeskin@outlook.com, ORCID: 0000-0001-5103-6407

² Yüksek lisans öğrencisi, Yıldız Teknik Üniversitesi, Sosyal Bilimler Enstitüsü, Eğitim Programları ve Öğretim Ana Bilim Dalı, ozlem.pulat123@gmail.com, ORCID: 0000-0002-6800-8258

³ Doç. Dr., Yıldız Teknik Üniversitesi, Eğitim Programları ve Öğretim Ana Bilim Dalı, alci@yildiz.edu.tr, ORCID: 0000-0002-4720-3855

INTRODUCTION

Today, technology is almost everywhere in the world (Çötök, 2017). It has been facilitating the lives of people in so many ways. Almost all people on earth benefit from it in a sort of way. Even in the third world countries, technology can be seen as mobile phones in people's pockets, or as cars in the streets. Technology shows its effects almost all areas (Ural, 2015). In this age, it is really hard for someone to live an entirely isolated life from technology.

It is affecting the world greatly and as a result, human beings have been using it for so many purposes, including internet. Internet is a huge computer network which consists of a combination of computer networks all over the world (Korkmaz, 2014). While use of internet was limited to computers in the beginning, it is being used with various products such as smartphones, tablets and televisions today. This shows that the internet has become more available, usable and accessible during the recent years (Kuss, Shorter, Rooij, Griffiths & Schoenmakers, 2014). There are plenty of studies about internet and its effects all over the world from Far East to Europe (Choi, Chun, Lee, Han & Park, 2016; Jahan et al., 2019; Kuss & Griffiths, 2015). It is understood that people of almost all ages use internet for a purpose. However, adolescents and young adults spend more time on the internet in comparison with the elderly (Joiner et al., 2013). As stated by Yücel and Gürsoy (2013), young people use the internet in many areas. For example, web based life has become a preferred method for communication especially amongst youths and young adults (Reiner et al., 2017).

The internet is so much involved in our lives that it also leads to some negative psychological consequences besides their benefits as stated in some studies (Alyanak, 2016; Jahan et al., 2019; Kawabe et al., 2016). Since young people use the internet excessively, their social lives are badly affected and this pushes them to loneliness. Excessive internet use not only damages school and family lives of individuals, but also it causes them to disrupt their social or personal affairs (Gürcan, 2010). A study has shown that adolescents' school performance, daily activities and family relationships are adversely affected by the increase in internet use (Yang & Tung, 2007). These are evidence that unconsciously excessive internet use reduces the quality of life of individuals.

Tüysüz, Balaman and Atalar (2012) also stated that some important psychological diseases occur with the increase in internet use. People who cannot limit their use of internet encounter social, occupational and academic problems (Gönül, 2002). This situation shows that use of internet negatively affects not only the school life, but also the business and social lives of individuals. The irresistible desire for internet brings addiction with it. Individuals cannot resist what they are addicted to and they have difficulty in leaving it (Thurlow, Lengel & Tomic, 2004). Those who become addicted to internet disrupt their work and social life by getting into moods such as irritability, nervousness, and restlessness when they cannot access the internet (Young, 2017). This is called "internet addiction" in literature.

Internet addiction and feeling anxious about using internet are among psychological effects of internet (Yaraşır, 2018). Consequently, studies on internet addiction and anxiety about using internet have increased over the last years. There are also scales about anxiety, internet addiction and its social and psychological consequences. For example, Ceyhan, Ceyhan and Gürcan (2007) developed *Problemlili İnternet Kullanımı Ölçeği* meaning problematic internet usage scale to determine university students' problematic internet usage behaviours for the reason that some studies reveal that internet users are beginning to display behaviours similar to other addictions, such as drugs, alcohol or gambling, for internet use as well. Another scale (Internet Addiction Test) was developed by Young (1998). She states that internet addiction and uncontrollable internet use are serious problems for young people (Young, 1998). There are also studies about adolescents' internet addiction and anxiety. For instance, Zorbaz and Dost (2014), researched high school students' problematic internet use in terms of social anxiety. Göldağ (2017), researched the relationship between internet addiction and anxiety levels of secondary education students. All these studies show that excessive internet use or internet addiction can cause problems such as anxiety, social and psychological disorders.

However, in the constantly changing and developing world, internet has become a necessity in education. As stated by Warschauer (2007), the future of education is digital and digital age will eventually change the nature of learning. Especially in these days of pandemic, as a necessity, many countries as well as Turkey continue the school year through distance education. This process shows how important internet usage is in education for both students and teachers. Even today, a real school or a classroom is not a necessity to lecture. There is a rapid growth in distance learning, and it makes using computer and internet-based skills inevitable (Natriello, 2005). Therefore, the teachers of the new age must have internet and technological skills. However; some teachers find technological developments as a threat and they can feel anxious about using these technological tools (Sanchez-Mena, Marti-Parreno & Aldas-Manzano, 2018). For this reason, determining anxiety level towards internet of the future teachers is significant in order to make them the teachers of the digital age.

Although there are many studies on internet addiction and anxiety in Turkey as well, no studies were found particularly about teacher candidates. Therefore, this study is the adaptation of the scale which was developed by Ekizoğlu and Özçınar (2011) to determine future teachers' anxiety level towards the internet into Turkish language. Ekizoğlu and Özçınar (2011) also state that it is important to determine future teachers' anxiety towards internet because they are the ones who will educate next generations.

1.METHOD

1.1.Research Group

Universities in Turkey continue education through distance education because of Covid-19 pandemic. This situation made accessing students harder. Online questionnaires are the only way to access the research groups. For this reason, participants who will fill the online forms with their real thoughts are included in the study. Two different research groups are used because the first group is for the adapted form of the scale, and the second group is to test the linguistic equivalence.

1.1.1.The First Group

For the adapted scale, the sample of this study includes 100 teacher candidates from four departments of a state university in İstanbul. Participation was voluntary and all of the participants were informed about the aim of the study. The distribution of the participants of the first group is shown in Table 1 below.

Table 1: The Distribution of the First Research Group

Departments	Gender		Grade			Total	
	Female	Male	1 st	2 nd	3 rd	n	%
Turkish Language Teaching (TLT)	29	15	40	2	2	44	44
Psychological Counseling and Guidance (PCG)	20	6	-	26	-	26	26
Computer Education and Instructional Technology (CEIT)	12	11	23	-	-	23	23
English Language Teaching (ELT)	5	2	4	1	2	7	7
Total	66	34	67	29	5	100	100

While analyzing the data, it was noticed that three of the participants chose 1 (Never) for all of the items. For this reason, these 3 data were removed from the research group. Consequently, the sample includes 97 teacher candidates.

1.1.2. The Second Group

To test the linguistic equivalence of the scale, this group consists of 39 participants who are solely English Language Teaching (ELT) students of a state university in İstanbul. Participation was voluntary. First, the original form of the scale and two weeks later, the adapted version were answered by the participants. The distribution of the participants of the second group is shown in Table 2 below.

Table 2: The Distribution of the Second Research Group

Department	Gender				Grade		Total	
	Female	%	Male	%	2 nd	3 rd	n	%
English Language Teaching (ELT)	24	61,5	15	38,4	36	3	39	100
Total							39	100

1.2. Data Collection Tool

1.2.1. Anxiety Scale towards the Internet

This scale was developed and validated by Ekizoğlu and Özçınar (2011) to state preservice teachers' anxiety level towards the internet. The scale consists of 32 items and 3 factors. Factor 1 (Alpha=0.88) that comprises of 15 items is about security anxiety. Factor 2 (Alpha=0.81) that comprises of 9 items is about anxiety on using the internet and following the latest trend. Factor 3 (Alpha=0.84) that comprises of 8 items is about anxiety of being an internet addict. Two different study groups were used for constructive validity and reliability of the scale. Cronbach's Alpha was calculated as .89 for the whole scale. Total variance of the scale was found 41.6%. All of the items are positively worded, and rated along a 5-point likert scale reaching from "never" to "always". That means 1=never, 2=rarely, 3=sometimes, 4=often and 5=always. The total score of the scale change between 32 if answered "never" for all of the items, and 160 if answered "always" for all of the items. Higher scores indicate that the person has higher anxiety level towards the internet.

After getting permission from Ekizoğlu and Özçınar for the study, the items were translated into Turkish language by 3 experts who are fluent in both Turkish and English languages. The original and the translated forms of the scale were checked by four English teachers and two translators. Afterwards, the translated version was translated back into English by a translator. To test the linguistic equivalence, English Language Teaching students were given first the English form and two weeks later the Turkish form of the scale. With the completion of these steps, the adaptation of the scale was finalized.

2. RESULTS

This part includes results of linguistic equivalence, validity and reliability studies.

2.1. Linguistic Equivalence

To test the linguistic equivalence of the scale, first the English form and two weeks later the Turkish form were administered to 39 students from English Language Teaching department. In the results of correlation analysis, it was seen that there was a medium and high level positive and

significant relationship between the English and Turkish forms of the scale ($p < .01$ & $p < .05$). The correlation coefficient of the English and Turkish items of the scale is presented in Table 3 below.

Table 3: The Correlation Coefficient of English and Turkish Items of the Scale

Item number	N	r	Item number	N	r
Eng1&Tr1	39	.45**	Eng17&Tr17	39	.44**
Eng2&Tr2	39	.71**	Eng18&Tr18	39	.66**
Eng3&Tr3	39	.60**	Eng19&Tr19	39	.69**
Eng4&Tr4	39	.32*	Eng20&Tr20	39	.36*
Eng5&Tr5	39	.77**	Eng21&Tr21	39	.40*
Eng6&Tr6	39	.43**	Eng22&Tr22	39	.85**
Eng7&Tr7	39	.41**	Eng23&Tr23	39	.52**
Eng8&Tr8	39	.72**	Eng24&Tr24	39	.44**
Eng9&Tr9	39	.32*	Eng25&Tr25	39	.54**
Eng10&Tr10	39	.71**	Eng26&Tr26	39	.50**
Eng11&Tr11	39	.67**	Eng27&Tr27	39	.66**
Eng12&Tr12	39	.45**	Eng28&Tr28	39	.48**
Eng13&Tr13	39	.75**	Eng29&Tr29	39	.66**
Eng14&Tr14	39	.65**	Eng30&Tr30	39	.57**
Eng15&Tr15	39	.57**	Eng31&Tr31	39	.42**
Eng16&Tr16	39	.66**	Eng32&Tr32	39	.41**

** $p < .01$

* $p < .05$

2.2. Validity Study

This part includes results of the exploratory and confirmatory factor analyses.

2.2.1. Exploratory Factor Analysis (EFA)

Before factor analysis, the collected data must be tested to see if it is appropriate to go on (Tatlıdil, 2002). For this purpose, Kaiser-Meyer-Olkin (KMO) and Bartlett tests were used. KMO value must be higher than .50 (Field, 2009). The results of KMO and Bartlett tests are shown in Table 4 below.

Table 4: KMO and Bartlett's Test Results with 32 Items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.784
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Bartlett's Test of Sphericity	Approx. Chi-Square	1549.553
	df	496
	Sig.	.000*

*p<.001

Since the value is .784, factor analysis can be made. With the results of EFA, it is noticed that some items and factors has to be revised. Items 5, 10, 11 and 23 are under different factors. For example, according to the original scale, item 5 is in Factor 2 (anxiety on using the internet and following the latest trend) with the value of .505; but in our table, it can be seen together with the items about Security Anxiety, with the value of .527. Items 4, 7, 21, 24 and 25 are in two factors at the same time. And item 9 is in no factors. The EFA results of the adapted scale and the comparative results (original and adapted scales) are shown in Table 5 and Table 6 below.

Table 5: EFA Results of the Adapted Scale with 32 Items

Item	Component			Item	Component		
	1	2	3		1	2	3
A28	.743			S22		.546	
A32	.715			T5		.527	
A30	.692			S13		.519	
S11	.678			S14		.446	
A29	.651			S24	.399	.403	
A31	.646			S21		.377	.314
A27	.561			S15		.352	
A26	.560			T3			.765
S7	.427	.373		T1			.764
S23	.317			T8			.620
T9				T2			.601
S19		.816		T12			.550
S18		.758		T4	.332		.440
S20		.697		A25	.339		.403
S17		.682		T6			.366
S16		.594		S10			.306

Table 6: Comparative Results of EFA

Item no	Factor in the original scale	Value in the original scale	Item	Factor and value in the adapted scale
5	Factor 2 (Anxiety on using the internet and following the latest trend)	.505	Whilst making a research on the internet; links (pages) related to sexuality, entertainment and gambling that pop-up worries me because it distracts me from my main aim.	Factor 1 - .527
10	Factor 1 (Security anxiety)	.622	I feel tense when thinking of social life security taking part effectively without any control.	Factor 2 - .306
11	Factor 1	.549	I am anxious of the negative communicative effect that the internet creates within a family.	Factor 3 - .678
23	Factor 1	.493	It makes me worry that the internet doesn't take into consideration the copyrights (a film that's newly on screen, new music that's on the market straight away for free).	Factor 3 - .317
4	Factor 2	.543	I have started to feel worried about my research characteristic since the internet has come into my life.	Factor 2 - .440 Factor 3 - .332
7	Factor 1	.541	I am worried about the internet making children become introverted and bringing up individuals not successful in face-to-face communication.	Factor 3 - .427 Factor 1 - .373
21	Factor 1	.588	I'm afraid of the unlimited internet, without any obstruction the world becoming a place where rules are not effective anymore.	Factor 1 - .377 Factor 2 - .314
24	Factor 1	.604	I feel worried about the security of individuals I meet through the internet.	Factor 1 - .403 Factor 3 - .399

25	Factor 3 (Anxiety of being an internet addict)	.575	Spending too much time in front of the internet concerns me about my health as I always eat package food.	Factor 2 - .403 Factor 3 - .339
9	Factor 2	.556	I am concerned about using the shared internet sites.	- -

After these results, the items and factors were checked. The English and Turkish forms of items 5, 10, 11 and 23 were carefully reviewed. Change of factors was found significant, and according to the EFA results, the factors of these items were changed. Büyüköztürk (2020) suggests that items which have similar and high load values to more than one factor can be removed from the scale. Items 4, 7, 21, 24 and 25 are removed from the scale for the reason that they are under two factors at the same time with close values. It can be understood that those items are not adequate to determine the feature which is researched (Çakır & Erdoğan, 2014). Lastly, item 9 is not under any factors. It is also not adequate and removed from the scale.

In EFA results of the scale with the remaining 26 items, item 12 (I am afraid that as I control the internet at the moment, one day it will take over me and own me.) was under the third factor with the value of .418 and the first factor with the value of .331 at the same time. Accordingly, item 12 was not found adequate and deleted.

The new form of the scale consists of 25 items, and 3 factors. Factor 1 is about anxiety of being internet addict and includes 10 items, Factor 2 is about security anxiety and includes 10 items, Factor 3 is about anxiety on using the internet and following the latest trend, and includes 5 items.

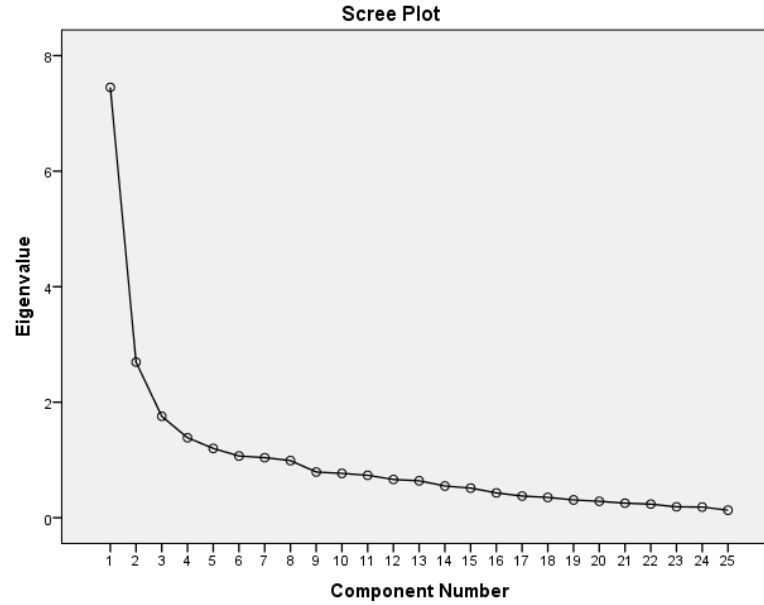
The scale was checked again with KMO and Bartlett tests. The result is .787 which is higher than .50 and is acceptable. Table 7 is shown below.

Table 7: KMO and Bartlett's Test Results with 25 Items

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.787
Bartlett's Test of Sphericity	Approx. Chi-Square	1062.608
	df	300
	Sig.	.000*

*p<.001

As it can be seen below in Graph 1 (Scree Plot), there is a remarkable decrease in the first 3 components. After the third component, eigenvalues start to be horizontal. Vertical line in scree plot means the components have significant contribution, and horizontal line means the components have close contribution to the variance of the scale (Büyüköztürk, 2002; Korkmaz & Bai, 2019). For this reason, it is accepted that the scale has 3 factors.



Graph 1: Scree Plot

Factor load values $\geq .45$ is accepted as good values, and factor load values $\geq .30$ is also acceptable for only a couple of items (Büyüköztürk, 2020). It is seen in the new results of EFA shown in Table 8 below with the translated forms of the items that 22 of the items are higher than .45 and only 3 of the items are higher than .31.

Table 8: Factor Load Values according to EFA Results

Items		Factor Load Values		
		1	2	3
23	İnternet bağımlısı olmaktan ve zamanımın çoğunu internette harcamaktan endişeleniyorum. (I am worried about becoming addict to internet and wasting most of my time.)	.742		
25	İnternetteki sohbet ve gönderi paylaşımından dolayı arkadaşlarımla yüz yüze iletişim kuramamaktan endişeleniyorum. (I am worried about not being able to communicate with my friends face-to-face due to the internet chatting and sharing ports.)	.741		
8	İnternetin, aile içinde yarattığı olumsuz iletişimsel etkiden endişe duyuyorum. (I am anxious of the negative communicative effect that the internet creates within a family.)	.712		
21	Bilgisayarın önünde çok fazla vakit geçirmemden dolayı görme problemi yaşayacağımdan endişeliyim. (With the effect of spending too much time in front of the computer, I am worried that I will have a problem in my eye sight.)	.699		
24	Çevrimiçi ortamların beni sürükleyip zamanımı tüketmesinden ve bunun sosyal ilişkilerimde sorun olacağımdan endişeliyim. (I feel worry that I get carried away on online environments will cause me problems in my social relations.)	.681		
22	İnternet üzerindeki, kumar ve şiddet içeren oyunlar gibi sitelerin kolayca erişilebilir olması ve bağımlılığa neden olabilecek olması beni endişelendiriyor. (I am worried that sites on the internet such	.671		

	as; gambling and games that involve violence are easily accessible and will cause addiction.)			
19	Online alışverişten, hazır ödev bulmaktan, insanlarla kolay iletişim kurmaktan dolayı tembelleşmekten endişeliyim. (I am concerned about becoming lazy due to online shopping, finding prepared homework and being able to communicate more easily through internet.)	.571		
20	İnternette çok fazla vakit geçirmenin ders başarımlı olumsuz yönde etkileyeceğinden endişeliyim. (Spending too much time on the internet, I am worried about the negative effects on my success in lessons.)	.565		
7	İnternet güvensiz bir ortam olduğu için, sosyal medya kullanırken kendimi rahatsız hissediyorum. (I feel tense when thinking of social life security taking part effectively without any control.)	.347		
18	İnternetin telif haklarını dikkate almaması beni endişelendiriyor. (Sinemada yeni olan bir film, piyasaya yeni sürülmüş müzik). (It makes me worry that the internet doesn't take into consideration the copyrights (a film that's newly on screen, new music that's on the market straight away for free).)	.316		
15	Fotoğraflarım ve bilgilerim benim iznim olmadan başka sitelerde gözüktüğü zaman endişeleniyorum. (I am worried about photos that are me and my information to be viewed on other sites without my permission.)		.796	
14	Bilinmeyen kişilerden çok fazla mail geldiği zaman kendimi rahatsız hissediyorum. (I feel discomfort when multiple e-mails are sent from unknown people to my email address.)		.765	
13	İnternette araştırma yaparken beni ilgilendirmeyen reklamların birden belirmesinden rahatsızlık duyuyorum. (Ücretsiz kontör yükleme, arkadaş edinme, bedava müzik indirme gibi). (While making a research, I feel discomfort when many advertisements that don't concern me pop-up. (free top-up, in search for a friend, download free music, etc).)		.723	
16	Engellilere yardımda bulunulması gibi doğruluğu bilinmeyen haberlerle insanların duygularının sömürüldüğü mailler almak beni rahatsız ediyor. (Unknown of the truth, where humans emotions are exploitation, it can be mined confusing and can sometimes be boring (For example; aiming to spread political ideas, to help those who are disabled-sick through e-mails) I feel discomfort when receiving e-mails.))		.708	
12	İşletim sistemlerine zarar vermek için ağa giren virüsler hakkında endişe duyuyorum. (I am concerned about viruses entering through the network giving damage to the operating systems.)		.610	
17	İnternette etik kurallara uyulmaması beni rahatsız ediyor. (Örneğin; internette rahatlıkla çocuk pornosunun izlenebiliyor ve görüntülenebiliyor olması). (Disobeying the internet's "ethic" rules makes me feel worried (For example; children porno being watched and viewed on the internet comfortably).)		.527	
4	İnternette araştırma yaparken; cinsellik, eğlence ve kumarla ilgili linklerin (sayfaların) çıkması beni endişelendiriyor. (Whilst making a research on the internet; links(pages) related to sexuality,		.520	

	entertainment and gambling that pop-up worries me because it distracts me from my main aim.)			
9	İnternetteki sitelerde, insanların zayıf noktalarından faydalanabilecek olması beni rahatsız ediyor. (I feel discomfort when humans weak points can be taken for granted in sites on the internet.)		.508	
10	Kişisel bilgilerimin çalınıp banka hesapları, alışveriş, e-posta adresi ve sohbet sitelerine üyelik gibi kötü amaçlarla kullanılmasından endişe duyuyorum. (I am worried about my personal information to be stolen and used for bad intentions (Bank calculations, shopping, opening an e-mail address, becoming a member in chat rooms.)		.484	
11	İnternette edindiğim bilgilerin güvenilirliği hakkında endişelerim var. (I am concerned about the reliability of the information I obtained from the internet.)		.326	
1	İnternetin karmaşık yapısından korkuyorum. (I am afraid of the complicated form of the internet.)			.778
3	İnternette sürekli yeniliklerin olması beni endişelendiriyor. (The continuous innovations of internet make me feel anxious.)			.742
6	İnternette araştırma yaparken bir bilgi okyanusunda boğulmaktan endişe duyuyorum. (While making a search on the internet I am concerned of being drowned in an ocean of information.)			.644
2	İyi bir internet kullanıcısı olmama rağmen, internette aşına olmadığım durumlar (mesajlar, ikon, uyarılar vb.) beni endişelendiriyor. (Although I am a good user of the internet, situations (messages, icon, warnings, etc.) that I am not familiar with on the internet make me worry.)			.635
5	İnterneti kullanırken hata yapmak panik olmama sebep oluyor. (Making a mistake while using the internet makes me to feel panicked.)			.458

With the results of EFA, it is determined that the total variance is 47.6% and the scale has 3 factors. Variance of the first factor is 29.8% which is the highest rate, of the second factor is 10.7% and of the third factor is 7%. Factor main values and variances are shown below in Table 9.

Table 9: Results of Factor Values and Variances

	Factor Main Value	Variance %	Total Variance %
Factor 1	7.450	29.802	29.802
Factor 2	2.694	10.778	40.580
Factor 3	1.756	7.024	47.604

2.2.2. Confirmatory Factor Analysis (CFA)

For validity of the scale, CFA is the next step. To analyze the data, AMOS 26 package program was used. The conformation of the model was tested according to RMSEA, CFI, GFI, SRMR and χ^2/df values. In the results of CFA, the fit indices of the model are found as RMSEA= .07, CFI= .85, GFI= .78, SRMR= .08, $\chi^2/df= 1.464$. RMSEA \leq .08 means the fit is good (Çokluk, Şekercioğlu & Büyüköztürk, 2012). CFI and GFI change between 0-1, and the results which are closer to 1 indicate good results (Çakır & Erdoğan, 2014; Jöreskog & Sörbom, 1996). SRMR \leq .08 is an acceptable value (Teke, Sünbül & Sadi, 2016). $\chi^2/df < 3$ means perfect fit (Korkmaz & Bai, 2019). When fit indices are analyzed, it is seen that the results are good and reasonable.

Loads of the items to the related factors change between .38 and .80. These results show that all of the items have significant contribution to the factors for the reason that values higher than .30 are accepted well (Kline, 2011). CFA diagram is presented in Figure 1 below.

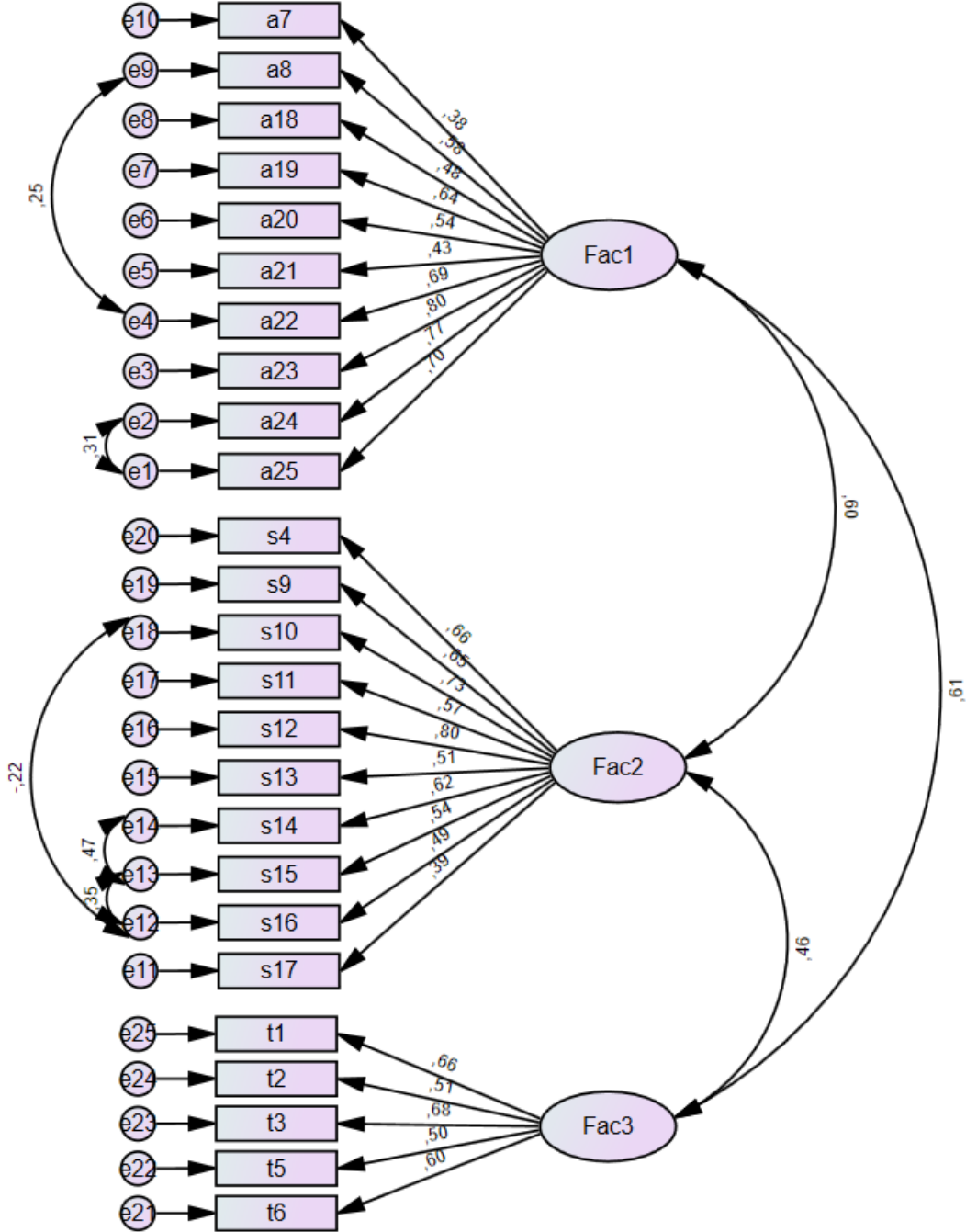


Figure 1: CFA Diagram

2.3. Reliability Study

Cronbach Alpha (α) values which are higher than 0.7 are accepted as good values (Kılıç, 2016). The results of the reliability study shows that Cronbach Alpha coefficient of the scale is .89. It is clear that .89 is an acceptable value. Factor correlation coefficients range between .72 and .85. All Cronbach Alpha results were found significantly correlated for the reason that $\alpha \geq .70$ is considered as an adequate

value for the reliability of the scale (Büyüköztürk, 2020). The reliability scores for each factor and the whole scale are shown in Table 10 below.

Table 10: Values of Cronbach Alpha for the Scale

	Items	Cronbach's Alpha
Factor 1	10	.858
Factor 2	10	.855
Factor 3	5	.721
Total	25	.897

2.3.1. Item Analysis

Item analysis of the scale was analyzed by checking item-total correlation and differences between 27% upper and 27% lower group items. Item-total correlation explains the relationship between the total score of the scale and the scores the participants get from the items (Telef, 2013). Item-total correlations $\geq .30$ are accepted as good values (Büyüköztürk, 2020). The item-total correlation and t test for 27% upper-lower groups of the scale is shown below in Table 11.

Table 11: Results of Item Analysis of the Scale

Item Number	Item-Total Correlation	t (27% upper - 27% lower)	Item Number	Item-Total Correlation	t (27% upper - 27% lower)
1	.39	4.7**	14	.49	5.5**
2	.31	4.1**	15	.41	5.6**
3	.40	4.6**	16	.33	3.7**
4	.61	8.6**	17	.31	3.7**
5	.41	4.3**	18	.46	4.5**
6	.41	3.8**	19	.52	6.1**
7	.39	4.7**	20	.49	5.0**
8	.52	6.0**	21	.30	3.7**
9	.55	6.2**	22	.64	7.6**
10	.61	6.7**	23	.61	6.8**
11	.54	6.7**	24	.62	6.4**
12	.67	9.4**	25	.56	6.7**
13	.34	3.9**			

**p<.001

It can be seen that item-total correlation of the scale change between .30 and .67, which are accepted as positive (Büyüköztürk, 2020). t values are found significant for all of the items in the scale (p<.001). These results indicate that reliability of the scale is high.

DISCUSSION AND CONCLUSION

In this study, “Anxiety Scale towards the Internet” which was developed by Ekizoğlu and Özçınar (2011) to determine preservice teachers’ anxiety level towards the internet was adapted to Turkish. The adapted form of the scale is shown in Appendix 1. According to the results of the analyses, 7 items were removed from the scale within the adaptation process.

Correlation coefficient between Turkish and English forms of the scale was found significant (p<.01, p<.05). For this reason, it can be said that the Turkish form of the scale is adequate in terms of linguistic equivalence.

In order to determine the validity of the scale exploratory and confirmatory factor analyses (EFA and CFA) were used. In the results of EFA, 7 items (4, 7, 9, 12, 21, 24, 25) that have load values for more than one factor were removed, and factors of 4 items (5, 10, 11, 23) were changed. With the remaining 25 items, total variance of the scale was found 47%. Factor load values of the items change between .31 and .79. In the results of confirmatory factor analysis, the fit indices were found significant ($\chi^2/df=1.464$; RMSEA= .07; CFI= .85; GFI= .78; SRMR= .08).

Cronbach Alpha reliability coefficient of the scale was found .89. When considered $\alpha \geq .70$ is adequate, it can be said that the scale is reliable (Büyüköztürk, 2020). It is seen that item-total correlation of the scale change between .30 and .67, and t test results are significant (p<.001). When considering item analysis, it can be said that the scale has adequate distinctiveness.

This study shows that the Turkish form of Anxiety Scale towards the Internet is a reliable and valid measurement tool to determine future teachers’ anxiety level towards the internet. The scale can be used with greater research groups in the future. In this study, the research group consists of the students of Turkish Language Teaching, Psychological Counseling and Guidance, Computer Education and Instructional Technology, and English Language Teaching. In different studies, anxiety level of students from different departments of teaching can be researched. Although it is stated by Ekizoğlu and Özçınar (2011) that the scale was developed for teacher candidates, there are no specific statements about teacher candidates in the scale. Provided that researchers take the scale’s owners’ (Ekizoğlu and Özçınar) opinions or get permission from them, the scale can also be used for students from other departments or for people who have relationship with internet providing the same group of age and psychological development features.

REFERENCES

- Alyanak, B. (2016). İnternet bağımlılığı. *Klinik Tıp Pediatri Dergisi*, 8(5), 20–24.
- Büyüköztürk, Ş. (2020). *Sosyal bilimler için veri analizi el kitabı*. Ankara, Turkey: Pegem Akademi Yayıncılık.
- Ceyhan, E., Ceyhan, A. A. & Gürcan, A. (2007). Problemler internet kullanımını ölçeğinin geçerlik ve güvenilirlik çalışmaları. *Kuram ve Uygulamada Eğitim Bilimleri*, 7(1), 387-416.
- Choi, D., Chun, S., Lee, S. A., Han, K., & Park, E. (2016). The association between parental depression and adolescent’s internet addiction in South Korea. *Annals of General Psychiatry*, 17(1), 1-7. doi:10.1186/S12991-018-0187-1
- Çakır, S. G., & Erdoğan, M. (2014). Öğrenen güçlenmesi ölçeğinin uyarlanması: Geçerlik ve güvenilirlik çalışmaları. *Mustafa Kemal University Journal of Graduate School of Social Sciences*, 11(25), 297-307.

- Çokluk, Ö., Şekercioğlu, G. & Büyüköztürk, Ş. (2012). *Sosyal Bilimler için çok değişkenli istatistik: SPSS ve Lisrel uygulamaları*. Ankara, Turkey: Pegem Akademi Yayıncılık.
- Çötök, T. (2017). Teknoloji toplumunda kaygı. *The Journal of Social and Cultural Studies*, 3(5), 209–222.
- Ekizoğlu, N. & Özçınar, Z. (2011). A study of developing an anxiety scale towards the internet. *Procedia Social and Behavioral Sciences*, 15, 3902–3911. doi: 10.1016/j.sbspro.2011.04.392
- Field, A. (2009). *Discovering statistics using Spss for Windows: Advanced techniques for the beginner*. London: Sage Publications.
- Göldağ, B. (2017). Ortaöğretim kurumlarında öğrenim gören öğrencilerin internet bağımlılık düzeyleri ile sürekli kaygı düzeyleri arasındaki ilişkinin incelenmesi. *Turkish Studies*, 12(11), 71-94.
- Gönül, A. S. (2002). Patolojik internet kullanımı: İnternet bağımlılığı/kötüye kullanımı. *New Symposium*, 40(3), 105-110.
- Gürçan, N. (2010). *Ergenlerin problemleri internet kullanımları ile uyumları arasındaki ilişkinin incelenmesi*. (Master's thesis, Selçuk University, Konya, Turkey). Retrieved from <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Gürsoy, F., & Yücel, N. (2013). Ergenlerin ekran ilişkileri ile yalnızlık düzeylerinde internet kullanımının etkisi. In M. Kalkan & C. Kaygusuz (Ed.), *İnternet bağımlılığı: Sorun ve çözümler* [Internet addiction: Problems and solutions] (211–230). Ankara, Turkey: Anı Yayıncılık.
- Jahan, S. M., Hossain, S. R., Sayeed, U. B., Wahab, A., Rahman, T., & Hossain, A. (2019). Association between internet addiction and sleep quality among students: a cross-sectional study in Bangladesh. *Sleep and Biological Rhythms*, 17(3), 323–329. doi: 10.1007/s41105-019-00219-y
- Joiner, R., Gavin, J., Brosnan, M., Cromby, J., Gregory, H., Guiller, J., ... Moon, A. (2013). Comparing first and second generation digital natives' internet use, internet anxiety, and internet identification. *Cyberpsychology, Behavior, and Social Networking*, 16(7), 549–552.
- Jöreskog, K.G., & Sörbom, D. (1996). *LISREL 8: User's reference guide*. Chicago: Scientific Software International.
- Kawabe, K., Horiuchi, F., Ochi, M., Oka, Y., & Ueno, S.-I. (2016). Internet addiction: Prevalence and relation with mental states in adolescents. *Psychiatry and Clinical Neurosciences*, 70(9), 405–412. doi: 10.1111/pcn.12402
- Kılıç, S. (2016). Cronbach'ın Alfa güvenirlilik katsayısı. *Journal of Mood Disorders*, 6(1), 47-48. doi: 10.5455/jmood.20160307122823
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- Korkmaz, Ö., & Bai, X. (2019). Adapting computational thinking scale (CTS) for Chinese high school students and their thinking scale skills level. *Participatory Educational Research*, 6(1), 10–26. doi: 10.17275/per.19.2.6.1
- Korkmaz, Y. (2014). *Lise öğrencilerinin depresyon, anksiyete, stres ve internet bağımlılığı ilişkisinin bazı değişkenlere göre yordanması*. (Master's thesis, Hasan Kalyoncu University, Gaziantep, Turkey). Retrieved from <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Kuss, D. J., & Griffiths, M. (2015). *Internet addiction in psychotherapy*. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.
- Kuss, D. J., Shorter, G. W., Rooij, A. J. V., Griffiths, M. D., & Schoenmakers, T. M. (2014). Assessing internet addiction using the parsimonious internet addiction components model—A preliminary study. *International Journal of Mental Health and Addiction*, 351–366. doi: 10.1007/s11469-013-9459-9

- Natriello, G. (2005). Modest changes, revolutionary possibilities: Distance learning and the future of education. *Teachers College Record*, 107(8), 1885-1904. doi: 10.1111/j.1467-9620.2005.00545.x
- Reiner, I., Tibubos, A. N., Hardt, J., Müller, K., Wölfling, K., & Beutel, M. E. (2017). Peer attachment, specific patterns of internet use and problematic internet use in male and female adolescents. *European Child & Adolescent Psychiatry*, 26(10), 1257-1268. doi:10.1007/S00787-017-0984-0
- Sanchez-Mena, A., Marti-Parreno, J. & Aldas-Manzano, J. (2018). Teachers' intention to use educational video games: The moderating role of gender and age. *Innovations in Education and Teaching International*, 58(3), 318-329. doi: 10,1080/14703297.2018.1433547
- Tatlıdil, H. (2002). *Uygulamalı çok değişkenli istatistiksel analiz*. Ankara, Turkey: Akademi Matbaası.
- Teke, A., Sünbül, A. M. & Sadi, Ö. (2016). The adaptation of the nature of technology scale to Turkish. *The Eurasia Proceedings of Educational & Social Sciences*, 4, 482-485.
- Telef, B. B. (2013). Psikolojik iyi oluş ölçeği: Türkçeye uyarlama, geçerlik ve güvenirlik çalışması. *Hacettepe University Journal of Education*, 28(23), 374-384.
- Thurlow, C., Lengel, L. & Tomic, A. (2004). *Computer mediated communication social interaction and the internet*. London: Sage Publications.
- Tüysüz, C., Balaman, F., & Atalar, T. (2012). Eğitim fakültesi öğrencilerinin internet kullanım amaçlarının belirlenmesi. *Batman University Journal of Life Sciences*, 1(1), 251-260.
- Ural, M. N. (2015). Antik Yunan'da "teknik": Teknoloji felsefesi tarihine genel bir bakış. *Mavi Atlas*, (4), 136-144. doi: 10.18795/ma.73791
- Warschauer, M. (2007). The paradoxical future of digital learning. *Learn Inq*, 1, 41-49.
- Yang, S. C., & Tung, C. J. (2007). Comparison of internet addicts and non-addicts in Taiwanese high school. *Computers in Human Behavior*, 23(1), 79-96. doi: 10.1016/j.chb.2004.03.037
- Yaraşır, E. (2018). *Fırat Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu öğrencilerinde internet bağımlılığı ve fiziksel aktivite düzeylerinin belirlenmesi*. (Master's thesis, Fırat University, Elazığ, Turkey). Retrieved from <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Young, K. (1998). *Caught in the net: How to recognize the signs of internet addiction – and a winning strategy for recovery*. New York: John Wiley & Sons.
- Young, K. (2017). The evolution of internet addiction disorder. *Internet Addiction Studies in Neuroscience, Psychology and Behavioral Economics*, 3-18. doi: 10.1007/978-3-319-46276-9_1
- Zorbaz, O. & Dost, M. (2004). Lise öğrencilerinin problemlı internet kullanımının cinsiyet, sosyal kaygı ve akran ilişkileri açısından incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 29(1), 298-310.

Appendix 1. Turkish form of Anxiety Scale towards the Internet (İnternete Yönelik Kaygı Ölçeği maddeleri)

		Asla	Nadiren	Bazen	Sıklıkla	Her zaman
1	İnternetin karmaşık yapısından korkuyorum.					
2	İyi bir internet kullanıcısı olmama rağmen, internette aşına olmadığım durumlar (mesajlar, ikon, uyarılar vb.) beni endişelendiriyor.					
3	İnternette sürekli yeniliklerin olması beni endişelendiriyor.					
4	İnternette araştırma yaparken; cinsellik, eğlence ve kumarla ilgili linklerin (sayfaların) çıkması beni endişelendiriyor.					
5	İnterneti kullanırken hata yapmak panik olmama sebep oluyor.					
6	İnternette araştırma yaparken bir bilgi okyanusunda boğulmaktan endişe duyuyorum.					
7	İnternet güvensiz bir ortam olduğu için, sosyal medya kullanırken kendimi rahatsız hissediyorum.					
8	İnternetin, aile içinde yarattığı olumsuz iletişimsel etkiden endişe duyuyorum.					
9	İnternetteki sitelerde, insanların zayıf noktalarından faydalanabilecek olması beni rahatsız ediyor.					
10	Kişisel bilgilerimin çalınp banka hesapları, alışveriş, e-posta adresi ve sohbet sitelerine üyelik gibi kötü amaçlarla kullanılmasından endişe duyuyorum.					

11	İnternette edindiğim bilgilerin güvenilirliği hakkında endişelerim var.					
12	İşletim sistemlerine zarar vermek için ağa giren virüsler hakkında endişe duyuyorum.					
13	İnternette araştırma yaparken beni ilgilendirmeyen reklamların birden belirmesinden rahatsızlık duyuyorum. (Ücretsiz kontör yükleme, arkadaş edinme, bedava müzik indirme gibi)					
14	Bilinmeyen kişilerden çok fazla mail geldiği zaman kendimi rahatsız hissediyorum.					
15	Fotoğraflarım ve bilgilerim benim iznim olmadan başka sitelerde gözüktüğü zaman endişeleniyorum.					
16	Engellilere yardımda bulunulması gibi doğruluğu bilinmeyen haberlerle insanların duygularının sömürüldüğü mailler almak beni rahatsız ediyor.					
17	İnternette etik kurallara uyulmaması beni rahatsız ediyor. (Örneğin; internette rahatlıkla çocuk pornosunun izlenebiliyor ve görüntülenebiliyor olması)					
18	İnternetin, telif haklarını dikkate almaması beni endişelendiriyor. (Sinemada yeni olan bir film, piyasaya yeni sürülmüş müzik)					
19	Online alışverişten, hazır ödev bulmaktan, insanlarla kolay iletişim kurmaktan dolayı tembelleşmekten endişeliyim.					
20	İnternette çok fazla vakit geçirmenin ders başarımları olumsuz yönde etkileyeceğinden endişeliyim.					

21	Bilgisayarın önünde çok fazla vakit geçirmemden dolayı görme problemi yaşayacağımdan endişeliyim.					
22	İnternet üzerindeki, kumar ve şiddet içeren oyunlar gibi sitelerin kolayca erişilebilir olması ve bağımlılığa neden olabilecek olması beni endişelendiriyor.					
23	İnternet bağımlısı olmaktan ve zamanımın çoğunu internette harcamaktan endişeleniyorum.					
24	Çevrimiçi ortamların beni sürükleyip zamanımı tüketmesinden ve bunun sosyal ilişkilerimde sorun olacağından endişeliyim.					
25	İnternetteki sohbet ve gönderi paylaşımından dolayı arkadaşlarımla yüz yüze iletişim kuramamaktan endişeleniyorum.					

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