

The Mediating Role of Locus of Control in the Relationship between Attitude towards Reading and Digital Addiction in Pre-Service Teachers

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Abstract

This study aimed to reveal the mediation status of locus of control in the relationship between digital addiction and attitudes towards reading of pre-service teachers. In the study, relational research, one of the descriptive research designs, was preferred to reveal the relationship between the three variables. The research was conducted with 804 pre-service teachers aged 18-25, data was collected using a demographic data form, digital addiction scale, reading attitude scale and locus of control scale. Within the sub-problems of the research, Pearson Product Moment Correlation Analysis and Mediation Analysis were applied to the dataset. The findings indicate that digital addiction is negatively correlated with attitude towards reading and positively correlated with locus of control showed that there is a significant relationship. Additionally, attitudes towards reading and locus of control were found to have a significant negative relationship. It was concluded that locus of control was a partially mediates the relationship between the level of digital addiction among pre-service teachers and their attitudes towards reading. Accordingly, it was concluded that the attitudes towards reading of pre-service teachers with high digital addiction and external locus of control were more negative than their peers with high digital addiction but internal locus of control. In other words, internal locus of control youth who believe that they can impact the events/situations in their lives will have more positive attitudes towards reading than external locus of control individuals if they experience digital addiction. It has been understood in this study that the attitude towards reading is not only affected by the excessive use of digital tools. It is a result that educators, families and researchers should not ignore that many other personality traits such as locus of control and affective traits may be effective on attitudes towards reading.

Keywords: Digital addiction, Attitude towards reading, Locus of control, Pre-service teachers



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INTRODUCTION

Digital tools are an integral part of the lives of today's children and young people, who are called digital natives (Prensky, 2001). These tools are tools that contain software and applications that can be online (internet) and offline. According to Toprakçı (2007) for students, the use of such tools can have two forms, three purposes and different combinations of these two. One of the forms is the use during and for distance education that the student continues, while the other is the use of the Internet as a complementary tool for education. As for the purposes, the first is communication (email, chat, etc.); the second is entertainment (games, betting-gambling, etc.) and the third is learning (courses, news, etc.). Addiction tends to be a risk for this age group, which uses digital tools frequently, regardless of the purpose of use (playing games, chatting, keeping up with the current news, doing homework, learning a language). The availability of free time, lack of parental supervision, efforts to get away from sometimes demanding university routines and easy access to the Internet are cited as reasons for university students' addictive use of these tools (Nduanya, Okwaraji, Onyebueke & Obiechina, 2018). However, holding young people responsible for this situation is not realistic. Digital tools stimulate or addict the individual for reasons such as content richness, hidden identity, ease of access, reward and reinforcement factors, (not) socialisation option, dominating the digital world (Greenfield, 2003), fear of missing developments, lack of stop sign, and habit cycle (Ertemel & Aydın, 2018). Addicted individuals use digital tools excessively, cannot resist the desire to use them, postpone the work that needs to be done, and experience mood disorders such as stress, aggression, fear, anxiety, anger, irritability, or anxiety problems in situations where use is reduced or absent (Savcı & Aysan, 2017; Yen, Yen, Chen, Chen, & Ko, 2007). In short, spending most of their time in digital environments negatively affects individuals' psychological states, social relations, physical activities (Young, 1998), and academic achievements (Anderson, 2001; Bülbul, Tunç, & Aydil, 2018; Chaudhury & Tripathy, 2018; Young, 1998). Within the scope of digital tools that create these effects, various types of digital addiction such as Facebook, social media, online games, mobile phone, and internet addiction are examined in the literature (Chen, Zhang, Gong, Lee, & Wang, 2021). Digital addiction is considered as a meta-concept that includes all of these (Arslan, Kırık, Karaman, & Çetinkaya, 2015; Kesici & Tunç, 2018; Shaw & Black, 2008, Vaghela, 2016). For this reason, the term digital addiction was used in our research.

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There are studies examining the digital addiction status of university students in relation to different variables (Arslan & Bardakçı, 2020; Arslan, 2020; Çırak, 2021, Gümüş & Örgen, 2015; Parmaksız, 2020). One of the variables we addressed is the attitude toward reading. According to Tavşancıl (2019), attitudes are positive and negative tendencies formed in individuals as a result of experiences and experiences and are very effective in the process of shaping behaviour. Attitudes towards reading can be defined as the tendencies that determine the feelings, thoughts, and behaviours of individuals towards reading and accordingly increase or decrease the possibility of reading. According to research, young people, young people prefer being interested in digital tools to reading books (Arici, 2008; Akbaba, 2017; Annamalai & Muniandy, 2013). Excessive use of digital tools can negatively affect young people's attitudes towards reading (Çizmecı, 2017) by reducing their reading time, concentration and reading habits (Yılmaz, Köse, & Korkut, 2009). However, positive reading attitudes also contribute to individuals' reading experiences and raise reading proficiency, which is essential for academic success, to higher levels (İllustre, 2011; Karim & Hasan, 2007).

Teachers influence students' attitudes towards reading because they are both models and guides. This is because middle school students mostly get the first book they read from their teachers, and teachers instil in students the idea of reading books (Arici, 2005). In other words, if teachers do not have reading experience and pleasure in reading, students will not be willing to read (Applegate & Applegate, 2004). Eminoğlu & Bağçeci (2020) also found that the activities organized by teachers in the classroom affected students' attitudes towards reading. Attitudes are not inborn; they are acquired through experiences and are dynamic. Attitudes directly affect an individual's behaviour towards providing information, the goal he/she is trying to achieve, the importance and value he/she attaches to events, individuals and situations (Kağıtçıbaşı, 2012). It is important for both their own and their students' development that teachers and prospective teachers, who have the power to make a difference in a student who develops a negative attitude towards reading, develop positive attitudes towards reading.

Another variable in this study is locus of control. This term refers to an individual's tendency to attribute the events/situations that affect him/her to internal variables such as his/her own enduring characteristics and behaviors or to external variables such as fate, luck, powerful other people (Rotter, 1966). People with an internal locus of control tend to believe that their efforts, behaviour or skills will affect outcomes. They have good social relationships, are highly effective in dealing with the environment, make good use of time, and have higher academic achievement. Those with an external locus of control attribute outcomes to external sources; they believe in forces they cannot control, such as luck, fortune, and fate. Since they think they cannot change the consequences of events and do not want to change their environment, they are more anxious, passive and sceptical (Rotter, 1966; Yeşilyaprak, 2004). The locus of control model assumes that individuals with an external locus of control accept that they are powerless and tend to seek compensation in a highly controlled internet environment (Bellamy & Hanewicz, 2001; Rotsztein, 2003). Many researchers have found that internally controlled people have lower levels of digital addiction than externally controlled people. (Agaj, 2016; Bellamy & Hanewicz 2001; Chak & Leung, 2004; Çiçek, 2019; Rotsztein, 2003; Thakur & Suleria, 2018). In other words, people with an external locus of control think that external factors cause the events in their lives and have difficulty regulating their addictive behaviours.

Although there is evidence that there is a statistically significant relationship between reading attitude and locus of control (Blaha & Chomin, 1982; Kletzing, 1981), there are no recent studies examining the relationship between these variables. In his study, Kletzing (1981) found that a higher reading attitude was associated with a reduced sense of helplessness and lack of control over unwanted events. According to the locus of control model, internal controllers who are expected to take responsibility for their achievements are expected to have positive attitudes towards reading. In fact, it was found that internally supervised students spent more time on sports activities and reading books than externally supervised students. (Durna, & Şentürk, 2012).

Research on digital addiction and locus of control shows that both variables affect attitudes towards reading. Although there are studies linking locus of control, digital addiction and attitude towards reading separately, no study examines the mediating role of locus of control in the effect of digital addiction levels on attitudes towards reading. This study aimed to reveal the mediation status of locus of control in the relationship between digital addiction and attitudes towards reading of pre-service teachers aged 18-25. The questions sought to be answered in line with this purpose are as follows:

1. Is there a significant relationship between pre-service teachers' digital addiction levels and their attitudes towards reading?
2. Is there a significant relationship between pre-service teachers' digital addiction levels and their locus of control levels?
3. Is there a significant relationship between pre-service teachers' attitudes towards reading and their locus of control levels?
4. What is the mediating role of locus of control in the effect of pre-service teachers' digital addiction levels on their attitudes towards reading?

METHOD

1. Research Design

Relational research, one of the types of descriptive research design, aims to reveal the relationship between two or more variables (Heppner, Wampold & Kivlighan, 2008). In the analysis of studies using this design, latent variables as well as observed variables can be taken into account (Cole, Lazarick & Howard, 1987). Although simple correlational designs provide valuable information about the relationship between two variables, studies using latent variables provide more accurate predictions (Heppner et al., 2008). There are two common research methods that help in understanding more complex relationships (Frazier, Tix, & Barron, 2004). One of them, the mediation effect model, examines the operation of a mediator variable that determines which predictor affects the predicted variable (Frazier et al., 2004). In this research, which is a descriptive study, the relationships between pre-service teachers' attitudes towards reading, digital addiction levels and locus of control were examined within

the scope of simple relational designs. The mediation effect model was used to determine the mediation status of locus of control in the relationship between pre-service teachers' digital addiction levels and their attitudes towards reading.

2. Research Group:

The sample of this study consists of 804 volunteer students randomly selected from all departments of the Faculty of Education of the State University in Bursa. Participants were determined by convenience sampling method. Convenience sampling is a type of sampling that is easy to reach, available, and enables studies to be conducted on individuals who are willing to participate in the research (Christensen, Johnson, & Turner, 2015). The selection of participants from the departments was tried to be proportional to the total number of students in the departments who were part of the research. This is an attempt to increase the representativeness of the sample by ensuring that the participants are included in the sample in proportion to the number of students in their departments. The participants are studying in the 1st, 2nd, 3rd and 4th grades. 610 (76 %) of the participants were female and 194 (24 %) were male. Their ages vary between 18 and 25 (mean age 20.87; standard deviation 1.68) (Table 1).

3. Data Collection Tools:

3.1. Digital Addiction Scale: It was developed by Kesici and Tunç (2018) to measure the digital addiction levels of university students. Consisting of 19 items and five sub-dimensions (excessive use, relapse, interference with the flow of life, mood, inability to quit), the scale is scored on a five-point Likert scale. In the analysis conducted to examine the validity of the scale, the KMO measurement value being above .80 indicates that the suitability of the variables for exploratory factor analysis is at the "perfect" level. Bartlett's Sphericity Test result being significant indicates that there is a sufficient relationship between the variables to perform exploratory factor analysis. As a result of the exploratory factor analysis, the scale was found to be a structure consisting of five sub-dimensions and explaining 59.51% of the variance (Bartlett's test = 3203.754 ($p < .01$); KMO = .899). As a result of confirmatory factor analysis, it was determined that the fit indices were at an acceptable level. The internal consistency coefficient was calculated as 0.874 for the whole scale, 0.753 for the first sub-dimension, 0.845 for the second sub-dimension, 0.739 for the third sub-dimension, and 0.695 for the fourth and fifth sub-dimensions. The t-values were significant ($p < 0.05$), with item-total correlations ranging from 0.373 to 0.620. The number of points that can be obtained from the scale varies from 1 to 5. High scores on the scale indicate a high level of digital addiction (Kesici & Tunç, 2018). The scale had an internal consistency coefficient of 0.89 in this study.

3.2. Reading Attitude Scale: It was developed by Sarar-Kuzu and Doğan (2015) to measure pre-service teachers' attitudes towards reading. The scale consists of 38 items and three sub-dimensions (caring and liking, contribution to personal and social development, finding it important and valuable) and is scored on a five-point Likert scale. As a result of the analyses performed to determine the suitability of the data collected with the scale items for exploratory factor analysis, KMO coefficient was found to be .923 and Bartlett's test was found to be significant at .01 level. As a result of the exploratory factor analysis, it was determined that the scale was a structure consisting of three sub-dimensions and explaining 45.38% of the variance. The internal consistency coefficient was calculated as 0.948 for the whole scale, 0.853 for the first sub-dimension, 0.922 for the second sub-dimension and 0.654 for the third sub-dimension. It was determined that the item-total correlation was above 0.20 for all items. The number of points that can be obtained from the scale can vary from 38 to 190. Positive attitudes towards reading are indicated by high scores on the scale (Sarar-Kuzu & Doğan, 2015). The scale had an internal consistency coefficient of 0.94 in this study.

3.3. Locus of Control Scale: It was developed by Dağ (2002) to measure the locus of control levels of university students. Consisting of 47 items and five sub-dimensions (personal control, belief in chance, meaninglessness of the effortfulness, belief in fate, belief in an unjust world), the scale is scored on a five-point Likert scale. As a result of the principal components technique to determine the factor structure of the scale, it was determined that the scale had a structure consisting of five sub-dimensions explaining 40.1% of the variance. The internal consistency coefficient was calculated as 0.92 for the whole scale, 0.87 for the first subscale, 0.79 for the second subscale, 0.76 for the third subscale, 0.74 for the

fourth subscale and 0.61 for the fifth subscale. Item-total correlations were found to range between 0.20 and 0.70, with significant t-values ($p < 0.05$). The number of points that can be obtained from the scale varies between 47 and 235 points. An external locus of control is indicated by high scores on the scale (Dağ, 2002). The scale had an internal consistency coefficient of 0.82 in this study.

3.4. Demographic Data Form: This form, developed by the researchers, asks questions about the age, gender, department and year level of the students taking part in the study. Demographic information about the research group is presented in Table 1.

Table 1. Descriptive Statistics for Sample

		<i>n</i>	%	<i>M</i>	<i>SD</i>
Gender	Female	610	75.9	1.24	0.43
	Male	194	24.1		
Age	18	46	5.7	20.87	1.68
	19	128	15.9		
	20	185	23.0		
	21	190	23.6		
	22	133	16.5		
	23	56	7.0		
	24	34	4.2		
	25	32	4.0		
Department	Primary Education	177	22.0	6.74	4.68
	Science Education	57	7.1		
	Special Education Teaching	80	10.0		
	English Language Teaching	43	5.3		
	French Language Teaching	31	3.9		
	Music Education	11	1.4		
	Art Education	14	1.7		
	Preschool Education	43	5.3		
	German Language Teaching	15	1.9		
	Social Sciences Education	35	4.4		
	Guidance and Psychological Counseling	135	16.8		
	Mathematics Education	53	6.6		
	Turkish Education	94	11.7		
Grades	Computer Education and Instructional Technology	16	2.0	2.37	1.20
	1	253	31.5		
	2	244	27.9		
	3	100	12.4		
	4	227	28.2		

4. Procedure:

First of all, permission for this study was obtained from Bursa Uludağ University Social and Human Sciences Research and Publication Ethics Committee (Decision Date: 25.02.2022; Meeting: 2022/02; Number of Documents: 54). The participants were informed about the aims of the study and the process steps. All pre-service teachers who participated in the study were selected on a voluntary basis and were informed that they could leave the study at any time. After verbal consent was obtained from the participants, they were asked to fill in the Personal Information Form, Locus of Control Scale, Reading Attitude Scale, Digital Addiction Scale in the classroom environment. The administration of the scales took approximately 20 minutes. The data were collected in Bursa, Turkey in 2022 with the contributions of pre-service teachers in the faculty of education. To avoid social desirability bias, participants were told that how they responded to the measures would be kept confidential.

5. Data Analysis:

In the data analysis phase, firstly, it was examined whether there were any missing or incorrectly completed participants in the 860 application forms collected. 22 participants filled the measurement tools incorrectly and their data were excluded from the data set. In the current study, the homogeneity of the data and the relationships between the variables were then analysed. As seen in Table 2, the skewness value for all variables varies between -0.36 and 0.18, while the kurtosis value varies between -0.44 and -0.02. The fact that the scores on the scale are within the normal range is indicated by the fact that the coefficients of skewness and kurtosis are close to ± 1 (Büyükoztürk, Çokluk, & Köklü, 2010; Tabachnick & Fidell, 2013). Values are within admissible limits for all variables; accordingly, it can be stated that the sample is normally distributed. The data were analyzed by calculating z scores considering $p < 0.001$ (Büyükoztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2014) values and accordingly, 34

outlier data were not subjected to analysis. Pearson Product Moment Correlation Analysis was used to investigate whether there is a significant linear relationship between the variables; mediation analysis was used to examine whether locus of control statistically significantly mediates the relationship between digital addiction and attitude towards reading. The sub-problems of the research were tested with mediation analysis in AMOS 24 package programme. Path model and ML parameter estimation method were used in mediation analysis. In the mediation analysis, firstly, it was tested whether the exogenous variable predicted the endogenous variable in a significant way without including the basic model, i.e. the mediator variable, in the analysis. Then, direct and indirect effects were analysed by adding the mediator variable to the model. In the analyses, exogenous variable, endogenous variable and mediator variable are continuous variables. The significance of each path in the model was examined by Bootstrap analysis. A critical value of $p=0.05$ was used to examine the significance of path coefficients in all models.

Table 2. The mean and standard deviations of variables

Variables	n	\bar{X}	Sd	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error	Min	Max
DA	804	2.99	0.69	0.18	0.09	-0.02	0.17	1.21	5.00
AR	804	152.92	20.49	-0.36	0.09	-0.44	0.17	95.00	190.00
LO	804	123.61	15.95	-0.13	0.09	0.40	0.17	82.00	193.00

Note, DA = Digital Addiction, AR = Attitude Towards Reading, LO= Locus of Control

RESULTS

1. Preliminary Analyses:

According to Ratner (2009), correlation coefficient magnitudes between 0 and 0.30 indicate low correlation; values between 0.3 and 0.7 indicate medium correlation; values between 0.7 and 1.0 indicate high correlation. According to the results of the correlation analysis, digital addiction has a significant low level negative relationship with attitude towards reading ($r = -0.15, p < 0.01$). In addition, digital addiction shows a significant low level positive relationship with locus of control ($r = 0.15, p < 0.01$). A significant low level negative relationship was found between attitude towards reading and locus of control ($r = -0.19, p < 0.01$) (Table 3).

Table 3. Means, standard deviations, and correlations

Variables	DA	AR	LO	\bar{X}	Sd
DA	1			2.99	0.69
AR	-0.15**	1		152.92	20.49
LO	0.15**	-0.19**	1	123.61	15.95

** = $p < 0.01$.

2. Mediation Analyses

In the mediation analysis, firstly, the direct effect of digital addiction on attitude towards reading was examined without adding the mediator variable (locus of control) to the model (Basic model). In the basic model examined without the addition of locus of control, it was found that digital addiction significantly affected the total score of attitude towards reading in a negative direction ($p < 0.001$). It was determined that the path coefficient obtained was -0.15 and the variance explained was 0.02. Mediation analysis was conducted to determine whether the effect of digital addiction on attitude towards reading was mediated by locus of control. In the mediation analysis, direct and indirect effects were examined by adding the mediator variable to the model. The results of the mediation analysis are presented in Table 4.

Table 4. The effect of digital addiction and locus of control on attitude towards reading

Pathways	RW	P	SRW	R ²	INTERPRETATION
LO <--- DA	0.81	***	0.15	0.02	
AR <--- DA	1.03	***	-0.12	0.05	
AR <--- LO	0.05	***	-0.17		There is mediation.

*** $p < 0.05$

When Table 4 is examined, it is seen that the effect of digital addiction on locus of control ($\beta=0.15, p < 0.05$) and attitude towards reading ($\beta=-0.12, p < 0.05$); the effect of locus of control on attitude towards reading ($\beta= -0.17, p < 0.05$) is statistically significant. This finding indicates that locus of control is a partial mediator in this study. A bootstrapped sample of 5000 with a 95 per cent confidence interval

was used. If the confidence interval for an indirect effect does not contain zero, it can be inferred that this effect is statistically significant (Hayes, 2009). In this study, the mediating effect of locus of control required bootstrapped confidence intervals (95%) with non-zero lower and upper bounds. The total, direct, and indirect effects between the variables are presented in Table 5.

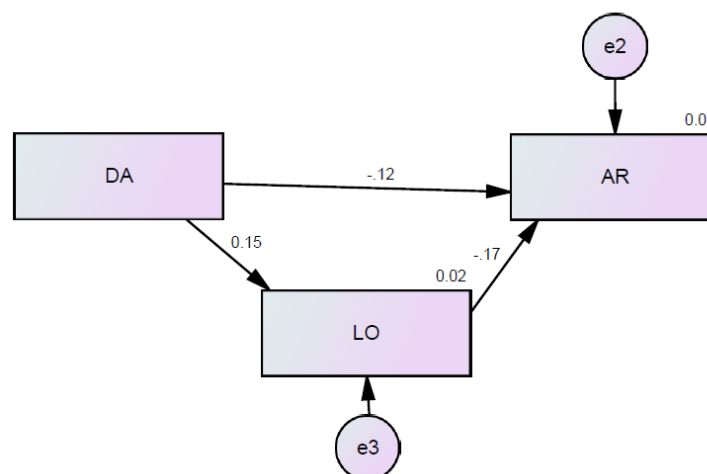
When Table 5 is analysed, digital addiction predicting the locus of control can explain 2% of the variance on this variable. Digital addiction directly predicts locus of control and the prediction effect is statistically significant. Kline (2005) made a classification of the effect size of standardised path coefficients based on Cohen's (1988) recommendations on effect size. According to this classification, values with standardised path coefficients below 0.10 are considered small effects, values around 0.30 moderate effects, and values above 0.50 large effects (Kline, 2005). Accordingly, the total prediction power of digital addiction on locus of control is small in terms of effect size ($\beta=0.15$).

Table 5. Direct, indirect and total effects in mediation models

Estimated Variables	Predictive variables	Direct Standardized Regression Coefficients	95 % CI		Indirect Standardized Regression Coefficients	95 % CI		Total Standardized Regression Coefficients	95 % CI	
			Lower Bound	Upper Bound		Lower Bound	Upper Bound		Lower Bound	Upper Bound
LO ($R^2=0.02$)	DA	0.15**	0.07	0.22	-	-	-	0.15**	0.07	0.22
AR ($R^2=0.05$)	DA	-0.12**	-0.19	-0.05	-0.03**	-0.05	-0.01	-0.15***	-0.21	-0.08
	LO	0.04**	-0.25	-0.01	-	-	-	-0.17***	-0.25	-0.01

* $p < 0.001$ ** $p < 0.01$ *** $p < 0.05$, 5000 Bootstrap.

In the model where the locus of control was the mediator, it was found that the direct effect of digital addiction on the attitude towards reading was significant ($p < 0.01$) without the addition of the mediator, while the indirect effect was significant ($p < 0.01$) and the direct effect was significant ($p < 0.01$) when the mediator was added to the model. It is seen that digital addiction and locus of control, which predict attitude towards reading, explain 5% of the variance on this variable. Among the variables, only digital addiction predicts attitude towards reading both directly and indirectly. When the variables are evaluated in terms of their total predictive power, the predictive power of all variables is statistically significant. When the total predictive power of the variables on attitude towards reading was analysed in terms of effect sizes, locus of control ($\beta = -0.17$, $p < 0.05$) and digital addiction ($\beta = -0.15$, $p < 0.01$) had a small effect. When only the direct predictive powers are considered, digital addiction ($\beta = -0.12$, $p < 0.01$) predicts the attitude towards reading in the first place and locus of control ($\beta = 0.04$, $p < 0.01$) predicts the attitude towards reading in the second place. As can be seen, both direct and indirect predictive powers play a role in determining the variance on attitude towards reading.



(* $p < 0.001$ ** $p < 0.01$ *** $p < 0.05$ B values: Standardized coefficients)

Figure 1. The relationships in this study

CONCLUSION, DISCUSSION AND SUGGESTIONS

How digital tools such as the Internet, computers, mobile phones and social media affect young people and children in the developmental age in terms of physical, cognitive and affective aspects has been investigated many times by associating different variables. In this study, it was aimed to reveal the mediation status of locus of control in the relationship between digital addiction and attitudes towards reading of pre-service teachers who are expected to increase their academic achievement by giving their students a positive attitude towards reading. In this context, the findings related to the research questions are discussed below.

In the first research question of the current study, the relationship between pre-service teachers' digital addiction levels and their attitudes towards reading was examined. The findings showed that digital addiction had a significant negative relationship with attitude towards reading. Accordingly, it can be said that students' attitudes towards reading will be negatively affected as the level of addiction increases. This result is in line with the findings of Çizmeci's (2017) study, which examined the relationship between Turkish youth's smartphone addiction and their attitudes towards reading. According to this study, smartphone addiction has a generally negative effect on the attitudes of young people in Turkey towards reading (Çizmeci, 2017). Zhang and Gu's (2023) study using Hong Kong data from the PISA 2018 data set also revealed that the relationship between playing computer games and digital reading achievement and reading attitudes is negative. When students were asked about this situation, they gave a similar answer and stated that using computers and watching television negatively affected their reading habits (Yilmaz et al., 2009). It is already known that university students prefer to deal with digital tools rather than reading books (Arici, 2008; Akbaba, 2017; Annamalai & Muniandy, 2013). Kim and R. Kim (2002) state that the Internet addiction tendency of young people (15-19 years) is about 30 per cent more serious than the average tendency and point to the future. They predict that this situation may become a serious social problem as young people grow up, join the labour force and start families (Kim & Kim, 2002). However, in contrast to these studies, Can, Türkyılmaz & Karadeniz (2010), in their research with adolescents (8th-12th grade students), found that the time spent with television and computer did not affect the time allocated for reading. This situation can be explained by the fact that university students have higher levels of addiction to digital tools compared to other age groups due to reasons such as having more free time and lack of parental control mechanism.

The results obtained within the scope of the second research question, which aims to reveal the relationship between digital addiction and locus of control levels of pre-service teachers, indicate that there is a significant positive relationship between these two variables. There are studies in the literature that reach this conclusion (Abdulkareem, Bello & Salami, 2023; Agaj, 2016; Bellamy & Hanewicz 2001; Chak & Leung, 2004; Çiçek, 2019; Jacob, 2020; Olanrewaju Muraina & Olabisi Popoola, 2022; Rotsztein, 2003; Thakur & Suleria, 2018). It is understood that young people with external locus of control are more likely to develop digital addiction than those with internal locus of control. According to Chak and Leung's (2004) study, internalising, which is a measure of whether a person believes that he/she has control over his/her life, is negatively related to Internet addiction. This means that when a person believes that they are in control of their life, they are less likely to become addicted to the Internet. It has been observed that externally orientated people or people who believe that powerful others or luck have control over their lives are less successful in controlling their internet use. Abdulkareem, Bello & Salami (2023), Olanrewaju Muraina & Olabisi Popoola (2022) and Jacob (2020) also found that internal and external locus of control is a determinant of students' Internet addiction. However, the findings of the current study do not coincide with the results of Avant's (2017) study. In Avant's (2017) study, it was revealed that there was no statistically significant relationship between Internet addiction and locus of control. The author attributed this result to the limitation of measuring with a self-report-based tool and the problem in the way young people think about Internet addiction (Avant, 2017). Young people may find it difficult to judge whether they are spending too much time on digital devices because the boundaries of digital addiction have not yet been drawn. In addition, it can be considered that the increased use of digital tools in the education system with the impact of the COVID-19 pandemic has also expanded these limits. Therefore, it is necessary to conduct multidimensional research on digital addiction.

Within the scope of the third research question, when the relationship between pre-service teachers' attitudes towards reading and their locus of control levels was analysed, a significant negative relationship was found. Accordingly, the fact that young people have external locus of control negatively affects their reading attitudes. This result is consistent with the studies of Blaha & Chomin (1982) and Kletzing (1981). In Durna and Şentürk's (2012) study, this relationship was explained by the fact that individuals with internal control attach importance to their personal development and are aware that their personal efforts are important for success. These individuals concentrate on activities that they can improve themselves in their free time and prioritise activities such as surfing the Internet. Since there is a significant relationship between attitude and the amount of time spent on reading and between attitude and the frequency of reading academic books (Karim, & Hasan, 2007), it is predicted that internally controlled individuals have high attitudes towards reading. However, Brown, Engin & Wallbrown (1979) found no clear relationship between these two variables. Only the reading anxiety dimension showed a significant relationship with any of the internalising criteria. Accordingly, children who reported taking responsibility for negative events also tended to report more anxiety about reading.

Within the scope of the last research question, when the mediating role of locus of control in the effect of pre-service teachers' digital addiction levels on their attitudes towards reading was examined, it was determined that locus of control partially mediated the relationship between digital addiction and attitude towards reading. Accordingly, it can be said that the attitudes towards reading of students with high digital addiction and external locus of control are more negative than their peers with high digital addiction but internal locus of control. In other words, it can be stated that the attitudes towards reading of internal locus of control youth who believe that they can have an impact on the events/situations in their lives will be more positive than those of external locus of control individuals if they experience digital addiction. Contrary to what has been frequently stated by educators and parents recently, it has been understood in this study that the attitude towards reading is not only affected by the excessive use of digital tools. It is a result that educators, families and researchers should not ignore that many other personality traits such as locus of control and affective traits may be effective on attitudes towards reading.

This study has limitations that can be addressed in future research. These limitations and suggestions for these limitations are as follows:

1. Individuals studying at a university (BUU) in a province (Bursa) in only one region (Marmara) of Turkey were included in the study. Although this university and the related faculty have students from different socio-economic levels coming from different regions of Turkey, this situation limits the generalizability of the research results. More generalizable results can be obtained with a larger sample drawn from different regions of Turkey. In addition, the mediating role of different variables on the attitudes towards reading of audiences with only digital addiction can be examined. For example, the mediating role of pre-service teachers' goal orientations between digital addiction and attitude towards reading or the predictive status of locus of control and goal orientation together towards attitude towards reading can be investigated.

2. Simple relational design was used in this study in which descriptive model was adopted. In this study where cross-sectional data were obtained, causal inference and generalizability are limited. Future studies may choose to use the experimental research model to determine the causal relationship between the variables of interest.

3. The variables addressed in the study are limited to the measurements of self-report-based measurement tools. In future studies in which the variables affecting attitude towards reading will be investigated, studies in which the information obtained from mixed design or self-report-based measurement tools are supported by qualitative data collection methods can be planned.

4. Since the data are based on pre-service teachers' self-assessments, there may be possible biases such as social desirability effects. Because participants can give socially acceptable responses in such self-report tools (Devaux & Sassi, 2016). Despite these limitations, the strength of this study is that it is the only study that examines the mediating effect of locus of control on the relationship between digital addiction and attitude towards reading and contributes to the literature with this feature.

Öğretmen Adaylarında Okumaya Yönelik Tutum ve Dijital Bağımlılık Arasındaki İlişkide Denetim Odağının Aracı Rolü

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Özet

Dijital araçlar, dijital yerliler olarak adlandırılan günümüz çocuk ve gençlerinin yaşamlarında ayrılmaz bir öge olarak yer alır. Oyun oynamak, sohbet etmek, güncel olanı izlemek, ödev yapmak, dil öğrenmek gibi nedenlerle dijital araçları sıklıkla kullanan bu yaş dönemindeki gençler bağımlılık konusunda riskli davranma eğilimindedir. Bu çalışmada öğretmen adaylarının dijital bağımlılıkları ile okumaya yönelik tutumları arasındaki ilişkide kontrol odağının aracılık durumunun ortaya konulması amaçlanmıştır. Araştırmada üç değişken arasındaki ilişkiyi ortaya koymak için betimsel araştırma desenlerinden ilişkisel araştırma yeğlenmiştir. Araştırma, Türkiye'nin Bursa ilindeki bir devlet üniversitesinin eğitim fakültesinden rastgele seçilmiş 18-25 yaş arası 804 gönüllü öğretmen adayı ile yürütülmüştür. Veriler demografik veri formu, dijital bağımlılık ölçeği, okumaya yönelik tutum ölçeği ve denetim odağı ölçeği kullanılarak toplanmıştır. Araştırmanın alt problemleri kapsamında veri setine Pearson Momentler Çarpımı Korelasyon Analizi ve Aracılık Analizi uygulanmıştır. Elde edilen bulgular, dijital bağımlılığın okumaya yönelik tutum ile negatif, kontrol odağı ile pozitif yönde anlamlı bir ilişki içinde olduğunu göstermiştir. Ayrıca, okumaya yönelik tutum ile kontrol odağı arasında negatif yönde anlamlı bir ilişki olduğu belirlenmiştir. Kontrol odağının, öğretmen adaylarının dijital bağımlılık düzeyleri ile okumaya yönelik tutumları arasındaki ilişkiye kısmen aracılık ettiği sonucuna varılmıştır. Buna göre, dijital bağımlılığı yüksek ve dış kontrol odağına sahip öğretmen adaylarının okumaya yönelik tutumlarının, dijital bağımlılığı yüksek ancak iç kontrol odağına sahip akranlarına göre daha olumsuz olduğu sonucuna varılmıştır. Başka bir deyişle, yaşamlarındaki olayları/durumları etkileyebileceklerine inanan iç kontrol odağına sahip gençler, dijital bağımlılık yaşamaları durumunda dış kontrol odağına sahip bireylere göre okumaya yönelik daha olumlu tutumlara sahip olacaktır. Bu çalışmada okumaya yönelik tutumun sadece dijital araçların aşırı kullanımından etkilenmediği anlaşılmıştır. Kontrol odağı ve duyuşsal özellikler gibi daha birçok kişilik özelliğinin okumaya yönelik tutumlar üzerinde etkili olabileceği eğitimcilerin, ailelerin ve araştırmacıların göz ardı etmemesi gereken bir sonuçtur.

Anahtar Sözcükler: Dijital bağımlılık, Okumaya yönelik tutum, Denetim odağı, Öğretmen adayları



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Genişletilmiş Özet

Problem: Bilgi iletişim teknolojilerindeki değişimler başta eğitim olmak üzere toplumların birçok kurumunu büyük ölçüde etkilemektedir. Bu teknolojilerin somutlandığı dijital araçlar, günümüz çocuk ve gençlerinin (öğrencilerin) yaşamlarının neredeyse ayrılmaz bir ögesi durumundadır. Bu araçlar çevrimiçi (internet) ve çevrim dışı özellikte olabilen yazılım ve uygulamaları barındırır. Toprakçı'ya göre (2007) göre, öğrenciler açısından bu tür araçların kullanımının iki biçimi, üç amacı ve bu ikisinin farklı bileşimleri olabilir. Biçimlerden biri, öğrencinin devam ettiği uzaktan eğitim sırasında ve uzaktan eğitim için kullanım iken, diğeri İnternet'in eğitim için tamamlayıcı bir araç olarak kullanımınıdır. Amaçların birincisi iletişim (e-posta, sohbet, vb.); ikincisi eğlence (oyunlar, bahis-kumar, vb.) ve üçüncüsü öğrenmedir (kurslar, haberler, vb.). Kullanım amacı ne olursa olsun (oyun oynamak, sohbet etmek, güncel olanı takip etmek, ödev yapmak, dil öğrenmek) dijital araçları sıklıkla kullanan bu yaş grubu için bağımlılık bir risk olmak eğilimindedir. Özellikle üniversite öğrencileri; boş zamanlarının olması, ebeveyn denetiminin olmaması, bazen zorlu üniversite rutinlerinden uzaklaşma çabaları ve internete kolay erişim gibi sebeplerle bu araçları bağımlılık derecesinde kullanabilmektedir (Nduanya, Okwaraji, Onyebueke ve Obiechina, 2018). Bağımlı bireyler dijital araçları aşırı kullanır, kullanma isteğine karşı koyamaz, yapılması gereken işlerini erteler, kullanımın azaldığı ya da olmadığı durumlarda stres, saldırganlık, korku, endişe, öfke, sinirlilik ya da kaygı sorunu gibi duygu durum bozuklukları yaşar (Savcı ve Aysan, 2017; Yen, Yen, Chen, Chen ve Ko, 2007). Kısacası zamanlarının büyük bir kısmını dijital ortamlarda geçirmeleri bireylerin psikolojik durumlarını, sosyal ilişkilerini, fiziksel etkinliklerini (Young, 1998) ve akademik başarılarını (Anderson, 2001; Bülbül, Tunç ve Aydil, 2018; Chaudhury ve Tripathy, 2018; Young, 1998) olumsuz etkiler. Bu etkileri yaratan dijital araçlar kapsamında alanyazında, Facebook, sosyal medya, çevrimiçi oyunlar, cep telefonu, İnternet bağımlılığı gibi çeşitli dijital bağımlılık türlerinin incelendiği görülür (Chen, Zhang, Gong, Lee, & Wang, 2021). Dijital bağımlılık bunların hepsini içeren bir üst kavram olarak değerlendirilmektedir (Arslan vd. 2015, Kesici & Tunç, 2018, Shaw & Black, 2008, Vaghela, 2016). Bu nedenle araştırmamızda dijital bağımlılık terimi kullanılmıştır.

Dijital bağımlılık ve denetim odağı temelinde yapılan araştırmalar her iki değişkenin de okumaya yönelik tutum üzerinde etkisinin olduğunu göstermektedir. Her ne kadar denetim odağı, dijital bağımlılık ve okumaya yönelik tutumu ayrı ayrı ilişkilendiren çalışmalar olsa da gençlerin dijital bağımlılık düzeylerinin okumaya yönelik tutumlarına etkisinde denetim odağının aracı rolünü inceleyen herhangi bir çalışmaya rastlanmamıştır. Bu araştırmada 18-25 yaş arası öğretmen adaylarının dijital bağımlılık ve okumaya yönelik tutumları arasındaki ilişkide denetim odağının aracılık yapma durumunu ortaya koymak amaçlanmıştır. Bu amaç doğrultusunda yanıtları aranan sorular şunlardır:

1. Öğretmen adaylarının dijital bağımlılık düzeyleri ile okumaya yönelik tutumları arasında anlamlı bir ilişki var mıdır?
2. Öğretmen adaylarının dijital bağımlılık düzeyleri ile denetim odağı düzeyleri arasında anlamlı bir ilişki var mıdır?
3. Öğretmen adaylarının okumaya yönelik tutumları ile denetim odağı düzeyleri arasında anlamlı bir ilişki var mıdır?
4. Öğretmen adaylarının dijital bağımlılık düzeylerinin okumaya yönelik tutumlarına etkisinde denetim odağının aracı rolü nedir?

Yöntem: Öğretmen adaylarının dijital bağımlılık düzeyleri ile okumaya yönelik tutumları arasındaki ilişkide kontrol odağının aracılık durumunu belirlemek amacıyla gerçekleştirilen bu araştırma, nicel araştırma türleri arasında yer alan ilişkisel araştırma türüne örnek teşkil etmektedir.

18-25 yaş arası 804 öğretmen adayı ile gerçekleştirilen araştırmada veriler Katılımcı Bilgi Formu, Dijital Bağımlılık Ölçeği (Kesici ve Tunç, 2018), Okuma Tutum Ölçeği (Sarar Kuzu ve Doğan, 2015) ve Denetim Odağı Ölçeği (Dağ, 2002) kullanılarak toplanmıştır. Katılımcılar, ölçekleri doldurmadan önce araştırma hakkında bilgilendirilmiştir. İstedikleri zaman araştırmadan çekilebilecekleri açıklanmıştır.

Dijital Bağımlılık Ölçeği'nden alınan yüksek puanlar yüksek dijital bağımlılık seviyesine işaret etmektedir (Kesici ve Tunç, 2018). Bu çalışmada ölçeğin iç tutarlılık katsayısı 0.89'dur.

Okuma Tutum Ölçeği'nden alınabilecek puanlar 38 ile 190 arasında değişmektedir. Ölçekten alınan yüksek puanlar okumaya yönelik tutumun olumlu olduğuna işaret etmektedir (Sarar Kuzu ve Doğan, 2015). Bu çalışmada ölçeğin iç tutarlılık katsayısı 0.94'tür.

Denetim Odağı Ölçeği'nden alınabilecek puanlar 47 ile 235 arasında değişmektedir. Ölçekten alınan yüksek puanlar dış kontrol odağı inancına işaret etmektedir (Dağ, 2002). Bu çalışmada ölçeğin iç tutarlılık katsayısı 0.82'dir.

Veri analizi aşamasında öncelikle toplanan 860 uygulama formunda eksik ya da hatalı dolduran katılımcıların olup olmadığı irdelenmiştir. 22 katılımcının ölçme araçlarını hatalı doldurmaları nedeniyle onların dataları veri setinden çıkarılmıştır. Daha sonra mevcut çalışma kapsamında verilerin homojenliği test edilmiş ve değişkenler arasındaki ilişki incelenmiştir. Tüm değişkenler için çarpıklık değeri -0,36 ile 0,18 arasında ve basıklık değeri -0,44 ile -0,02 arasında değişmektedir. Çarpıklık ve basıklık katsayılarının ± 1 'e yakın olması, ölçek puanlarının normal değerler içinde olduğunu göstermektedir (Büyüköztürk vd., 2010; Tabachnick ve Fidell, 2013). Buna göre mevcut çalışmada değerlerin tüm değişkenler için kabul edilebilir sınırlar içinde olduğu söylenebilir. Bu yüzden mevcut çalışmadaki örneklem normal dağılıma sahiptir denilebilir. Araştırmanın alt problemleri kapsamında veri setine Pearson Momentler Çarpımı Korelasyon Analizi ve Aracılık Analizi uygulanmıştır.

Araştırmanın örneklemini Türkiye'nin Bursa ilindeki bir devlet üniversitesinin eğitim fakültesinin tüm bölümlerinden rastgele seçilmiş 804 gönüllü üniversite öğrencisinden oluşmaktadır. Araştırmaya katılan bölümlerin toplam öğrenci sayısı oranında bölümlerden katılımcı seçilmiştir. Örneklemin temsil gücünü artırabilmek için eğitim fakültesinin tüm bölümlerindeki öğrenci sayısı oranında katılımcının örnekleme dâhil olması sağlanmaya çalışılmıştır. Katılımcıların 610'u (% 76) kadın, 194'ü (% 24) erkektir. Yaşları 18 ile 25 arasında ($\bar{X}=20.87$) değişmektedir.

Bu çalışma için Bursa Uludağ Üniversitesi Sosyal ve Beşeri Bilimler Araştırma ve Yayın Etik Kurulundan da izin alınmıştır.

Bulgular: İlk araştırma sorusunda öğretmen adaylarının dijital bağımlılık düzeyleri ile okumaya yönelik tutumları arasındaki ilişki incelenmiştir. Bulgular, dijital bağımlılığın okumaya yönelik tutumla negatif yönde anlamlı bir ilişkisi olduğunu göstermiştir. Buna göre bağımlılık düzeyi artan öğrencilerin okumaya yönelik tutumlarının olumsuz etkileneceği söylenebilir.

Öğretmen adaylarının dijital bağımlılık ile denetim odağı düzeyleri arasındaki ilişkiyi ortaya koymayı amaçlamayan ikinci araştırma sorusu kapsamında elde edilen sonuçlar, bu iki değişken arasında pozitif yönde anlamlı bir ilişki olduğuna işaret etmektedir.

Öğretmen adaylarının okumaya yönelik tutumları ile denetim odağı düzeyleri arasındaki ilişki incelendiğinde ise negatif yönde anlamlı bir ilişki tespit edilmiştir. Buna göre gençlerin dış denetim odağına sahip olması okuma tutumlarını olumsuz etkilemektedir.

Öğretmen adaylarının dijital bağımlılık düzeylerinin okumaya yönelik tutumlarına etkisinde denetim odağının aracı rolüne bakıldığında dijital bağımlılık ve okumaya yönelik tutum arasındaki ilişkiye denetim odağının kısmi aracılık ettiği belirlenmiştir. Buna göre dijital bağımlılığı yüksek dış denetim odağına sahip öğrencilerin okumaya yönelik tutumlarının dijital bağımlılığı yüksek ancak iç denetim odağına sahip akranlarına göre daha olumsuz olduğu söylenebilir. Bir başka deyişle, yaşamındaki olaylar/durumlar üzerinde etkisi olabileceğine inanan iç denetim odaklı gençlerin dijital bağımlılık yaşamaları durumunda okumaya yönelik tutumlarının dış denetim odağına sahip bireylerden daha olumlu olacağı belirtilebilir. Son zamanlarda eğitimciler ve ailelerin sıklıkla dile getirdiğinin aksine okumaya yönelik tutumun sadece dijital araçların aşırı kullanımından etkilenmediği de bu araştırma ile anlaşılmıştır. Denetim odağı gibi daha pek çok kişilik özelliğinin ve duyuşsal özelliğinin okumaya yönelik tutum üzerinde etkili olabileceği eğitimcilerin, ailelerin ve araştırmacıların göz ardı etmemesi gereken bir sonuçtur.

Sonuç ve Öneriler: Araştırmaya Türkiye'nin sadece bir bölgesinde (Marmara) bir ilde (Bursa), bir üniversitede (BUÜ) ve sadece bir fakültede (Eğitim Fakültesi) öğrenim gören bireyler dâhil edilmiştir. Bu üniversitenin ve ilgili fakültenin Türkiye'nin farklı bölgelerinden gelen farklı sosyo-ekonomik düzeydeki öğrencileri olmasına rağmen, bu durum araştırma sonuçlarının genellenebilirliğini sınırlandırmaktadır.

Türkiye'nin farklı bölgelerinden çekilecek daha geniş bir örneklem ile daha genellenebilir sonuçlar elde edilebilir. Ayrıca yalnızca dijital bağımlılığı olan kitlelerin okumaya yönelik tutumları üzerinde farklı değişkenlerin aracılık rolü incelenebilir. Örneğin öğretmen adaylarının amaç yönelimlerinin dijital bağımlılık ve okumaya yönelik tutum arasındaki aracılık rolü ya da denetim odağı ve amaç yöneliminin birlikte okumaya yönelik tutumu yordama durumu araştırılabilir.

Betimsel modelin benimsendiği bu çalışmada basit ilişkisel desen kullanılmıştır. Kesitsel verilerin elde edildiği bu çalışmada nedensel çıkarım ve genellenebilirlik sınırlıdır. Gelecekteki çalışmalar, ilgili değişkenler arasındaki nedensel ilişkiyi tespit etmek için deneysel araştırma modelini kullanma yollarını seçebilir.

Çalışmada ele alınan değişkenler, öz bildirim dayalı ölçme araçlarının ölçümleriyle sınırlıdır. Okumaya yönelik tutumu etkileyen değişkenlerin araştırılacağı gelecekteki çalışmalarda karma desen ya da öz-bildirim dayalı ölçme araçlarından elde edilen bilgilerin nitel veri toplama yöntemleriyle desteklendiği araştırmalar planlanabilir.

Veriler öğretmen adaylarının kendi değerlendirmelerine dayandığından, sosyal arzu edilebilirlik etkileri gibi olası yanıllıklar söz konusu olabilir. Çünkü katılımcılar bu tür öz bildirim araçlarında sosyal olarak kabul edilebilir yanıtlar verebilirler (Devaux ve Sassi, 2016). Bu sınırlılıklara rağmen, bu çalışmanın dijital bağımlılık ve okumaya yönelik tutum arasındaki ilişkiye denetim odağının aracı etkisini inceleyen tek çalışma olması güçlü yönüdür ve bu özelliğiyle alanyazına katkı sağlamaktadır.

KAYNAKÇA / REFERENCES

- Abdulkareem, H. B., Bello, J. B., & Salami, T. A. (2023). Self-concept and locus of control as internet addiction predictors among undergraduate students. *ASEAN Journal of Educational Research and Technology*, 2(3), 179-188.
- Agaj, D. (2016). The impact of the components of the locus of control in internet addiction, case of Albania. *American Scientific Research Journal for Engineering, Technology, and Sciences*, 18 (1), 40-44.
- Akbaba, R. S. (2017). Reading habits of the Turkish teacher candidates and eligibility for reading. *International Periodical for the Languages, Literature and History of Turkish or Turkic*, 12 (18), 35-52. <http://dx.doi.org/10.7827/TurkishStudies.12215>
- Anderson, K. J. (2001). Internet use among college students: An exploratory study. *Journal of American College Health*, 50, 21-26. <https://doi.org/10.1080/07448480109595707>
- Annamalai, S., & Muniandy, B. (2013). Reading habit and attitude among Malaysian polytechnic students. *International Online Journal of Educational Sciences*, 5(1), 32-41.
- Applegate, A. J., & Applegate, M. D. (2004). The Peter effect: Reading habits and attitudes of pre-service teachers. *The Reading Teacher*, 57(6), 554-563.
- Arıcı, A. F. (2005). *The reading situation of second level of primary school (skill-interest-habit-tendency)* (Doctoral Dissertation). Atatürk University, Erzurum.
- Arıcı, A. F. (2008). Why don't we like reading? Interviews with undergraduates. *Mustafa Kemal University Journal of Social Sciences Institute*, 5(10), 91-100.
- Arslan, A., Kırık, A. M., Karaman, M., & Çetinkaya, A. (2015). Digital addiction in high school and university students. *International Peer-Reviewed Journal of Communication and Humanities Research*, 8, 34-58. <https://doi.org/10.17361/UHIVE.2015813153>
- Arslan, A. (2020). Determination of the digital addiction levels of students university according to various variables. *International e-Journal of Educational Studies*, 4 (7), 27-41. <https://doi.org/10.31458/iejcs.600483>
- Arslan, A., & Bardakçı, S. (2020). Effects of university students' digital addiction levels on communication skills: An investigation. *Journal of Youth Research*, 8(20), 36-70.
- Avant, A. (2017). *Examining the impact that the locus of control, emotional intelligence, and narcissism have on Internet addiction and information disclosure among college students* (Doctoral Dissertation). Eastern Michigan University.
- Bellamy, A. & Hanewicz, C. (2001). An exploratory analyses of the social nature of Internet addiction: a research paper submitted to the Electronic Journal of Sociology. *Electronic Journal of Sociology*, 5; 3.
- Blaug, J., & Chomin, L. (1982). The relationship of reading attitudes to academic aptitude, locus of control, and field independence. *Psychology in the Schools*, 19(1), 28-32. [https://doi.org/10.1002/1520-6807\(19820108\)19:1<28::AID-PITS2310190106>3.0.CO;2-M](https://doi.org/10.1002/1520-6807(19820108)19:1<28::AID-PITS2310190106>3.0.CO;2-M)
- Brown, D. H., Engin, A. W., & Wallbrown, F. H. (1979). Locus of control and reading attitude. *Psychology in the Schools*, 16(3), 336-338. [https://doi.org/10.1002/1520-6807\(197907\)16:3<336::AID-](https://doi.org/10.1002/1520-6807(197907)16:3<336::AID-)

PITS2310160302>3.0.CO;2-M

- Bülbül, H., Tunç, T., & Aydil, F. (2018). Game addiction in university students and its relationship with personality traits and academic performance. *Academic Review of Economics and Administrative Sciences*, 11(3), 97-111. <https://doi.org/10.25287/ohuiibf.423745>
- Büyükoztürk, Ş., Çokluk, Ö. & Köklü, N. (2010). *Statistics for the social sciences* (6th. Ed.). Ankara: Pegem Academy Publisher.
- Büyükoztürk, Ş., Kılıç Çakmak, E., Akgün, Ö.E., Karadeniz, Ş. & Demirel, F. (2014). *Scientific research methods* (17th. Ed.). Ankara: Pegem Academy Publisher.
- Can, R., Turkyilmaz, M., & Karadeniz, A. (2010). Adolescent students' reading habits. *Journal of Ahi Evran University Kirsehir Educational Faculty*, 11(3), 1-21.
- Chaudhury, P., & Tripathy, H. K. (2018). A study on impact of smartphone addiction on academic performance. *International Journal of Engineering & Technology*, 7(2.6), 50. <https://doi.org/10.14419/ijet.v7i2.6.10066>
- Chak, K., & Leung, L. (2004). Shyness and locus of control as predictors of internet addiction and internet use. *Cyber Psychology & Behaviour*, 7(5), 559-570. <https://doi.org/10.1089/cpb.2004.7.559>
- Chen, C., Zhang, K.Z.K., Gong, X., Lee, M. K. O., & Wang, Y-Y. (2021). Preventing relapse to information technology addiction through weakening reinforcement: A self-regulation perspective. *Information & Management*, 58, 103485. <https://doi.org/10.1016/j.im.2021.103485>
- Christensen, L. B. Johnson, B. R. & Turner, L. A. (2015). *Araştırma yöntemleri desen ve analiz* (Trans. Ed. A. Aypay). Anı Publisher. (The original work was published in 2010 published).
- Cohen, J. (1988). *Statistical Power Analysis for The Behavioural Sciences*. New York: Lawrence Erlbaum Associates.
- Cole, D. A., Lazarick, D.L., & Howard, G.S.(1987). Construct validity and the relation between depression and social skill. *Journal of Counseling Psychology*, 34, 315-321. <http://dx.doi.org/10.1037/0022-0167.34.3.315>
- Çırak, M., (2021). *Nomophobia in university students: The role of digital addiction, social connectedness and life satisfaction* (Master's thesis). Hacettepe University, Ankara
- Çiçek, S. (2019). *Investigating the high school students' problematic internet use and cyber bullying behavior according to locus of control and various variables*. (Master's thesis). Necmettin Erbakan University, Konya.
- Çizmeçi, E. (2017). No time for reading, addicted to scrolling: The relationship between smartphone addiction and reading attitudes of Turkish youth. *Intermedia International E-Journal*, 4(7), 290-302.
- Dağ, İ. (2002). Locus of control scale: Scale development, reliability and validity study. *Turkish Journal of Psychology*, 17(49), 77-90.
- Devaux, M., & Sassi, F. (2016). Social disparities in hazardous alcohol use: self-report bias may lead to incorrect estimates. *The European Journal of Public Health*, 26(1), 129-134. <https://doi.org/10.1093/eurpub/ckv190>
- Durna, U., & Şentürk, F. K. (2012). Investigation of relations between locus of control and social activities among university students: A state university case. *Suleyman Demirel University The Journal of Faculty of Economics and Administrative Sciences*, 17(2), 187-202.
- Eminoğlu, N. & Bağçeci, B. (2020). Investigation of Change in Reading and Writing Attitudes of Primary School Students. *E-International Journal of Educational Research*, 11(2), 92-104. <http://dx.doi.org/10.19160/ijer.706766>
- Ertemel, A. V. & Aydın, G. (2018). Technology addiction in the digital economy and suggested solutions. *Addicta: The Turkish Journal on Addictions* 5, 665-690. <http://dx.doi.org/10.15805/addicta.2018.5.4.0038>
- Frazier, P.A., Tix, A.P., & Barron, K.E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, 51, 115-134. <http://dx.doi.org/10.1037/0022-0167.51.1.115>
- Greenfield, D. N. (2003). *Virtual Addiction: Sometimes New Technology Can Create New Problems*. Psychological Health Associates; The Centre for Internet Studies.
- Gümüş, İ., & Örgen, C. (2015). Önlisans öğrencilerinin akıllı cep telefon kullanmalarının başarı ve harcama düzeylerine olası etkileri üzerine bir çalışma. *Akademik Platform*, 310-315.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76, 408-420. <https://doi.org/10.1080/03637750903310360>
- Heppner, P.P., Wampold, B.E., & Kivlighan, D.M. (2008). *Psikolojik danışmada araştırma yöntemleri*. (Trans. Ed. D. M. Siyez). Mentis Publisher. (The original work was published in 1992 published).
- Ilustre, C. A. (2011). Beliefs about reading, metacognitive reading strategies and text comprehension among college students in a private university. *Philippine ESL Journal*, 7, 28-47.
- Jacob, J. (2020). Internet addiction, locus of control and resilience. *Artha Journal of Social Sciences*, 19(1), 27-45.
- Kağıtçıbaşı, Ç. (2012). *People and people today*. Ankara: Evrim Publisher.
- Karim, N. S. A. & Hasan, A. (2007). Reading habits and attitude in the digital age: Analysis of gender and academic program differences in Malaysia. *The Electronic Library*. 25(3), 285-298, <https://doi.org/10.1108/02640470710754805>
- Kesici, A., & Tunç, N. F. (2018). The development of the digital addiction scale for the university students:

- Reliability and validity study. *Universal Journal of Educational Research*, 6(1), 91-98.
<https://doi.org/10.13189/ujer.2018.060108>
- Kim, S. & Kim, R. (2002). A study of Internet addiction: Status, causes, and remedies-focusing on the alienation factor. *International Journal of Human Ecology*, 3(1), 1-19.
- Kletzing, K. M. (1981). *Locus of control and reading attitude in ninth grade poor readers* (Doctoral Dissertation). Indiana University, Bloomington
- Kline, R. B. (2005). *Principles and practice of structural equation modelling* (2nd ed.). New York: The Guilford Press.
- Nduanya, C.U., Okwaraji, F. E., Onyebueke, G. C., & Obiechina, K. I. (2018). A cross sectional study on internet addiction, locus of control and psychological distress in a sample of Nigerian undergraduates. *The Journal of Medical Research*, 4(3): 146-150.
- Olanrewaju Muraina, K., & Olabisi Popoola, B. (2022). Locus of Control and Self-Concept as Determinants of Internet Addiction among Public University Undergraduates in Oyo State, Nigeria. *Journal of Digital Learning and Education*, 2 (1), 51-58. <https://doi.org/10.52562/jdle.v2i1.326>
- Parmaksız, İ. (2022). The mediating role of personality traits on the relationship between academic self-efficacy and digital addiction. *Education and Information Technologies*, 27, 8883-8902, <https://doi.org/10.1007/s10639-022-10996-8>
- Prensky, M. (2001). Digital natives, digital immigrants Part 1. *On the Horizon*, 9 (5), 1-6. <https://doi.org/10.1108/10748120110424816>
- Ratner, B. (2009). The correlation coefficient: Its values range between+ 1/- 1, or do they? *Journal of Targeting, Measurement and Analysis for Marketing*, 17(2): 139- 42. <https://doi.org/10.1057/jt.2009.5>
- Rotsztein, B. (2003). Problem internet use and locus of control among college students: Preliminary findings. *The 35th Annual Conference of the New England Educational Research Organization*, April 10, 2003, Portsmouth, New Hampshire.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1-28. <https://doi.org/10.1037/h0092976>
- Sarar-Kuzu, T., & Doğan, T. (2015). Developing a reading attitude scale aimed at teacher candidates. *International Periodical for the Languages, Literature and History of Turkish or Turkic*, 10: 15, 771-786. <http://dx.doi.org/10.7827/TurkishStudies.8938>
- Savcı, M., & Aysan, F. (2017). Technological addictions and social connectedness: Predictor effect of internet addiction, social media addiction, digital game addiction and smartphone addiction on social connectedness. *Dusunen Adam The Journal of Psychiatry and Neurological Sciences*, 30, 202-216. <https://doi.org/10.5350/DAJPN2017300304>
- Shaw, M., & Black, D. W. (2008). Internet addiction: Definition, assessment, epidemiology and clinical management. *CNS Drugs*, 22, 353-365. <https://doi.org/10.2165/00023210-200822050-00001>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). MA: Pearson, Boston.
- Tavşancıl, E. (2019). *Measurement of Attitudes and Data Analysis with SPSS*. Ankara: Nobel Publisher
- Thakur, M. B., & Suleria, B. (2018). A study for exploring the relationship of Internet addiction with self-esteem and locus of control. *Indian Journal of Mental Health*, 5(1). 48-51.
- Toprakçı, E. (2007). The profiles of the use of the internet for study purposes among university students, *The Turkish Online Journal of Educational Technology* - TOJET 6(3), 129-145 ERIC No: ED500215 Full Paper: <https://files.eric.ed.gov/fulltext/EJ1102629.pdf>
- Vaghela, P. S. (2016). Digital addiction: an epidemic of digital world-an article on digital addiction among generation d. *National Conference on Managing Business through Digital Marketing in the Globalized Era*. March, 2016, Gujarat, India.
- Yeşilyaprak, B. (2004). Locus of control. In Y. Kuzgun, & D. Deryakulu (Ed.), *Individual differences in education* (pp. 241-257), Ankara: Nobel Publisher.
- Yen, J. Y., Yen, C. F., Chen, C. C., Chen, S. H., & Ko, C. H. (2007). Family factors of Internet addiction and substance use experience in Taiwanese adolescents. *Cyberpsychology & Behaviour*, 10 (3), 323-329. <https://doi.org/10.1089/cpb.2006.9948>
- Yılmaz, B., Köse, E., & Korkut, Ş. (2009). A research on reading habits of Hacettepe University and Bilkent University students. *Türk Kütüphaneciliği*, 23 (1), 22-51.
- Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyber Psychology and Behaviour*, 1(3), 237-244. <https://doi.org/10.1089/cpb.1998.1.237>
- Zhang, W., & Gu, L. (2023). The role of computer game playing and reading attitudes in digital reading achievement: Evidence from Hong Kong 15-year-olds. *Research and Practice in Technology Enhanced Learning*, 18, 019-019. <https://doi.org/10.58459/rptel.2023.18019>