The Adaptation of the Instagram Addiction Scale (TIAS) into Turkish: Validity and Reliability Studies*

Aylin TUTGUN ÜNAL
Assoc.Prof., Faculty of Communication, Üsküdar University, İstanbul, Turkey
aylin.tutgununal@uskudar.edu.tr
ORCID ID: 0000-0003-2430-6322

Nevzat TARHAN
Prof., Department of Psychiatry, Üskudar University, NPIstanbul Neuropsychiatry Hospital, İstanbul/Turkey
nevzat.tarhan@uskudar.edu.tr
ORCID ID: 0000-0002-6810-7096

Patrizia MURADİ
Ph.D. Student, Department of Psychology, Üskudar University, İstanbul/Turkey
patricia_muradi@yahoo.com
ORCID ID0000-0002-1099-9925

Ayşe Sena KURT
Ph.D. Student, Department of Psychology, Üskudar University, İstanbul/Turkey
klinikpsikolog.aysesenakurt@gmail.com
ORCID ID: 0000-0001-5644-7571

ABSTRACT
In this study, the aim was to conduct Turkish linguistic equivalence, validity and reliability studies of The Instagram Addiction Scale (TIAS) developed by Sholeh and Rusdi (2019) so that it can be used in the Turkish sample. This measuring instrument consists of two parts namely Instagram Feed Addiction and Instagram Story Addiction compiled based on addiction components 1) Salience; 2) Mood modification; 3) Tolerance; 4) Withdrawal; 5) Conflict; 6) Relapse. In this study, TIAS was applied to a sample of 587 people across Turkey. Positive and significant values were obtained as a result of the Pearson correlation coefficients made to examine the compatibility between the English and Turkish forms of both scales. As a result of the exploratory and confirmatory factor analysis, the 20-item Instagram Feed Addiction Scale, originally consisting of 6 factors, consisted of 4 factors in Turkish scale. It was revealed that Instagram Story Addiction, consisted of 6 factors in the original scale and 3 factors in the Turkish scale. After the EFA and CFA, a 21-item and 3-factor Turkish ISA was obtained. The internal consistency coefficients of both scales ranged between .60 and .93. As a result, the factor structure of both scales was modeled and confirmed by confirmatory factor analysis, and the goodness of fit values was found acceptable.
Keywords: Instagram Addiction, Instagram Addiction Scale, Instagram Story, Validity, Reliability

INTRODUCTION

Addiction is an important chronic disease that scientists have been working on for centuries and trying to develop various treatment methods on how to overcome it. If this situation develops, addiction is not an innocent and easy phenomenon to get rid of. The development of addiction in substances such as cigarettes, alcohol, drugs or gambling is based on the changes in the pleasure pathways of the brain in the process.

In today's 21st century, the developing addiction related to the channels that can be accessed especially through the internet is one of the issues that should be emphasized. Recent studies on internet addiction, which has been one of the popular agenda topics of Clinical Psychology for more than twenty years, mentioned that internet abuse and internet addiction have a pathological side just like alcohol and substance abuse. While discussing the risk of daily behavior changing and becoming pathological (Billieux & et.al 2015), studies on overdose of internet use consistently provide data to prove that this behavior complies with addiction criteria (Kuss, Griffiths, Karila, & Billieux, 2014; Tarhan & Tutgun-Ünal, 2021).

The fact that the interest in social media is increasing day by day brings with some negative factors. Instagram, one of the social media platforms, has become one of the indispensable applications of the new generation smart

* A brief summary of this study was presented at the International Educational Technology Conference 2021 (IETC2021) on September 2-3, 2021, Lefkoşa (Nicosia), Turkish Republic of Northern Cyprus.

phones, and when the most used category is examined, it is seen that it occupies the 5th place in the world ranking (Tankovska, 2021). Instagram addiction has begun to turn into an increasing problem socially, physically and psychologically (Sholeh & Rusdi, 2019). Surely, it is of great importance today to prevent the increasing use and dependencies related to not only Instagram but also many social networking sites (Griffiths & et.al. 2020; Spence & et.al. 2020; Tutgun-Ünal, 2019, 2020a, 2020b, 2021; Tutgun-Ünal & Deniz, 2020).

When the published statistics are examined, it can be easily seen how serious the issue has become. While Instagram had 800 million active users all over the world in September 2017, this number reached 1 billion active users in June 2018. It is known that there are 38 million people actively using Instagram in Turkey. Turkey ranks 6th in the world with this number (Yılmaz, 2020). Although the application is still banned in China, it is one of the properties with four billion users owned by Facebook which is one of the most popular social platforms in the world (Tankovska, 2021).

Since the Internet has actively entered people's lives, it has brought many innovations and developments. One of these developments is that this type of social networks has begun to take their place in people's lives. Internet has many triggering factors and diversity, and this has affected individuals' tendency to use resources in different ways. The internet, which can offer different options to almost everyone, is divided into many sub-categories in its online platform features; social media collaborators (Wikipedia), social media blogs (WordPress), social media communities (Flickr), virtual worlds (Second Life) and social networking sites (Instagram) can be given as examples (Sholeh & Rusdi, 2019).

It is also extremely important to examine the factors that can develop addiction of Instagram, which contains more than one feature and offers new alternatives to its continuous user base. Among the factors that trigger addiction are Instagram users impulsively checking the people who look at their photos or videos, likes and comments, secretly checking profiles they know or do not know, or presenting themselves to the public in a different condition than they are. Being able to be used as desired, not limiting logins and logouts based on time, having a constant flow of movement can engulf the person with an uncontrollable effect, and excessive use can cause the person to be harmed in terms of bio-psycho-social aspects.

The results of a survey conducted by the Kingdom's Royal Society for Public Health show Instagram as the application with the strongest out-of-control effect, such as anxiety and depression, decreased sleep quality, bullying and FOMO (Fear of Missing Out) (Cramer & Inkster, 2017; Metin, Pehlivan & Tarhan, 2017; Tarhan, Ekinci & Tutgun-Ünal, 2021). In addition, it is stated in studies that Instagram posts also trigger voyeurism as a sexual disorder (Amâncio & Doudaki, 2017).

Although the history of addiction generally included issues related to alcohol, cigarettes or a drugs, and the internet or addiction to it was initially expressed by experts in the context of a problematic behavior (Carbonell & Panowa, 2017; Deniz & Tutgun-Ünal, 2016; Tutgun-Ünal & Deniz, 2015). However, the behavior changes the hormones secreted by the brain and its functions (Tarhan & Nurmedov, 2019). This state is characterized by some situations such as emotional discomfort, introversion, deterioration in social relations (Dalvi-Esfahania & et.al. 2019; Tutar, 2020), and it can also pose the danger of addiction (Leong & et.al. 2019), just like a double-edged knife.

Researches have also revealed that the interest of university students to be recognized on social media or to meet some of their social needs through this channel is an important factor in the development of addiction (Ponnusamy & et.al. 2020; Tutgun-Ünal & Deniz, 2016). For example, students in Italy spend most of their time on their phones and mostly spend time on Instagram (Longobardi & et.al. 2020).

Since easily portable phones, tablets and similar equipment make it easier to access these types of platforms, compulsive using and viewing anytime and anywhere deteriorates the usage behavior, leading to excessive use and related negative consequences (Choi & et.al. 2015; Montag & et.al. .2015). Due to the changing agenda within seconds, following the constantly renewed online world can turn into an unavoidable repetitive behavior after a while. This situation can create behavioral addictions with consequences such as relapse, withdrawal from society, developing tolerance, deterioration in life quality, withdrawal from hobbies, anxiety (Griffiths & et.al. 2020) as well as control problems (Griffiths, 2009; Wegman & et.al. 2017).

Emotional attachment to Instagram paves the way for ailments such as depression, stress, and anxiety, thus giving great importance to sharing can make a person more vulnerable in case of a negative situation (Lowe-Calverley, Grieve & Padgett, 2019). Being constantly on Instagram may cause poor performance in remembering the information stored in the short-term memory due to distraction while the news continues to flow with different images (Spence & et.al. 2020).

In the studies of internet addiction tendency conducted on the basis of gender, while some researches find results that women develop addiction more (Young, 1998), some researches mention that male individuals develop addiction more (Morahan-Martin & Schumacher, 2000). It is stated that due to the increase in use, the performance of the individual at work is negatively affected (Rozgonjuk & et.al. 2020), and individuals who use excessively, especially at a young age, show more symptoms of hyperactivity and attention deficit (Wang & et.al. 2017).

When the scales for Instagram addiction were examined in the literature, the thesis study titled "Examination of the Relationship Between Instagram Addiction, Personality Traits and Self-Liking in University Students" developed by Kırcaburun (2017) was found. While measuring Instagram Addiction, the researcher carried out his research by choosing "Instagram" instead of "Internet" expressions in the Internet Addiction Scale developed by Young (1996) and adapted into Turkish by Bayraktar (2001). Kırcaburun and Griffiths, published two articles about problematic Instagram use and the role of perceived feeling of presence, escaipism and self-liking (Kırcaburun & Griffiths, 2018, 2019). Then, a study called "A Research on Measuring Instagram Addiction" by Aslan and Ezin in 2018 was found and the "Instagram Addiction Scale" developed by Kırcaburun (2017) was used in the study. Lastly, it was seen that Instagram Addiction Scale (IAS) adaptation study of Kavaklı and İnan (2021), developed by D'Souza and colleagues (2018).

The first multidimensional developed scale for Instagram addiction is The Instagram Addiction Scale (TIAS) by Sholeh and Rusdi in 2019. TIAS itself consists of two scales; Instagram Feed Addiction and Instagram Story Addiction. Since linguistic equivalence studies have not yet been conducted in Turkish, it is considered important to bring these scales to Turkey. In this study, it is aimed to adapt the Turkish version of The Instagram Addiction Scale (TIAS) developed by Sholeh and Rusdi (2019), to be used in the Turkish sample and to carry out validity and reliability studies.

METHOD

Research Group

For the Turkish validity and reliability studies of The Instagram Addiction Scale (TIAS), the population was formed from people aged 15 and over. Accordingly, the sample of the study was composed of 587 people in Turkey. Since scale adaptation studies will be carried out, it has been tested whether the dataset is suitable for factor analysis. There are various opinions on this subject in the literature. It is stated that the sample size should be between 100-250 and the number of scale items should be at least five times or ten times (Preacher & MacCallum, 2002; Tavşancıl, 2002). In this study, the sample size was found to be sufficient as the number of items in the scales was 20 and 22.

When the sample is examined, 69.6% of the 587 participants are female and 30.4% are male. Their age distribution is between 15 and 70, with a mean age of 32. 50.7% of the participants are single, 41.6% are married. 51% of them have a university, 19.6% a master's degree, 15.4% a high school, 7% a doctorate, 6% a higher education level.

Data Collection Tool

The Instagram Addiction Scale (TIAS)

The research data required for Validity and Reliability studies were collected with The Instagram Addiction Scale (TIAS) developed by Sholeh and Rusdi (2019). TIAS includes two scales. Accordingly, the first scale named Instagram Feed Addiction (IFA) consists of 20 items and 6 dimensions. The second scale was named Instagram Story Addiction (ISA) and consists of 22 items and 6 factors. The factor names of both scales are the same. Accordingly, the factors of "Salience, Tolerance, Mood Modification, Relapse, Withdrawal, and Conflict" represent addiction components. The 5-point Likert-type scales form the TIAS as two separate scales. Although the factor names are the same, the number of items under the factors is not the same in the two scales.

Sholeh and Rusdi (2019) conducted validity and reliability studies of the scales in their research and found appropriate values. Cronbach Alpha values, which are the internal consistency coefficients of IFA, ranged from .65 to .92. The internal consistency of the factor named "Salience" of the ISA was found to be .34. This value indicates low reliability. The highest Cronbach Alp ha value was found to be .88. On the other hand, exploratory factor analysis (EFA) was performed with both scales, but confirmatory factor analysis (CFA) was not performed. In order to eliminate these deficiencies in the Turkish form, the scales will be subjected to linguistic equivalence studies and factor structures will be modeled and verified with EFA and CFA studies.

Process

***Translation Work*:** In order to obtain the Turkish form of the TIAS, the items in the original inventory were first translated into Turkish by an expert who is competent both in Turkish and English. Then, it was ensured that the sentences were understandable by checking them by two field experts who knew both languages well.

***Application of TIAS*:** Ethical approval was given to the research by the Üsküdar University Non-Interventional Research Ethics Committee with the number of 61351342/NİSAN2021-27. Data collection process was carried out on a voluntary basis by using an online survey form in 1-10 May 2021. The study group sample was randomly selected and consisted of people aged 15 and over. IFA and ISA scales were administered to the participants via an online questionnaire and it took an average of 15 minute to complete the questionnaire.

Data Analysis

Pearson correlation coefficient was used for the linguistic equivalence of TIAS, which is to determine the consistency between the Turkish and English forms. In order to test the construct validity of the TIAS, factor analysis was applied to 287 sections of the dataset consisting of 587 people. Afterwards, confirmatory factor analysis was applied to the section of 300 people. The Cronbach Alpha internal consistency coefficient was tested in the reliability studies. SPSS 26.0 statistical program was used for the validity and reliability analysis. Further, modeling was made for the relationship and harmony of the dimensions with the AMOS program and the goodness of fit values (Chi-square/freedom of degrees, RMSEA, NFI, NNFI, CFI, GFI and AGFI) were calculated.

FINDINGS

In this part of the study, evaluations are made for The Instagram Addiction Scale (TIAS). In this context, the findings obtained as a result of validity and reliability studies are included.

Linguistic Equivalence Study of TIAS

The English and Turkish forms of the TIAS were administered to 25 postgraduate students at the department of Psychology from Üsküdar University three weeks apart in Turkish and English. After the applications, the Pearson correlation coefficient was calculated. The time interval between the two tests is specified as 2 to 4 weeks or 3 to 6 weeks according to different opinions in the literature (Ergin, 1995; Özgüven, 1994).

It was made for two applications with Instagram Feed Addiction and Instagram Story Addiction scales. When the Pearson correlation coefficients were examined, the lowest value for both scales was .40 and the highest value was .82, and the correlation coefficient between the total scores of the items in the Turkish and English forms was also found to be positive and significant (r: .77; $p<0.001$). In addition, according to the independent group t-test for both scales, it was determined that there was no significant difference between the two applications (t: .34; df: 23; $p>0.05$). The results obtained showed that the consistency between the two applications of the scales was at an acceptable level.

Validity and Reliability Study of TIAS

Exploratory Factor Analysis (EFA) is frequently applied as one of the statistical calculation techniques made in accordance with a large number of variables within the scope of the construct validity of scale development (Balcı, 2001; Bryman and Cramer, 1997; Büyüköztürk, 2018; Hovardaoğlu and Sezgin, 1998; Kalaycı, 2010; Kleinbaum, Kupper and Muller, 1998). When the literature is examined, there are some techniques used to determine whether the dataset is suitable for factor analysis. These are tests such as the Bartlett Test of Sphericity, the Kaiser-Meyer-Olkin (KMO) and the creation of the correlation matrix (Kalaycı, 2010; Tavşancıl, 2002).

Before applying EFA, Bartlett test and Kaiser-Meyer-Olkin (KMO) test were applied (Büyüköztürk, 2018). A KMO value of .90 and above is considered “excellent”, between .80-.89 “very good”, between .70-.79 as “good”, between .60-.69 “moderate”, .50-a range of .59 is considered “weak”, and anything below that is considered “unacceptable” (Kalaycı, 2010; Sharma, 1996; Tutgun-Ünal & Deniz, 2015). Also, the Bartlett Sphericity value is expected to be significant. Accordingly, the KMO coefficient value of the Instagram Feed Addiction Scale was found to be ,902. The result of the Bartlett Test of Sphericity was found to be significant (X^2=2747,466, df: 190 p=0.000). Whereas, the KMO coefficient value of the Story Addiction Scale was found to be ,902. The result of the Bartlett Test of Sphericity was found to be significant (X^2=2747,466, df: 190 p=0.000). The results showed that the data were suitable for factor analysis (Sharma, 1996).

Construct Validity Study of Instagram Feed Addiction Scale

Factor analysis for the construct validity of Instagram Feed Addiction (IFA) started with 20 items in the original scale form. After EFA was applied, since values with an eigenvalue greater than 1 were accepted for factor formation (Tinsley & Tinsley 1987), a 5-factor structure emerged in the first stage in IFA. When the item and size distributions in the rotation table were examined, it was found that 4 dimensions in the original scale were formed in the same way, but the other 2 dimensions were mixed. Therefore, it was tested manually with 4-factor EFA whether the two dimensions could be combined or not. Compliance was achieved in the first stage in line with the Varimax Rotation Table. Accordingly, the item loadings were found to be the highest .859 and the lowest .456 for 20 items. The explained variance ratio was found to be 60,31. The eigenvalues of the factors are given in Table 1.

Table 1. IFA Factor Structure and Explained Variance Rates

IFA	Eigenvalue	Variance	Cumulative Variance
1.Dimension	7,73	38,67	38,67
2.Dimension	1,53	7,65	46,32
3.Dimension	1,48	7,43	53,76
4.Dimension	1,31	6,55	60,31

As seen in Table 1, the exploratory variance rate of the factor with an eigenvalue of 7,73 is 38.67%. The variance rate explained by the second factor with an eigenvalue of 1,53 was 7.65%, the rate of variance explained by the third factor with an eigenvalue of 1,48 was 7.43%, and the variance rate explained by the fourth factor with an eigenvalue of 1,31 was 6.55%. The total explained variance rate was 60,31%, which was acceptable. It is ideal when the explained variance rate revealed by factor analysis varies between 40% and 60% in social sciences (Büyüköztürk, 2002; Deniz & Tutgun-Ünal, 2019).

Another method used to determine the factor structure is the scree plot. According to this graph, the points where the slope starts to disappear are taken into account in determining the number of factors. The line graph of Instagram Feed Addiction, which is seen to be in a 4-dimensional structure, is shown in Figure 1.

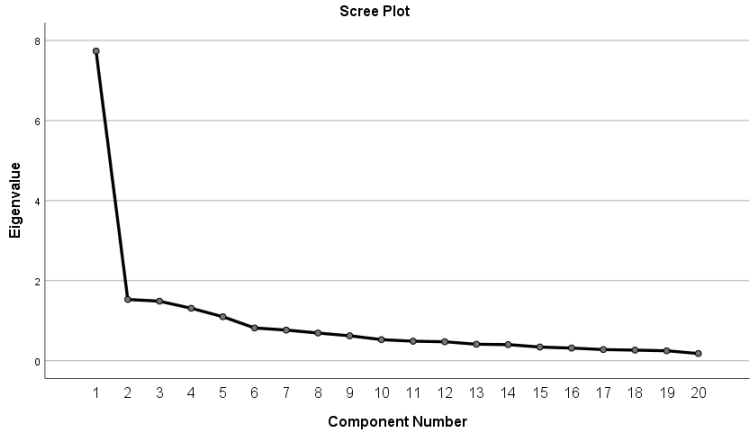

Figure 1. IFA Scree Plot

After determining the number of factors, item factor loadings were examined by applying the varimax rotation technique. Accordingly, the factor loading value of each item was checked for compliance with the lower cut-off point of ,45 and the factor structure was released. Accordingly, the item factor loading values of the 4-dimensional scale are given in Table 2.

Table 2. Factor Loading Values of Instagram Feed Addiction (IFA) Items

	Items	F1	F2	F3	F4
Relapse / Withdrawal / Conflict (α=.90)	**18.** I find it hard to share time for hobbies, rest, or exercise because I spend my time checking Instagram feed.	.756			
	17. I often see many contents of Instagram feed which cause me to neglect my work/lectures/study time.	.732			
	20. My family often complains because I spend too much of my time on Instagram (checking the feed).	.718			
	19. I find it hard to sleep early because I always see feed on Instagram.	.712			

	Items	F1	F2	F3	F4
	12. I decided to look at Instagram feed less often, but I did not manage to do it.	.692			
	16. I become anxious or I have problems if I am prohibited to check my Instagram (see the feed).	.689			
	13. I get easily irritated if I am prohibited from seeing the Instagram feed.	.647			
	11. I try to limit my time for Instagram (see the feed), but it does not work.	.627			
	15. I feel annoyed if someone else bothers me when I see Instagram feed.	.614			
	14. I often cancel appointments with other people because of Instagram (checking Instagram feed).	.537			
	10. I spend a lot of time looking at photo/video posts on Instagram feed.	.456			
Mood Modification (α=.79)	**9.** I see the contents of posts on the Instagram feed to reduce restlessness.		.859		
	8. I see the contents of the Instagram feed to forget about personal problems.		.842		
	7. I see the contents of Instagram feed posts to reduce feelings of guilt, anxiety, helplessness, or depression.		.615		
Salience (α=.71)	**2.** I often think about what is happening on Instagram when I do not access it.			.722	
	3. I keep thinking and feel curious when I do not see the contents of the Instagram feed.			.688	
	1. I often think of any photos/videos posted by others on the Instagram feed.			.650	
Tolerance (α=.60)	**5.** I commented on photos/videos posted by friends on Instagram feed to get feedback.				.695
	4. I post photos/videos on Instagram feed to attract others' attention.				.586
	6. I always think of what filters and captions for the photos/videos that I will post on Instagram Feed.				.557

When the item factor loading values were examined, the item loading values of the 4-factor structure of the scale took appropriate values. Items 1-10, which constitute separate factors in the original scale, formed a single factor together in the Turkish form. While naming the new factor, 3 words in the original scale were combined and named as "Relapse/Withdrawal/Conflict". Other factors were also found to be compatible. Accordingly, by adhering to the original scale, 1st, 2nd, 3rd items were named as "Salience"; 4th, 5th, 6th items were named as "Tolerance"; 7th, 8th, 9th items were named as "Mood Modification". On the other hand, while 10th item was under "Mood Modification" in the original scale, it was under the factor of "Relapse/Withdrawal/Conflict" in the Turkish version. Considering the meaning of the item which describes excessive use, the distribution of this was found appropriate.

Then, in the confirmatory factor analysis performed with a different dataset of 300 people, the factorial structure obtained was tested. In other words, its accuracy and goodness-of-fit values were questioned by modeling.

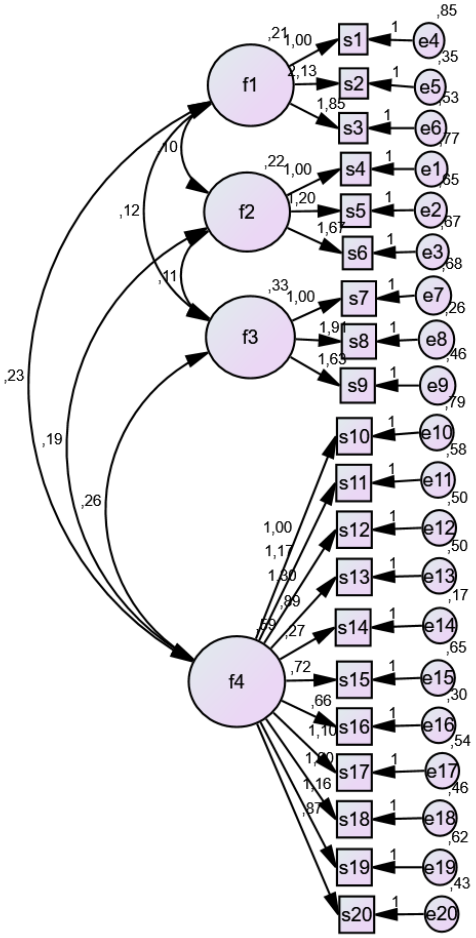

Figure 2. Confirmatory Factor Analysis of Instagram Feed Addiction

Table 3. IFA Goodness-of-Fit Indexes

Goodness-of-Fit Indexes	Acceptable Goodness-of-Fit Index Values	IFA Goodness-of-Fit Index Values
X^2/sd	<5	515,031/164= 3,14
RMSEA	<0,08	0,08
NFI	>0,90	0,81
NNFI	>0,95	0,88
CFI	>0,95	0,86
GFI	>0,90	0,82
AGFI	>0,85	0,77

Table 3 shows the Instagram Feed Addiction goodness-of-fit index values. According to the findings obtained in the confirmatory factor analysis, Chi-square/degrees of freedom was: 3,14; RMSEA: 0,08; NFI: 0,81; NNFI: 0,88; CFI: 0,86; GFI:0,82 and AGFI: 0,77. Thus, these goodness-of-fit index values were found acceptable. It was concluded that the Turkish version of IFA consisted of 4 factors.

Construct Validity Study of Instagram Story Addiction Scale

Factor analysis was performed for construct validity studies with 22 items in the original scale. In the factor analysis performed without any intervention, the eigenvalue value created more than 1 factor and 4 factors emerged. However, in the comparison with the original scale, item factor distributions did not show a appropriate structure. For example, the 1st and 2nd items and the 3rd and 4th items formed a factor together in the original scale, and in this study, they were all distributed into separate factors. Similarly, the 18th item formed a factor together with the 2nd and 4th items. In order to obtain a more meaningful structure, EFA was performed manually with 3 factors. Accordingly, the factor loading of an item was found to be low. Item 1 was eliminated with a load of .29, and EFA was performed again without including Item 1 and the appropriate structure was obtained. Accordingly,

the explained variance rates obtained in the 3-factor structure of the Instagram Story Addiction Scale are given in Table 4.

Table 4. ISA Factor Structure and Explained Variance Rates

ISA	Eigenvalue	Variance	Cumulative Variance
1.Dimension	9,49	45,20	45,20
2.Dimension	1,99	9,49	54,69
3.Dimension	1,33	6,34	61,04

As seen in Table 4, the variance rate explained by the 1st factor with an eigenvalue of 9.49 is 45.20%. The variance rate explained by the 2nd factor with an eigenvalue of 1.99% is 9.49%, and the variance rate explained by the 3rd factor with an eigenvalue of 1.33 is 6.43%. The total explained variance rate was found to be 61.04%. The scree plot, which is another technique to determine the factor structure, is shown in Figure 3.

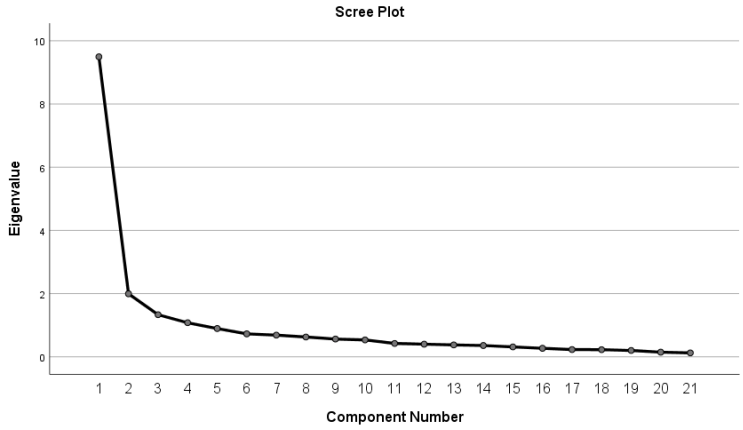

Figure 3. ISA Scree Plot

Table 5. Factor Loading Values of Instagram Story Addiction (ISA) Items

	Items	F1	F2	F3
Relapse / Withdrawal / Conflict (α=.93)	**15.** I tried to less watching others' Instagram stories, but it did not work.	.756		
	14. I decide to see the contents of Instagram stories less often, but it didn't work.	.732		
	20. I watch Instagram stories too much that I neglect work/lectures/study time.	.718		
	22. I find it hard to sleep early because I always check Instagram stories.	.712		
	21. I find it hard to spend my time into hobbies, rest, or exercise because of Instagram stories.	.692		
	8. I feel there is an urge to continue checking Instagram stories continuously.	.689		
	12. I spend a lot of time watching others' Instagram stories.	.647		

	Items	F1	F2	F3
	16. I get irritated easily if I am prohibited from watching Instagram stories.	.627		
	10. I keep thinking and feel curious when I do not see Instagram stories.	.614		
	13. I check Instagram stories the first time I wake up.	.537		
	17. I feel annoyed if someone else is bothering me when I'm looking at the contents of Instagram stories.	.456		
	11. I feel bored if I do not see the contents of Instagram stories.			
	9. I often think about what others upload on Instagram stories.			
	19. I get nervous if I am prohibited from watching Instagram stories.			
Mood Modification (α=.89)	**6.** I check the content of Instagram stories to forget personal problems.		.859	
	7. I see the contents of posts on the Instagram stories to reduce restlessness.		.842	
	5. I check the content of Instagram stories to reduce feelings of guilt, anxiety, helplessness, or depression.		.615	
Salience / Tolerance (α=.67)	**2.** I often plan to do a live stream (live stream) on Instagram.			.722
	18. I often cancel appointments with others because I see Instagram stories.			.688
	4. I give comment on my friends' Instagram stories to get feedback.			.650
	3. I make Instagram stories about my activities to get others' attention.			

When Table 5 is examined, the dimensional structure of the original ISA scale differed by combining some dimensions in the Turkish Version. It was observed that semantic integrity was achieved in the combination of factors. Item 1 was eliminated from the scale because its loading value was low. 2nd, 3rd, 4th, 18th items were formed by the combination of two separate dimensions in the original scale and were named "Salience/Tolerance". Although 18th item was under the "Withdrawal" dimension in the original scale, it was found to be significant under the "Salience/Tolerance" dimension in the Turkish version, since the item's content describes frequent use. The "Mood Modification" dimension, which includes the 5th, 6th, 7th items, is formed by the combination of the same items in the Turkish form. 8th, 9th, 10th, 11st, 12nd, 13rd, 14th, 15th, 16th, 17th, 19th, 20th, 21st and 22nd items were gathered together in a single factor. These items, which formed 3 different factors in the original scale, formed a factor called "Relapse/Withdrawal/Conflict" because they were combined in the Turkish scale.

The model confirmatory factor analysis created to confirm the 3-factor structure obtained after the EFA was verified. The CFA model made with a dataset of 300 people is shown in Figure 4. The goodness of fit values of the model are given in Table 6.

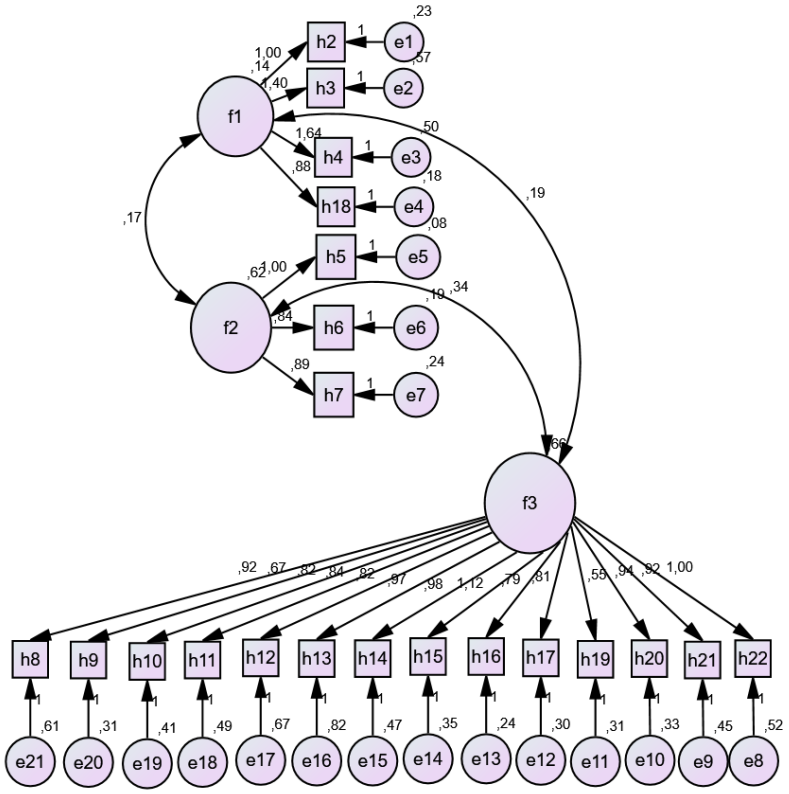

Figure 4. Confirmatory Factor Analysis of Instagram Story Addiction

Table 6. ISA Goodness-of-Fit Indexes

Goodnes-of-Fit Indexes	Acceptable Goodnes-of-Fit Index Values	ISA Goodnes-of-Fit Index Values
X^2/sd	<5	782,537/186= 4,207
RMSEA	<0,08	0,08
NFI	>0,90	0,82
NNFI	>0,95	0,84
CFI	>0,95	0,88
GFI	>0,90	0,87
AGFI	>0,85	0,78

Table 6 shows the Instagram Story Addiction goodness-of-fit index values. According to the findings obtained in the confirmatory factor analysis, Chi-square/degrees of freedom value was: 4,20; RMSEA: 0,08; NFI: 0,82; NNFI: 0,84; CFI: 0,88; GFI:0,87 and AGFI: 0,78. Thus, these goodness-of-fit index values were found acceptable. It was concluded that the Turkish version of the ISA consisted of 3 factors.

Since The Instagram Addiction Scale (TIAS) consists of two scales, validity and reliability studies of both scales were carried out. For the reliability studies of the Instagram Feed Addiction Scale, the internal consistency coefficient Cronbach Alpha values were calculated for each factor. Accordingly, these values given on the left side of Table 2 was found as .90 for the "Relapse/Withdrawal/Conflict" dimension, .79 for the "Mood Modification" dimension, .71 for the "Salience" dimension and .60 for the "Tolerance" dimension. The Cronbach Alpha values calculated for the Instagram Story Addiction Scale and included in Table 5 were found as .93 for the "Relapse/Withdrawal/Conflict" dimension, .89 for "Mood Modification" dimension, and .67 for "Salience/Tolerance" dimension.

Finally, the Pearson Correlation Coefficient values obtained as a result of the correlation test applied to the dimensions for IFA and ISA are given in Table 7 and Table 8, which show the relationship between the dimensions.

Table 7. Instagram Feed Addiction Scale Correlations

Subscale/Scale	Salience	Tolerance	Mood Modification	Relapse/Withdrawal/ Conflict
Tolerance	,350			
Mood Modification	,373	,314		
Relapse/Withdrawal/Conflict	,543	,390	,543	
Instagram Feed Addiction (IFA)	,697	,572	,701	,939

Table 7 shows the coefficient values showing the relationship between Instagram Feed Addiction factors. Accordingly, it can be said that IFA has a relational structure within itself.

Table 8. Instagram Story Addiction Scale Correlations

Subscale/Scale	Salience/ Tolerance	Mood Modification	Relapse/Withdrawal /Conflict
Mood Modification	,461		
Relapse/Withdrawal/Conflict	,525	,495	
Instagram Story Addiction (ISA)	,669	,648	,971

Table 8 shows the coefficient values showing the relationship between Instagram Story Addiction factors. Accordingly, it can be said that ISA has a relational structure within itself.

CONCLUSION AND DISCUSSION

This study aimed to establish the validity and reliability of the Turkish version of The Instagram Addiction Scale (TIAS) developed by Sholeh and Rusdi (2019) in a Turkey sample. At the beginning of the study, linguistic equivalence studies of two scales named Instagram Feed Addiction and Instagram Story Addiction in TIAS were carried out. As a result of the exploratory factor analysis and confirmatory factor analysis, it was found that both scales partially paralleled the original scale structure, but differed in some points.

Firstly, the Turkish construct validity studies of the Instagram Feed Addiction Scale consisted of 20 items in the Turkish scale form. It was found that 6 dimensions in the original scale exhibited a structure as 4 dimensions in the Turkish scale, and the 4-dimensional scale structure was confirmed in the model established with CFA. Accordingly, in the Turkish scale form, 3 items constitute the "Salience" dimension, 3 items constitute the "Tolerance" dimension, 3 items constitute the "Mood Modification" dimension and the remaining 11 items constitute the "Relapse/Withdrawal/Conflict" dimension. As can be seen, 3 different dimensions in the original scale were combined into a single dimension in the Turkish form. The scale structure was found to be acceptable in the analyses made with EFA and CFA and the factors are related to each other. The Cronbach Alpha internal consistency coefficients of the factors were found to be the lowest .60 and the highest .90.

The other scale, Instagram Story Addiction, created a structure with 21 items in the Turkish form, although there were 22 items in the original form. Since the factor loading of the 1st item in the Turkish version of this scale was found to be low, it was eliminated from the scale. The 21-item Instagram Story Addiction Scale consisted of 6 factors in the original scale form, while some factors were combined in the Turkish scale form. It consisted of 3 factors and it was seen that one item was under a different dimension. Accordingly, the EFA results showed that 4 items constitute the "Salience/Tolerance" dimension, 3 items constitute the "Mood Modification" dimension, and the other 14 items constitute the "Relapse/Withdrawal/Conflict" dimension. With this structure, the model established in AMOS was validated with CFA and the reliability coefficients were found to be the lowest .67 and the highest .93. It was found that the 21-item and 3-factor structure of the ISA was relational and significant. The scales are in 5-point Likert type, graded between "Strongly disagree" and "Strongly agree".

All validity and reliability studies have shown that Turkish TIAS is a current, valid and reliable scale that can be used in studies to be conducted in Turkey. It is natural that some differences occur in the Turkish scale form compared to the original scale, because cultural differences may differentiate the answers given to the scale. On the other hand, it is thought that some of the deficiencies in the original scale, such as the low internal consistency of one dimension of the ISA, and the fact that the factor structure was not tested with confirmatory factor analysis, were eliminated in the Turkish scales. Thus, two scales in TIAS have been added to the literature so that they can be used to measure Instagram Addiction of social media users of various ages. Factors can be tested by remodeling in new research on different samples.

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