

Technology Addiction in Physical Education and Sports Teacher Candidates

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ABSTRACT

In this research, the level of technology addiction in physical education and sports teacher candidates and whether this level differs according to some demographic variables is aimed. The research was carried out using the screening model. 213 female and 279 male of total 492 people studying in teaching programs of physical education and sport from 4 different states universities in Turkey participated to the research. The data in the research were collected by “Technology Addiction Scale” and “Personal Information Form”. Data were analyzed using independent groups t-test, one-way variance and Pearson correlation analysis. According to the research findings, while technology addiction scores of teacher candidates differ significantly according to gender and grade level ($p < .05$), it did not differ significantly according to the academic achievement perception and weekly sports frequency variable ($p > .05$). Besides, no significant relationship was found between technology addiction and sports years. As a result, technology addiction levels of teacher candidates were found to be moderate.

Keywords: Technology Addiction, Physical Education and Sports Teacher Candidate, University

INTRODUCTION

The fact that technology constantly renews itself and adapts to the conditions of the day has manifested itself in the field of education as well as in many other fields. Also, technology has constantly renewed and developed itself by adapting to the conditions of the day (Hergüner, Yaman, Çağlak-Sarı, Yaman, & Dönmez, 2021). As a matter of fact, these innovations and developments have brought about many changes (Hergüner, Son, Son-Hergüner, & Dönmez, 2020). That is, these changes both increase the knowledge level of people and gain the ability to use technology (Öktem & Çiftçi, 2020). In addition to these, the positive effects of technology (Yaman, 2008), which provides unlimited contributions to modern education, on human life, are not ignored (Çuhadar, Demirel, Yusuf, & Serdar, 2020). Technology that has become an important requirement of our age; It was expressed as “practical applications used in organizing the information that has been proven to be true in achieving the determined goals, meeting the needs and making life easier” (İşman, 2008, p. 3). Technology, which has become a necessity rather than arbitrary applications, especially with the increase of internet use (Karaman & Kurtoğlu, 2009), has entered every phase of human life today (Anlı & Taş, 2018) and enabled people to communicate with social networks (Ahmed, Siddiqua, Alam, & Griffiths, 2021). The fact that technology is so intertwined with human life and integrates daily life according to changing world conditions (Chayko, 2008; Çakır & Oğuz 2017; Davey et al., 2018) has revealed the concept of technology addiction, which is among the biggest problems of our age (Demirci, Orhan, Demirdas, Akpınar, & Sert, 2014; Pugh, 2017; Wang, Zhao, Wang, Xie, Wang, & Lei, 2017). Addiction is conceptualized as “any substance or action negatively affecting the psychological and physiological health or social life of the individual, continuing to use it even though it continues to negatively affect the life of the individual, and the harmful substance or action constantly creates pleasure that cannot be prevented” (Bianchi & Philips, 2005, pp. 39-51). Technology addiction is defined as a type of behavioral addiction that involves human-machine interaction and does not involve chemical dependence (Arısoy, 2009, p.58). These behavioral addictions, as in alcohol-substance addictions, show the characteristics of cognitive engagement, mood variability, tolerance, withdrawal, interpersonal conflict, and relapse (Griffiths, 1996). The expression of technology addiction (Ektiricioğlu, Arslantaş, & Yüksel, 2020), which is a multi-faceted (social, psychological, behavioral, and spiritual) concept, encompasses many fields. Among these areas, internet addiction, social media addiction (Leung & Lee, 2012), game addiction (Leung, 2004), mobile phone addiction (Bianchi & Phillips, 2005), online gaming, instant messaging, social network and websites addictions (Aydın, 2007) come to the fore in the literature as the main areas. Besides, these addictions are different from each other, and it is not overlooked that they sometimes share many similar elements (Sigerson, Li, Cheung, & Cheng, 2017).

In our age, technology has become increasingly important in the field of physical education and has become an important tool used by teachers and teacher candidates in every phase of their lives. Every time, educators search for technological tools to improve students' learning (Carstens, Mallon, Bataineh, & Al-Bataineh, 2021). In fact, it is expected from the use of teaching tools (Silverman, 1997) to use hardware and software for lessons (FitzPatrick,

2004), and to use technology in teaching concepts and motor skills (Antoniou, Derri, Kioumourtzoglou, & Mouroutsos, 2003). As with other pre-service teachers, it has become inevitable that physical education and sports education candidates, who will be the future teachers, will use technology intensively in accessing teaching materials, homework, and exams at the university. When used correctly, technology that makes life easier becomes an addiction as a result of intensive use. Based on this information, in this research; the level of technology addiction in teacher candidates and whether this level differs according to some demographic variables is aimed.

METHOD

Research Model

In this research, a "screening model" was used. The screening model is "research approaches that aim to describe a past or present situation as it exists" (Karasar, 2018, p. 109).

Research Group

4 different state university physical education in the sports science faculty and sports teacher in Turkey from degree programs saved the age of 18 to 30 ($\bar{X}=20.66$) ranging from, 213 females and 279 males of total 492 physical education and sports teachers' participation as a volunteer. While collecting research data, a convenience sampling method was preferred. The convenience sampling is "the shortest way to obtain data in a fast and inexpensive way" (Karagöz, 2017, p. 66).

Table 1. Distribution of teacher candidates by gender

Gender	n	%
Female	209	43,3
Male	274	56,7

According to Table 1, 43.3% (n = 209) of teacher candidates are female, it was determined that 56.7% of them were male (n = 274).

Data Collection Tools

"Technology Addiction Scale" and "Personal Information Form" were used in the research. Explanatory information about measurement tools is presented below.

Technology Addiction Scale

Within the scope of the research, "Technology Addiction Scale" developed by Aydın (2017) on university students was used. The scale consists of 24 items and has a 5-point likert type answer key. The responses to the scale items are calculated as "never" (1 point), "rarely" (2 points), "medium frequency" (3 points), "very often" (4 points), "always" (5 points). As a result of the reliability analysis by Aydın (2017), the Cronbach Alpha (α) coefficient of the measurement tool was calculated as $\alpha = .92$. As a result of the present research, the Cronbach Alpha (α) coefficient of the technology addiction scale was calculated as $\alpha = .93$.

Personal Information Form

A personal information form was used to determine teacher candidates' age, gender, class level, academic achievement perception, sports year, weekly sports frequency in the research.

Data Collection

The data in the research were collected from the determined universities between 02.12.2019 and 30.12.2019. While collecting the data, the faculty members working in the Faculty of Sport Sciences of the relevant universities were assisted in collecting data. General explanations about the research were made to prospective teachers both in scale forms and while collecting data, and they were informed that the collected data would be used for a scientific purpose. Following the written and verbal instructions, data were collected from teacher candidates who wanted to participate voluntarily.

Data Analysis

The collected data were checked, numerically coded, and transferred to the SPSS program. Before the statistical analysis to be applied, a normality test was performed on the data. After the statistical analysis, it was determined that the data were suitable for normal distribution. Descriptive statistics (percentage, frequency, mean, max, min, standard deviation), independent groups t-test, one-way variance, Pearson correlation analysis, and Post Hoc (LSD) test were used in analyzing the data.

FINDINGS

Table 1. Descriptive statistical results of technology addiction scores of teacher candidates

	n	Min	Max	\bar{X}	ss
Technology Addiction	483	24,00	116,00	51,19	17,78

According to the descriptive statistics results in Table 1, it was determined that the technology addiction mean score of teacher candidates was 51.19 ± 17.78 .

Table 2. The comparison results of technology addiction scores of teacher candidates by gender

Gender	n	\bar{X}	ss	t	p
Technology Addiction Male	274	54,18	18,35	4,38	,00
Technology Addiction Female	209	47,27	16,23		

According to the results of the independent groups t-test in Table 2, it was determined that the technology addiction scores of the teacher candidates differ significantly according to gender ($t_{(481)}=4.38$; $p=.00$).

Table 3. The relationship results between teacher candidates' technology addiction scores and sports years

	Sports year
Technology Addiction	r
	p

According to the Pearson correlation analysis results in Table 3, no significant relationship was found between the technology addiction scores of the teacher candidates and their sports years ($r = .05$; $p = .05$).

Table 4. Comparison results of technology addiction scores of teacher candidates according to their grade levels

Grade Level	n	\bar{X}	ss	F	p	Difference
Technology Addiction 1. Grade	121	47,74	15,19	2,95	,03	3,2>1
Technology Addiction 2. Grade	110	53,12	17,25			
Technology Addiction 3. Grade	121	53,80	19,16			
Technology Addiction 4. Grade	131	50,34	18,70			

According to the results of the one-way variance analysis in Table 4, it was determined that the technology addiction scores of the teacher candidates differ significantly according to the grade level ($F_{(479)}=2.95$; $p=.03$). According to the Post Hoc (LSD) results made to determine the source of the difference, it was determined that the average score of the 3rd grade and 2nd grade was significantly higher than the 1st grade.

Table 5. Comparison results of technology addiction scores of teacher candidates according to their perceptions of academic achievement

Perception of Academic Achievement	n	\bar{X}	ss	F	p
Technology Addiction Low	36	51,97	19,72	,14	,87
Technology Addiction Medium	333	51,35	17,25		
Technology Addiction High	114	50,47	18,80		

According to the results of one-way variance analysis in Table 5, it was determined that the technology addiction scores of teacher candidates did not differ significantly according to their perception of academic achievement ($F_{(480)}=.14$; $p=.87$).

Table 6. The comparison results of technology addiction scores of teacher candidates according to their weekly sports frequency

Weekly Sports Frequency	n	\bar{X}	ss	F	p
Technology Addiction 1-3 times a week	187	52,80	17,95	1,96	,31
Technology Addiction 4-6 times a week	165	50,01	18,01		

Every day of the week	73	48,96	16,55
I don't do sports	58	52,14	17,97

According to the results of one-way variance analysis in Table 6, it was determined that the technology addiction scores of teacher candidates did not differ significantly according to their weekly sports frequency ($F_{(479)}=1.96$; $p=.31$).

DISCUSSION AND CONCLUSION

This research was conducted to determine the level of technology addiction in physical education and sports teacher candidates and whether this level differs according to some demographic variables. Considering that the concept of addiction in the literature has been examined with different studies such as internet, Facebook, and digital game addiction, these concepts are also included in this research.

In the research, it was determined that the technology addiction mean scores of teacher candidates were at a medium level. Technology has taken an important place in the social life and environment of the individual with the innovations it has brought to the present day, and has created an important occupation in human life by preventing the individual from his own daily work in his spare time. So much so that technology, which is used for learning environments when appropriate, has increasingly become an integral part of daily life. Considering that our age is the age of technology and communication and the use of technology in physical education is becoming widespread, this medium-level result can be explained as follows. Technological developments are increasingly adapting to the conditions of the day and people follow these developments closely. These developments can be followed much faster with computers and smart phones. Undoubtedly, one of the most closely following these developments is the university youth. It is obvious that the use of both computers and smart phones in university youth is widespread today. In the research of Yaman and Yaman (2014), university students also stated that they use the social networks they access with technological facilities for educational purposes. Moreover, as a significant part of daily life is spent on the internet, the way people communicate recently has changed (Hergüner, 2011). Considering these situations, this moderate addiction emerging in the research may be considered normal. As a matter of fact, the opinion that university students can use social networks for educational purposes has been revealed by the researches. Supporting this view, it has been reported in studies that the use of technology by students and teachers facilitates the educational process (Hergüner, 2016). In the research of Aydın (20174), the research finding that the technology addiction of university students is obtained at a moderate level has shown consistency with the current research result.

In the research, it was determined that the technology addiction scores of male pre-service teachers were significantly higher than female pre-service teachers. This situation can be interpreted as men tend to rely on technological tools and environments more than women in maintaining their social relationships and using technology. Today, the demand for social networking environments is increasing. Especially in recent years, increasing computer and smartphone games have enabled people to be in close contact with technology. Research has also revealed that boys are more willing to play these games than girls (Gökçearslan & Durakoğlu, 2014). For this reason, it has become inevitable to participate in such events through technology. As a matter of fact, researches have revealed that men have a more positive attitude towards computer environments than women (Ray, Sormunen, & Harris, 1999), as well as being more likely to be dependent on the internet, computer and online games than women (Bianchi & Phillips, 2005). In another research, it was concluded that men are more addicted to the internet than women (Karaman & Kurtoğlu, 2009). Besides, in the research of Yaman (2016), it was reported that men are addicted to Facebook compared to women. Contrary to these results, studies showing that women are more dependent on technological services (Smahel, Blinka, & Ledaby, 2008) can add depth to this point of view. In addition, in a research, it was reported that women use more smart phones than men (Nayak, 2018).

In the research, no significant relationship was found between technology addiction and sports year. Even if no significant relationship was detected, it was found that the direction of the relationship was negative. As a result, the increase in the sports year brings out the fact that it will be an obstacle to preventing technology addiction. For many years, he started to think about the fact that being in sports can be enough to spare time for himself and can prevent addiction to a behavior. Researches reveal the fact that sports can prevent the developing technology intensity and the anxieties it will bring (Ramazanoğlu et al., 2005). Taştan (2020), in his research on university students, reported that the internet addiction score does not differ according to the status of having a sports license. Similarly, in another research conducted on university students, it was concluded that internet addiction did not differ according to sports license (Özgen, 2016).

In the research, it was determined that the technology addiction scores differ significantly according to the grade level. According to this, the technology addiction scores of the 3rd and 2nd grade students are significantly higher

than the 1st grade. It suggests that as the class level increases, academic career, more research and turning to technology in future planning are among the reasons that reveal this situation. In the study conducted by Çam (2012) on pre-service teachers, a significant difference was found in favor of 1st graders in Facebook addiction levels according to the grade variable. The difference between this result and the result of the research is thought to be due to the demographic structure of the selected sample. In a study different from the results of the research, Arıkan and Öztürk (2020) reported that the digital game addiction of students did not differ according to the grade level.

In the research, it was determined that technology addiction scores did not differ significantly according to academic achievement perception. Although there was no difference, it was revealed that people with high academic achievement perception had lower technology addiction scores. It suggests that these people may have been more cautious about technology by devoting more time to their lessons. Studies that state that those who do not put restrictions on meeting technological needs have problems in academic life (Gönül, 2002; cited by Akcan & Öge, 2020) support the findings obtained as a result of the present research.

In the research, it was determined that the technology addiction scores did not differ significantly according to the weekly sports frequency. Although there was no difference, it was found that the addiction scores of those who exercise every day of the week and 4-6 days a week are lower. The excessive amount of time an individual devotes to sports prevents him from being dependent on technology. Because the intensity of the time spent with sports provides social and mental relaxation. Yaraşır (2018) revealed in his research that participation in physical activity reduces internet addiction. Arıkan and Öztürk (2020) found that digital game addiction of university students does not differ according to their participation in physical activity. These results are consistent with the results of the research.

In the research; While technology addiction scores of teacher candidates differ significantly according to gender and grade level, they did not differ significantly according to the academic achievement perception and weekly sports frequency variable. In addition, no significant relationship was found between technology addiction and sports years. Finally, it was determined that the technology addiction levels of teacher candidates were at a medium level.

In subsequent research; researches in which sports science faculties located in different regions will be included, as well as comparing students from different departments and sports science faculties can be conducted. Thus, data convenience can be provided to researchers in terms of making comparisons. In addition, it is recommended to investigate the concepts of loneliness, personality, positive-negative mood and life satisfaction, which may be associated with technology addiction.

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