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Psychometric Properties of Turkish Versions of the Short Video Flow Scale and Short Video Addiction Scale

Kısa Video Akışı Ölçeği ile Kısa Video Bağımlılığı Ölçeği Türkçe Versiyonlarının Psikometrik Özellikleri

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Abstract

Objective: The aim of this study is to examine the Short Video Flow Scale (SVFS) and the Short Video Addiction Scale (SVAS) in terms of validity and reliability, and adapt them to the Turkish culture.
Method: The study was conducted with the survey model. The sample group consisted of 297 high school students selected by convenience sampling method. During the translation process of SVFS and SVAS, the stages recommended by the International Test Commission were taken into account.
Results: Reliability analyses of the scales were carried out with the Cronbach's Alpha reliability coefficient. Reliability coefficient was found to be .87 for SVFS and .82 for SVAS. Item discrimination was examined with item-total score correlation values. In addition, upper and lower 27% groups were created in the data set and the significance level of the difference between the groups was tested. In order to examine the criterion validity of SVFS and SVAS, the Multiple Screen Addiction Scale and the Phubbing Scale were used and the correlations coefficients between the scales were calculated. Correlation coefficients ranged between .54 and .77. CFA technique was used to test the construct validity of SVFS and SVAS. The factor loadings varied between .56 and .76 for SVFS and between .45 and .72 for SVAS. Both SVFS and SVAS had a single-factor structure, which is consistent with their original versions.
Conclusion: The Turkish form of SVFS and SVAS can be used to assess attitudes, feelings and behaviors of watching short videos.

Keywords: Short video, addiction, flow, validity and reliability

Öz

Amaç: Bu araştırmada Kısa Video Akışı Ölçeği (KVAÖ) ile Kısa Video Bağımlılığı Ölçeğinin (KVBÖ) geçerlik ve güvenirlik açısından incelenerek Türk kültürüne uyarlanması amaçlanmıştır.
Yöntem: Araştırma tarama modeli ile yürütülmüştür. Araştırmanın çalışma grubu kolay örnekleme yöntemi ile seçilen 297 lise öğrencisinden oluşmaktadır. KVAÖ ile KVBÖ'nün çeviri sürecinde Uluslararası Test Komisyonu tarafından önerilen aşamalar dikkate alınmıştır.
Bulgular: Ölçeklere ilişkin güvenirlik analizleri Cronbach Alfa güvenirlik katsayısı ile yapılmıştır. KVAÖ için .87 olarak, KVBÖ için .82 olarak çıkmıştır. Madde ayrıt ediciliği ise madde toplam puan korelasyon değerleri ile incelenmiştir. Ayrıca veri setinde %27'lik alt ve üst gruplar oluşturularak gruplar arasındaki farklılığın anlamlılık derecesi test edilmiştir. KVAÖ ile KVBÖ'ye ilişkin ölçüt geçerliğini incelemek amacıyla Çoklu Ekran Bağımlılığı Ölçeği ile Phubbing Ölçeği kullanılmış ve ölçekler arasındaki korelasyon katsayıları hesaplanmıştır. Korelasyon katsayıları .54 ile .77 arasında değişmektedir. Uyarlaması yapılan her iki ölçeğin yapı geçerliğini test etmek için DFA tekniği kullanılmıştır. Faktör yükleri KVAÖ için .56 ile .76, KVBÖ için .45 ile .72 arasında değişmektedir. Hem KVAÖ hem de KVBÖ'nün orijinal yapısıyla uyumlu olarak tek faktörlü bir yapıya sahip olduğu saptanmıştır.
Sonuç: KVAÖ ile KVBÖ'nün Türkçe formunun kısa video izleme tutum, duygu ve davranışları ölçme konusunda kullanılabileceği sonucuna ulaşılmıştır.

Anahtar kelimeler: Kısa video, bağımlılık, akış, geçerlik ve güvenirlik

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Introduction

Nowadays, technological devices make people's daily life easier and allow them greater communication and interaction opportunities. The fact that digital devices used in daily life are easily accessible and meet their needs quickly causes the development of different addictions in individuals (1,2). Addiction is characterized by withdrawal symptoms experienced by individuals when they cannot access that substance. It can also be defined as the inability for individuals to quit the substance (even if they wanted to do so) and their spending lots of time with the addictive substance (3,4). Similarly, behavioral addictions can be defined as one's experiencing similar behaviors and habits towards digital devices, digital games and digital environments, despite not using any substance in the physical sense (5). There are many types of behavioral addictions such as internet, gambling, social media, smartphone, and digital game addiction. Behavioral addictions are among major risk factors for psychological health (6). Moreover, it is known that such addictions disrupt the vital functions of individuals and lead them to have problems in fulfilling their duties and responsibilities and maintaining healthy relationships with others (7-10). However, upon the introduction of short videos into our lives in recent years, short video addiction, a special type of internet addiction, has appeared.

Short videos are a new and more restricted research topic that lack the scope as social media does. The experience of watching short videos is associated with the concept of flow. Flow refers to the state of getting immersed in an experience so that an individual can become fully involved in an activity (11). The energetic, surprising, and entertaining content of short videos can cause individuals to experience the flow very much. Short video flow is described as the state of high enjoyment and immersion one gets while watching a video (12). It has been suggested that flow experiences are also associated with various behavioral addictions (13,14). For example, it is known that individuals who experience immersion in an enjoyable flow develop internet addiction (15). Short videos may also increase the risk of addiction because they include the experience of flow. Further studies in this field will help to comprehend the dimensions of the short video flow experience, which is a new phenomenon, and the impact area of short video addiction.

Short videos are prepared within the framework of a specific theme, are usually limited to 15 minutes. Short videos can be consumed quickly and prepared with a very remarkable presentation, thus leading individuals to develop addiction by allowing them to get immersed in the flow of videos (16). Similar to media addiction, short video addiction is defined as the inability to control oneself while watching short videos and the negative effects that this situation can have on their daily life (17). According to another definition, it refers to excessive and irrational use of short videos to the extent that it affects one's life (18). Besides, considering that short videos are accessed through social media, short video addiction can be assessed within the scope of social media addiction. Although short video addiction is not yet defined in Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and International Classification of Diseases (ICD-11) like social media addiction, it can be expected to fulfil the criteria for internet gaming disorder. These criteria include withdrawal, tolerance, loss of control, preoccupation, giving up other activities, continuing despite problems, deception, escape, and impaired function (19). The transformation of watching short videos into addiction in individuals primarily negatively affects academic learning environments. It is known that students' learning motivation, achievement motivation and learning well-being have negative significant correlations with short video flow experience and short video addiction (12, 20). In addition, problematic use of short videos negatively affects the behavioral engagement required for academic success (21). Short video addiction predicts individuals' creative self-efficacy, creative self-confidence, career interests and academic learning environments (22).

When the video addiction literature in Turkey is examined, it is seen that there are video game addiction and video addiction scales (23, 24). The video game addiction scale was developed for individuals who play video games, while the video engagement scale was developed to increase the effectiveness of teaching in education. For this reason, short video flow and addiction scales differ from other video scales both because of their wider scope and the fact that they concern a more general mass of people. However, there are a few studies on short video flow and short video addiction in the literature (12,20,22,25). From this point of view, in this study, assessment tools related to watching of short videos were adapted especially for

researchers in Turkey to conduct studies on short videos. There have been no studies on short video flow experience or short video addiction in Turkey so far. It can be asserted that one of the reasons for this situation is lack of assessment tool that can assess the short video phenomenon. For this reason, this study aimed to adapt the Short Video Flow Scale and Short Video Addiction Scale developed by Ye et al., into Turkish. The reason for choosing these scales for adaptation is that Ye et aldeveloped these scales with reference to the flow experience scale (26) and game addiction scales (27). In other words, in the process of developing the scales, the theoretical underpinnings of the concepts and the addiction criteria used in practice were adhered to. It is thought that this study, aiming to adapt these scales into Turkish, would contribute to better understand the causes and consequences of short video flow and short video addiction and to prevent their negative effects.

Method

The study was conducted by using survey model. In this research model, a specific subject is described and it is assumed that the determined sample reflects the population (28).

Participants

The sample group of the study consisted of 297 students studying at an Anatolian High School in the Black Sea Region in 2023. In the study, convenience sampling method was used to minimize time, cost and labor loss (29, 30). The students who did not have any psychiatric diagnosis, did not receive any psychiatric support, and were using their smartphone actively were included in the study. This information was obtained by the participants and confirmed by the school counseling service. We determined exclusion criteria, such as psychiatric diagnosis and support, because we did not want external factors to influence participants' short video addiction and flow. We determined the inclusion criterion, such as actively using a smartphone, because short videos are mostly watched via smartphones. Table 1 shows some socio-demographic characteristics of the participants:

Table 1. Socio-demographic characteristics of the participants

Variable		n	%
Gender	Female	168	56.6
	Male	129	43.4
Grade	9th grade	58	19.5
	10th grade	88	29.6
	11th grade	93	31.4
	12th grade	58	19.5
Income level	Low	23	7.7
	Medium	240	80.8
	High	34	11.5
Duration of daily smartphone usage	0-1 hour	35	11.8
	1-2 hours	47	15.8
	2-3 hours	75	25.3
	3-4 hours	81	27.3
	5 hours or more	59	19.8
Duration of daily tablet and computer usage	Never	126	42.4
	0-1 hour	66	22.2
	1-2 hours	54	18.2
	2-3 hours	27	9.1
	3 hours or more	24	8.1
Total		297	100

The findings of the study indicated that 56.6% of the participants were female and 43.4% were men. 19.5% of them were the 9th-grade students, 29.6% were the 10th-grade students, 31.4% were the 11th-grade students, and 19.5% were 12th-grade students. 7.7% of the participants perceived their income level as low, 80.8% perceived it as medium, and 11.5% perceived it as high. The income level of the participants was determined according to the hunger and poverty line. Below the hunger line is determined as low, below the poverty line as medium, and above the poverty line as high. When examining duration of the daily mobile phone usage, 11.8% of the students used their phones for 0-1 hours a day, 15.8% for 1-2 hours, 25.3% for 2-3 hours, 27.3% for 3-4 hours, and 19.8% for 5 hours or more. Finally, 42.4% of the participants stated that they never used a tablet or computer, 22.2% stated that they used a tablet or computer for 0-1 hours, 9.1% stated that they used a tablet or computer for 2-3 hours, and 8.1% stated that they used a tablet or computer for 3 hours or more (Table 1).

Measures

Short Video Flow Scale (SVFS)

The scale was developed by Ye et al., with reference to the Flow Experience Scale (26). It consists of eight items and a single dimension. This five-point Likert type scale aims to assess experiences such as watching and enjoying short videos. There are no reverse-scored items. A higher total score signifies that the individual enjoys more from the short video and watches it for a longer time of period. During the adaptation phase of the scale, its content validity was examined by three education experts for fluency and comprehensibility, and the scale was revised three times. Sample items of the scale are as follows: “When watching short videos, I can get lost in them and keep watching without realizing the passing of time”, “I become so immersed in the videos that I lose track of time”.

Short Video Addiction Scale (SVAS)

The scale was developed by Ye et al. with reference to the Game Addiction Scale (27) in order to reveal addiction, negative emotions and experiences while watching short videos. This five-point Likert type scale consists of a single dimension and ten items and there are no reverse-scored items. A higher total score signifies that addiction increases. For the validity studies of the scale, the steps in the Short Video Flow Scale were followed. First of all, the scale was adapted using assessment tools based on relevant theory, and then its internal validity was examined by three education experts. For the comprehensibility and fluency of the scale items, the items were revised in line with expert opinions and the scale was put into final form. Sample items of the scale are as follows: “My excitement or anticipation for watching short videos far exceeds my desire for other interpersonal interactions”, “I may feel depressed or moody if I am unable to watch short videos”.

Multiple Screen Addiction Scale

The Multi Screen Addiction Scale was developed by Sarıtepeci to assess addiction to digital devices such as television, phone, and tablet. The scale consists of 15 items in total (31) and 3 subscales: Excessive Screen Time (4 items), Compulsive Behavior (8 items), and Loss of Control (3 items). It has no reverse-scored items. As a result of EFA conducted with the data collected from 216 students studying at the university, 15 items and a three-factor structure were obtained for the scale. This structure, determined by EFA, was tested with CFA and the suitability of the factor structure was confirmed. Accordingly, it was found that the internal consistency coefficient of the scale ranged between .70 and .92. In the current study, the Cronbach Alpha internal consistency coefficient of the scale was calculated as .89. In addition, KMO (.90) and Bartlett's Test of Sphericity (x^2= 1834.796, df=105, p<.00) values were calculated to test the validity of the scale. All these results revealed that the relevant scale was valid and reliable on the participant group in the current study.

Phubbing Scale

The scale was developed by Karadağ et al., to assess individuals’ attitudes and behaviors involving phubbing (32). This five-point Likert type scale consists of a total of 10 items. As a result of the factor analysis

performed on the data collected from 401 university students, a two-factor structure was reached for the scale: Communication Disorders (5 items) and Telephone Obsession (5 items). It was determined that the internal consistency coefficient of the scale ranged between .61 and .81 for the Communication Disorder factor and between .45 and .80 for the Telephone Obsession factor. There are no reverse scored items. Total score ranges between 10 and 50 points. If respondents get a score over 40 points, it is considered that they can become phubbers. In this study, the Cronbach Alpha internal consistency coefficient for the scale was calculated as .84. Analyzes were conducted to determine the validity of this scale for the current participant group. KMO (.86) and Bartlett's Test of Sphericity (x^2= 1017.760, df=45, p<.00) values were calculated. The results show that the scale produces valid and reliable results for the study group of this research.

Procedure

The steps recommended by the International Test Commission were followed during the translation process of the Short Video Flow Scale and Short Video Addiction Scale. These steps are as follows:

Pre-Condition Guidelines

- Obtain permission from the researchers who hold property rights to the test before adaptation.
- Evaluate to what extent the feature measured by the test covers the participants.
- Minimize the effect of cultural and linguistic differences in the population of interest that are unrelated to the purpose of the test.

Test Development Guidelines

- Ensure that experts supported during the translation stage take psychological, cultural and linguistic differences into account.
- Use the most appropriate translation methods to effectively carry out the test adaptation process.
- Ensure that test instructions and item contents have similar meaning for the targeted population.
- Ensure that the item form, rating scales, scoring categories, testing rules, and procedures are appropriate for the intended population.
- Collect data for item analysis, validity and reliability studies to make necessary revisions to the adapted test.

Confirmation Guidelines

- Select a study group of sufficient size and features suitable for the purpose of the test.
- Conduct statistical analyses for construct, method, and item equivalence.
- Conduct validity and reliability analyses of the adapted and finalized form of the test on the targeted population (33).

For the translation process of the Short Video Flow and Short Video Addiction Scales, firstly, the researchers contacted with Ye et al., who developed the scale, via e-mail. Afterwards, approval was obtained from the ethics commission of Siirt University (Approval Date: 12.06.2023 and Number: 609). The researchers evaluated the scale and related items and decided that they were suitable for the targeted population. Once the sample group was determined, the participants gave their consents by singing informed consent. Two experts in the field of Psychological Counseling and Guidance translated the original items of the scale into Turkish by taking into account cultural, linguistic, and psychological differences. For back translation, the items translated into Turkish were back translated into English by two experts who have a good command of English. To compare the Turkish translated version of the scale into with its original English version, opinions were received from two experts specialized in their field. Based on expert opinions, the items were

revised to test language and content validity, and then it was decided that the scale had appropriate and understandable items.

The completed Turkish form was applied to a total of 297 students including 128 for reliability studies and 169 for validity studies. Data were collected from students studying at a high school in the Central Black Sea Region of Turkey. This process was carried out in coordination with teachers and school administration from beginning to end. Parental consent forms were obtained for the students and volunteer students were included in the study. The data were collected by the researchers respectively during the lesson and the process took approximately 20-25 minutes. Confirmatory Factor Analysis (CFA) was performed on the data obtained to test the accuracy of the factor structure of the data collection tools. In order to test the criterion validity of the scale, the correlations of the Short Video Flow Scale and the Short Video Addiction Scale with the Multiple Screen Addiction Scale and the Phubbing Scale were examined. For language and content validity, revisions were made on the items by obtaining opinions from the experts. For the reliability studies of the scale, Cronbach's Alpha Reliability Coefficient was calculated and item-total score statistics and comparison of lower and upper groups were used.

Statistical Analysis

Validity and reliability analyses were conducted in the study. For validity analyses, confirmatory factor analysis, criterion validity, language and content validity of SVFS and SVAS were examined. Fit index values were examined for CFA. The eight-item and single-factor structure of the SVFS and the ten-item and single-factor structure of the SVAS were tested. Multiple Screen Addiction Scale and Phubbing Scale were used for criterion validity. Cronbach Alpha reliability coefficient was calculated for Internal Consistency Reliability in the reliability analysis phase. In addition, Item Total Statistics and Comparison of Upper-Lower Groups were analyzed.

G-Power program was used to calculate the sample size. The default parameters determined for power analysis were alpha level 0.05, effect size medium level (0.3), and high power (0.95). 111 participants were determined to be the minimum number of participants under these conditions. As a result, the number of 297 participants is considered sufficient.

Results

This section includes the results of the validity, reliability and item analysis studies of the scales. Validity studies of both scales were conducted with the data set of 169 participants. Data from 128 participants were used for their reliability studies. Since the data were collected at two different times, two different study groups were used for validity and reliability analyses.

Validity

In order to examine the construct of the Short Video Flow Scale and the Short Video Addiction Scale, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity analyses were performed. The KMO coefficient was .83 for the Short Video Flow Scale and .84 for the Short Video Addiction Scale. Bartlett's Test of Sphericity was .00 for the Short Video Flow Scale and .00 for the Short Video Addiction Scale. These results revealed that the data was suitable for factor analysis.

Confirmatory Factor Analysis

The eight- item and single-factor structure of SVFS and the ten-item and single-factor structure of SVAS were tested through CFA. Path diagrams confirming the single-factor structure of the scales are shown below. The structural model of SVFS and SVAS was examined. It was found that the factor loadings varied between .56 and .76 for SVFS and between .45 and .72 for SVAS. The parameters were examined to test the validation of the model through CFA. In interpreting the fit index values, the criteria specified by Brown (34), Hooper et al. (35) and Erkorkmaz et al. (36) were taken as reference.

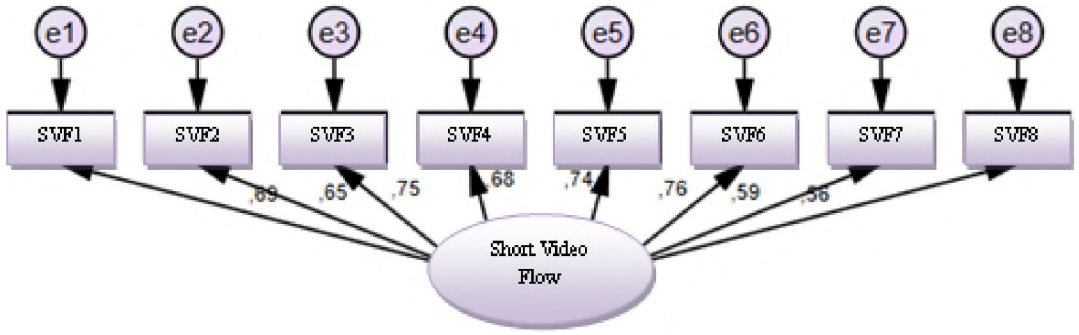

Figure 1. Structural model of the Short Video Flow Scale

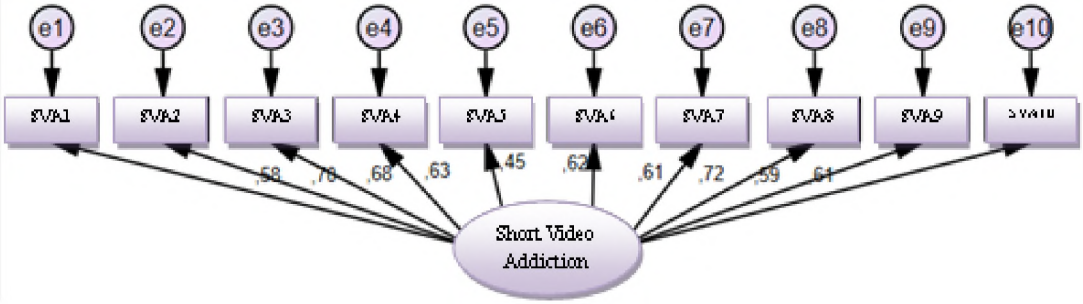

Figure 2. Structural model of the Short Video Addiction Scale

Table 2. Fit index values as a result of CFA

Parameters	SVFS	SVAS
x^2	74.15	116.68
x^2/sd	3.71	3.33
GFI	.90	.88
AGFI	.82	.80
CFI	.90	.86
IFI	.90	.86
RMR	.08	.08
RMSEA	.13	.12

SVFS: Short Video Flow Scale; SVAS: Short Video Addiction Scale

Table 3. Correlation coefficients between SVFS, SVAS, the Multiple Screen Addiction Scale and the Phubbing Scale

Measure	1	2	3	4
1. SVFS	1			
2. SVAS	.77*	1		
3.Multiple Screen Addiction Scale	.54*	.65*	1	
4. Phubbing Scale	.56*	.66*	.71*	1

*p<.01; SVFS: Short Video Flow Scale; SVAS: Short Video Addiction Scale

As a result of CFA, the fit index values obtained from the scales were examined. For items of SVFS, it was calculated that x2/sd was 3.71, IFI was .90, and RMR was .08, and these results indicated that the fit was acceptable. GFI was calculated as .90 and CFI was calculated as .90, indicating a good fit. Additionally, for items of SVAS, it was calculated that x2/sd was 3.33, GFI was .88, CFI was .86 and RMR was .08, indicating an acceptable fit.

Criterion Validity

In order to examine the criterion validity of the scales, the correlations between SVFS, SVAS, the Multiple Screen Addiction and the Phubbing Scale were analyzed. Table 3 shows the significance and correlation coefficients of the correlation between these scales.

Positive significant correlations were found between SVFS and the Multiple Screen Addiction Scale (r= .54), and between SVFS and the Phubbing Scale (r= .56). In addition, positive significant correlations were detected between SVAS and the Multiple Screen Addiction Scale (r = .65), and between SVAS and the Phubbing Scale (r = .66). Also, there was a positive significant correlation between SVFS and SVAS (r= .71).

Table 4. Item-total score correlation coefficient values

Measure	Items	Correlation Coefficient	sd
SVFS	item 1	.63	1.32
	item 2	.59	1.16
	item 3	.65	1.15
	item 4	.49	1.18
	item 5	.68	1.26
	item 6	.74	1.42
	item 7	.65	1.39
	item 8	.60	1.15
SVAS	item 1	.52	1.37
	item 2	.64	1.21
	item 3	.48	1.20
	item 4	.55	.97
	item 5	.44	.97
	item 6	.52	1.25
	item 7	.48	1.22
	item 8	.48	1.22
	item 9	.46	1.23
	item 10	.54	.88

SVFS: Short Video Flow Scale; SVAS: Short Video Addiction Scale

Language and Content Validity

In order to improve the language and content validity, the original items of the scales were first translated into Turkish by two experts in the field of Psychological Counseling and Guidance who are fluent in both languages. Then, the items translated into Turkish were translated back into English by two experts in the field of foreign languages. The Turkish versions of the scales were compared with their original versions after expert opinions were received from two field experts and it was determined that both forms were compatible. As a result of all these translation, back-translation and expert opinion processes, the scales' items were made psychologically, linguistically and culturally appropriate and understandable. In this context, SVFS and SVAS are considered as valid in terms of language and content.

Reliability

Internal Consistency Reliability

Cronbach's Alpha reliability coefficients were calculated to test the internal consistency reliability of the scales. It can be asserted that the scale is reliable when the internal consistency coefficient is above .70 (35). Cronbach's Alpha reliability coefficients were calculated as .87 for SVFS and .82 for SVAS. These results reveal that both scales have a high level of reliability.

Item Total Statistics

Another method to test reliability is to examine the correlations between the item and the total score. The fact that the scores obtained from the items are positively correlated with the total score means that the items examine similar characteristics with each other. When the item-total score correlation coefficient is above .30, this indicates that the item discrimination is high. If this coefficient is between .20 and .30, this indicates that items can only be tested in mandatory situations. However, it is recommended that items with a correlation coefficient below .20 not be included in the test (29).

The correlation coefficients between the items and total score of SVFS ranged between .49 and .74. Similarly, the correlation coefficients between the items and total score of SVAS ranged between .44 and .64. These values indicate that the internal consistency reliability of the scales is high.

Comparison of Upper-Lower Groups

Another way to examine the reliability of the data collection tool is the comparison of upper-lower groups. The test is expected to make discrimination between participants who have the characteristic to be measured and those who do not. For this purpose, total scores are ranked from largest to smallest and 27% groups are separated from the lower and upper. Then, the means of these two groups were compared with the independent samples t-test. If the analysis result is significant, it is stated that the discrimination of the test is high (38). In the present study, 35 participants with the lowest and highest scores were grouped into lower and upper groups. For SVFS, the mean score of the upper group was 28.86 and the mean score of the lower group was 10.89. For SVAS, the mean score of the upper and lower groups was 30.46 and 12.91, respectively.

Table 5. Independent sample t-Test for comparison of upper-lower groups

Measure		n	mean	ss	sd	t	p
SVFS	Lower Group	35	10.89	1.96	52.07	-25.75	.00*
	Upper Group	35	28.86	3.64			
SVAS	Lower Group	35	12.91	1.80	46.84	-23.29	.00*
	Upper Group	35	30.46	4.08			

*p < .01; SVFS: Short Video Flow Scale; SVAS: Short Video Addiction Scale

When Table 5 was examined, it was found that there was a statistically significant difference between SVFS and SVAS scores of the lower-upper groups (p<.01). In this context, it can be stated that the scales are quite reliable.

Discussion

Studies on short video flow and short video addiction have been based on Bronfenbrenner's micro ecological system (39). The micro ecological system covers the interaction between the triad of person-process-content. In this triad, person refers to the cognition and emotions of the individual, content refers to the objects and environment of interaction, and process refers to the interaction and integration between the individual and the content (40). In this study, the person represented the flow experience of the individual watching the short video, while the content symbolised the addictive relationship of interaction with the short video viewing tool. In the specific context of this study, it can be argued that the process is multi-screen addiction and phubbing behaviour emerging from the interaction of person and content. This theoretical structure was correlationally confirmed in the findings section of the study. These findings indicate that short video streaming and addiction are among the mental health risk factors that may be associated with other behavioural addictions. Besides, previous studies have indicated that short video addiction is associated with emotional suppression and depressive symptoms (41, 42). Therefore, the findings of this study, which are

consistent with the literature, contribute to a better understanding of the causes and consequences of short video addiction.

According to the results of the research, it was found that there were significant positive relationships between short video flow, short video addiction, multi-screen addiction and phubbing behaviour.This correlational results of the study can be said to form the basis for future regressional and longitudinal studies between short video flow and addiction, multi-screen addiction and phubbing behaviour. These results support the findings in the literature in terms of the correlation between internet-based behavioral addictions and phubbing (43, 44). In addition, it can be said that this study would make a unique contribution to this field as it is the first attempt to examine the relationship between short video flow and short video addiction and phubbing. Besides, it is seen that short video flow and short video addiction scales have been used on different samples. One of them, Lin et al. (2023) found that short video addiction had negative effects on creative self-efficacy and creative self-confidence in innovative design profession university students. Another study showed that both short video flow and short video addiction had significant negative relationships with achievement motivation in vocational school students (12). Moreover, it is known that short video addiction has positive significant relationships with learning avoidance motivation and negative significant relationships with learning commitment in vocational school students (45). Therefore, it can be said that studies showing the negative effects of short video flow and addiction on students are similar to the findings of this study.

This study has some limitations. The participants of the study consisted of a limited number of high school students studying in different schools in different provinces in Turkey. Therefore, the research findings cannot be generalized to all Turkish high school students. The sample was also limited since it did not include other educational levels such as primary and secondary schools and children from different geographical and cultural regions in Turkey and/or other countries. Further studies with different groups such as primary school, secondary school, university students, adults and various geographical regions are needed.

All findings show that SVFS and SVAS are valid and reliable assessment tools. It is thought that these scales would provide contributions to researchers and practitioners working in the field of behavioral addiction. Especially in future studies on short video flow and short video addiction, the relationships of individuals' short video watching with both academic learning environments, friends, spouse and parent relationships, and mental health problems can be addressed. It is expected that these studies will help to understand the causes, consequences and contexts of the short video watching phenomenon in depth.

References

1. Altınok M. Lise öğrencilerinin dijital bağımlılık ve yaşam doyumunun incelenmesi. Türk Eğitim Bilimler Dergisi 2021; 19(1): 262-291.
2. Widyanto L, Griffiths M. Internet addiction: A critical review. Int J Ment Health Addict 2006; 4(1): 31–51.
3. Holden C. Behavioral' addictions: Do they exist? Science 2001; 294(5544): 980-982.
4. Townsend MC. Essentials of Psychiatric Mental Health Nursing: Concepts of Care in Evidence-Based Practice, Philadelphia: FA Davis, 2015.
5. Kuss DJ, Billieux J. Technological addictions: Conceptualisation, measurement, etiology and treatment. Addict Behav 2017; 64: 231–233.
6. Alimoradi Z, Lotfi A, Lin CY, et al. Estimation of behavioral addiction prevalence during COVID-19 pandemic: a systematic review and meta-analysis. Curr Addict Rep 2022; 9(4): 486-517.
7. Batmaz H, Celik E. Examining the online game addiction level in terms of sensation seeking and loneliness in university students. Addicta: The Turkish Journal on Addictions 2021; 8(2): 126-131.
8. Batmaz H, Türk N, Kaya A, et al. Cyberbullying and cyber victimization: Examining mediating roles of empathy and resilience. Curr Psychol 2022; doi: 10.1007/s12144-022-04134-3.
9. Kaya A, Türk N, Batmaz H, Griffiths MD. Online gaming addiction and basic psychological needs among adolescents: the mediating roles of meaning in life and responsibility. Int J Ment Health Addict 2023; doi: 10.1007/s11469-022-00994-9.

10. Turan ME, Adam F, Kaya A, Yıldırım M. The mediating role of the dark personality triad in the relationship between ostracism and social media addiction in adolescents. Educ Inf Technol (Dordr) 2024; 29: 3885–3901.
11. Csikszentmihalyi M, Asakawa K. Universal and cultural dimensions of optimal experiences. Jpn Psychol Res 2016; 58(1): 4-13.
12. Nong W, He Z, Ye JH, et al. The relationship between short video flow, addiction, serendipity, and achievement motivation among Chinese vocational school students: The post-epidemic era context. Healthcare (Basel) 2023; 11(4): 462.
13. Hernández C, Ottenberger DR, Moessner M, et al. Depressed and swiping my problems for later: The moderation effect between procrastination and depressive symptomatology on internet addiction. Comput Human Behav 2019; 97: 1-9.
14. Liang L, Zhou D, Yuan C, et al. Gender differences in the relationship between internet addiction and depression: A cross-lagged study in Chinese adolescents. Comput Human Behav 2016; 63: 463-470.
15. Yang S, Lu Y, Wang B, Zhao L. The benefits and dangers of flow experience in high school students' internet usage: The role of parental support. Comput Human Behav 2014, 41: 504-513.
16. Zhang X, Wu Y, Liu S. Exploring short-form video application addiction: Socio-technical and attachment perspectives. Telemat Inform 2019; 42: 101243.
17. Leung L, Chen C. A review of media addiction research from 1991 to 2016. Soc Sci Comput Rev 2021; 39(4): 648-665.
18. Hou Y, Xiong D, Jiang T, et al. Social media addiction: Its impact, mediation, and intervention. Cyberpsychology (Brno) 2019; 13(1): 4.
19. APA. Diagnostic and Statistical Manual of Mental Disorders (5th ed.). Washington: American Psychiatric Association, 2013.
20. Ye JH, Wu YT, Wu YF, et al. Effects of short video addiction on the motivation and well-being of Chinese vocational college students. Front Public Health 2022; 10: 847672.
21. Ye JH, Wu YF, Nong W, et al. The association of short-video problematic use, learning engagement, and perceived learning ineffectiveness among Chinese vocational students. Healthcare (Basel) 2023; 11(2): 161.
22. Lin IT, Shen YM, Shih MJ, Ho CC. Short video addiction on the interaction of creative self efficacy and career interest to innovative design profession students. Healthcare (Basel) 2023; 11(4): 579.
23. Yılmaz E, Griffiths MD., Kan A. Development and validation of Videogame Addiction Scale for Children (VASC). Int J Ment Health Addict 2017; 15(4): 869-882.
24. Deryakulu D, Sancar R, Ursavaş ÖF. Video Kapılma Ölçeğinin uyarlama, geçerlik ve güvenirlik çalışması. Eğitim Teknolojisi Kuram ve Uygulama 2019; 9(1): 154-168.
25. Chen Y, Li M, Guo F, Wang X. The effect of short-form video addiction on users' attention. Behav Inf Technol 2023; 42(16): 2893-2910.
26. Hong JC, Tai KH, Hwang MY. Kuo YC. Internet cognitive failure affects learning progress as mediated by cognitive anxiety and flow while playing a Chinese antonym synonym game with interacting verbal–analytical and motor-control. Comput Educ 2016; 100: 32-44.
27. Wu YT, Hong JC, Wu YF, Ye JH. eSport addiction, purchasing motivation and continuous purchasing intention on eSport peripheral products. International Journal of e-Education, e-Business, e-Management and e-Learning 2021; 11(1): 21-33.
28. Karasar N. Bilimsel Araştırma Yöntemi. Ankara: Nobel Yayınevi, 2012.
29. Büyüköztürk Ş. Sosyal Bilimler Için Veri Analizi El Kitabı: İlstatistik, Araştırma Deseni SPSS Uygulamaları ve Yorum (2nd Ed.). Ankara: Pegem Akademi, 2020.
30. Karaca S. Bilimsel Araştırma Yöntemleri. Ankara: Gazi Akademi, 2021.
31. Sarıtepeci M. Multiple screen addiction scale: Validity and reliability study. Instructional Technology and Lifelong Learning 2021; 2(1): 1-17.
32. Karadağ E, Tosuntaş ŞB, Erzen E, et al. Determinants of phubbing, which is the sum of many virtual addictions: A structural equation model. J Behav Addict 2015; 4(2): 60-74.
33. International Test Commission. International Test Commission Guidelines for Translating and Adapting Tests (Second Edition). https://www.intestcom.org/ (Accessed 20.02.2024).
34. Brown TA. Confirmatory Factor Analysis for Applied Research. New York: Guilford Press, 2015.
35. Hooper D, Coughlan J, Mullen MR. Structural equation modelling: Guidelines for determining model fit. The Electronic Journal of Business Research Methods 2008; 6(1): 53–60.
36. Erkorkmaz Ü, Etikan İ, Demir O, et al. Doğrulayıcı faktör analizi ve uyum indeksleri. Türkiye Klinikleri Journal of Medical Sciences 2013; 33(1): 210-223.
37. Seçer İ. Psikolojik Test Geliştirme ve Uyarlama Süreci: SPSS ve LISREL Uygulamaları. Ankara: Anı Yayıncılık, 2018.

38. Can A. Spss ile Bilimsel Araştırma Sürecinde Nicel Veri Analizi (9th Ed.). Ankara: Pegem Akademi, 2020.
39. Bronfenbrenner U. The Ecology of Human Development: Experiments by Nature and Design. Cambridge: Harvard University Press, 1979.
40. Gabbard C, Krebs R. Studying environmental influence on motor development in children. Physical Educator 2012; 69(2): 136.
41. Qu D, Liu B, Jia L, et al. The longitudinal relationships between short video addiction and depressive symptoms: A cross-lagged panel network analysis. Comput Human Behav 2024; 152: 108059.
42. Yang J, Ti Y, Ye Y. Offline and online social support and short-form video addiction among Chinese adolescents: The mediating role of emotion suppression and relatedness needs. Cyberpsychol Behav Soc Netw 2022; 25(5): 316-322.
43. Chi LC, Tang TC, Tang E. The phubbing phenomenon: A cross-sectional study on the relationships among social media addiction, fear of missing out, personality traits, and phubbing behavior. Curr Psychol 2022; 41(2): 1112-1123.
44. Tanhan F, Özok Hİ, Kaya A, Yıldırım M. Mediating and moderating effects of cognitive flexibility in the relationship between social media addiction and phubbing. Curr Psychol 2023; doi: 10.1007/s12144-023-04242-8..
45. Ye JH, He Z, Yang X, et al. Predicting the learning avoidance motivation, learning commitment, and silent classroom behavior of Chinese vocational college students caused by short video addiction. Healthcare (Basel) 2023; 11(7): 985-1001.

Yazar Katkıları: Tüm yazarlar ICMJE'in bir yazarda bulunmasını önerdiği tüm ölçütleri karşılamışlardır
Etik Onay: Bu çalışma için ilgili Etik Kuruldan etik onay alınmıştır.
Hakem Değerlendirmesi: Dış bağımsız.
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Addendum 1. Short Video Flow Scale (Turkish version)

Kısa Video Akış Ölçeği (KVAÖ) *(Instagram Reels, Youtube Shorts, Facebook Watch, Tiktok, Twitter)*						
Aşağıdaki ölçek 8 (sekiz) maddeden oluşmaktadır. 1: Tamamen Katılmıyorum ile 5: Tamamen Katılıyorum arasında uygun olduğunu düşündüğünüz yanıtı işaretleyebilirsiniz.		**Tamamen Katılmıyorum**	**Katılmıyorum**	**Kısmen katılıyorum**	**Katılıyorum**	**Tamamen Katılıyorum**
1	Kısa videolar izlerken zamanın nasıl geçtiğini anlamadan içinde kaybolup izlemeye devam ederim	1	2	3	4	5
2	Kısa bir videoyu izledikten sonra bile kendimi hala video içeriği hakkında düşünürken bulurum	1	2	3	4	5
3	Kısa videolar izlemeye o kadar odaklanırım ki etrafımda yaşanan diğer şeyleri fark edemem	1	2	3	4	5
4	Kısa videoları izledikten sonra sersemlemiş hissettiğimden dolayı yeni kısa video izlemeye devam edemeyeceğimi fark ederim	1	2	3	4	5
5	Kısa videolar izlemek bana kendimi tamamen videoya kaptırmışım gibi hissettirir	1	2	3	4	5
6	Videolara o kadar dalarım ki zamanın nasıl geçtiğini fark edemem	1	2	3	4	5
7	Kısa videolar izlerken zamanın çok hızlı geçtiğini hissederim	1	2	3	4	5
8	Kısa videolar izlerken çevremde olup bitenleri görmezden gelirim	1	2	3	4	5

Scoring

The scale consists of a total of 8 items and a single sub-dimension. There are no reverse scored items. The total score that can be obtained from the scale varies between 8 and 40. The increase in the score obtained from the scale shows that the individual enjoys the short video more and watches it longer.

Addendum 2. Video Addiction Scale (Turkish version)

Kısa Video Bağımlılığı Ölçeği (KVBÖ) *(Instagram Reels, Youtube Shorts, Facebook Watch, Tiktok, Twitter)*						
Aşağıdaki ölçek 10 (on) maddeden oluşmaktadır. 1: Tamamen Katılmıyorum ile 5: Tamamen Katılıyorum arasında uygun olduğunu düşündüğünüz yanıtı işaretleyebilirsiniz.		**Tamamen Katılmıyorum**	**Katılmıyorum**	**Kısmen katılıyorum**	**Katılıyorum**	**Tamamen Katılıyorum**
1	Kısa videolar izlemeye planladığımdan daha fazla zaman harcarım	1	2	3	4	5
2	Kısa videolar izlemek için tamamlanması gereken görevleri ihmal ederim	1	2	3	4	5
3	Kısa videolar izlemek için duyduğum heyecan veya merak, diğer sosyal etkileşimler için duyduğum istekten çok daha yüksektir	1	2	3	4	5
4	Kısa video izleme alışkanlığım nedeniyle başkaları benden şikâyetçi olur veya beni eleştirir	1	2	3	4	5
5	Kısa videolar izlediğim için okuldaki derslerime devamsızlık yaparım.	1	2	3	4	5
6	Kısa videolar izlemek notlarımın düşmesine neden olur	1	2	3	4	5
7	Kısa video izlerken rahatsız edilirsem sinirlenirim	1	2	3	4	5
8	Kısa videolar izlemek için geceleri uykumdan fedakârlık ederim	1	2	3	4	5
9	Kısa videoları izledikten sonra bile içerikleri hakkında düşünmeden edemem	1	2	3	4	5
10	Kısa videolar izleyemezsem depresif veya karamsar hissederim	1	2	3	4	5

Scoring

The scale consists of a total of 10 items and a single sub-dimension. There are no reverse scored items. The total score that can be obtained from the scale varies between 10 and 50. The increase in the score obtained from the scale indicates that the individual's short video addiction increases.