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Analyzing technology addiction and challenging behaviors of young children

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Abstract

Technology can provide children new opportunities to dive into the internet and play online games. Parents are showing concerns towards losing the ability to observe children's accession to technological devices. It is also growing concern that technological addiction has some negative impacts on young children. The purpose of this study was to analyze young children's technology addiction level and their observed challenging behaviors. For this purpose, Technology Addiction Scale and Challenging Behavior Inventory was used to collect data. Participants were six years old children and data was collected from their parents. Results showed that the majority of young children were in the attentiveness group (%67). Their major technology addiction was online gaming and parents reported higher challenging behaviors for this group of young children. Gaining social skills and appropriate behaviors are very important for young children for their later success in school and community. For this reason, technology addiction of young children should be under supervision.

Keywords: *Technology addiction, young children, challenging behavior*

1. Introduction

Information and communication technology is a devious phenomenon in terms of security, entertainment and ingenuity (Arabiyat et al., 2019). Increased internet access and mobile technology devices encourage the use of technology in recent years (OECD, 2012). Using these technologies, one person can watch videos, listen to music, play games, send messages and encompass with social media at anytime and anywhere. Technology can provide children new opportunities to dive into the internet, play electronic games and use chat rooms. Conversely, parents are showing concerns towards

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losing the ability to observe children's accession to this technology and addiction to this world which has left some negative impacts on children and adolescents (Radke-Yarrow, Richters & Wilson, 1991). Nevertheless, it has been stated that the use of technology is an excessively growing subject (OECD, 2012).

Technology addiction is a wide-ranging expression that refers to the overwhelming desire to use technological devices such as smartphones, computers, and gaming systems (Aydın, 2017). This connection occurs as a non-chemical human-machine interaction that induces or reinforces the features of addictive tendencies (Griffiths, 1995). This type of interaction is found amongst the broader population (Griffiths, 1990). When we look at children, they spend more time on the Internet than before (OECD, 2012). Their media consumption time has more than doubled (OFCOM, 2015). On the other hand, it has been recommended for 2 to 5 years old children that their screen time is one hour per day for high-quality children programs (AAP, 2016). The media should not take place the adequate sleep, physical activity and other behaviors that is essential for young children.

Technology addiction causes risk factors for children's wellbeing. Child's developing brain and sense of self-worth, can be damaged due to too much screen time and social media. In addition, spending long time in front of TV is linked to having weak societal skills and bad relationships with friends. Thus, a child or an adolescent feels alienated (Rice & Dolgin, 2005). It has been reported that anxiety, insomnia, and depression is amongst the prominent health problems (UNICEF, 2017). Children's behaviors also can change in an undesirable manner. Challenging behavior implies inappropriate, disturbing, or harmful behaviors (Duman, 2013). These behaviors can be observed as pervasive social deficit, situational disturbances, low activity engagement, and episodic crises (Field, 1999). Even though over use of technology is a challenging behavior, this type of addiction also can change young children's other behaviors.

Children are not able to understand or evaluate risks but they can build their immunity through protection. Educating children about digital living is important for their future and should be a responsibility of parents and teachers. Previous studies have shown the connection of technology addiction and health risk factors, but there isn't enough study delving technology addiction's effect on children's challenging behaviors.

2. Method

2.1. Research Design

One of the quantitative research methods, relational screening model, was applied for this study. Relational screening model aims to conclude the presence of the change between two or more variables and to specify the relationships between the variables (Ayık and Ataş, 2014). Relational screening model doesn't intend to provide a factual cause and result relationship, but instead provides an opportunity for predicting the other in case of knowing the one (Karasar, 2006). The measurements of

young children's technology addiction levels and their challenging behaviors were relatively analyzed in this research.

2.2. Sample and Data Collection

The population of the research was six years old children living in Ankara City. The sampling was 120 children (60 girls and 60 boys) from the families of intermediate socio-economic status located in the main district. Purposive sampling method was applied to establish the participant families on a voluntary base. Families were acknowledged and their consent were held before the study. Children's mothers preferred to involve in the study and fill out the forms.

The Technology Addiction Scale (TAS) was used in order to determine children's technology addiction levels. TAS was developed by Aydın (2017) to measure the technology usage of individuals using four dimensions: social networks, instant messaging, online games and internet surfing. TAS was employed five-point scale indicating frequency (never, rarely, sometimes, often and always) of the behavior. Challenging Behavior Inventory (CBI) was used to determine children's challenging behavior levels. CBI was developed by Duman (2013) to determine the challenging behaviors of children. There are 15 challenging behaviors in the inventory and five-point scale was applied (never, rarely, sometimes, often and always) showing frequency of the behavior as well. Both data collection tools were completed by parents independently and there wasn't a time limit during the data collection process.

2.3. Analyzing of Data

Data was analyzed using SPSS. Descriptive data was reported using frequency and percentage distributions. Children's challenging behavior levels (average and attentiveness) were described in frequency and percentage distributions. T-test was applied to analyze the differences between the technology addiction's sub-dimensions (social network, instant messaging, online games and internet surfing) and challenging behavior level of the children. Pearson Correlation Coefficient was applied to analyze the correlation between challenging behavior level of children and their technology addiction (social network, instant messaging, online games and internet surfing). For statistical analysis and interpretation, $p<0.05$ level was considered as significant.

3. Results

This study examined the technology addiction and challenging behavior of six years old children using Technology Addiction Scale and Challenging Behavior Inventory. The first table presents the challenging behavior levels of children.

Table 1. Challenging behavior levels of children

Challenging Behavior Levels	***f***	**%**
Average	40	33
Attentiveness	80	67
Total	**120**	**100**

Table 1 presents the challenging behavior levels of the six years old children participated in the study. It has been found that there were 40 students (33%) in the average level, and there were 80 students (67%) in the attentiveness level. This finding shows majority of the parents reported that their children have challenging behavior.

Table 2. Technology addiction levels of the children

	n	$\bar{x}$	**S**	**t**
Social Network				
Average level	40	3.04	3.56	2.32
Attentiveness level	80	3.78	4.12	
Total	**120**			
Instant Messaging				
Average level	40	2.05	2.33	4.24
Attentiveness level	80	2.16	2.25	
Total	**120**			
Online Games				
Average level	40	3.17	2.11	0.00*
Attentiveness level	80	4.22	2.31	
Total	**120**			
Internet Surfing				
Average level	40	2.23	2.68	2.37
Attentiveness level	80	2.61	2.55	
Total	**120**			

$p<0.05$

Table 2 presents the technology addiction levels of the children. It has been found that the arithmetic mean score of the average level of the children's social network was 3.04 and the arithmetic mean score of the attentiveness level of the children's social network was 3.78. There wasn't significantly different (t=2.32) addiction level in terms of involving in social network dimension between children who have average and attentiveness level challenging behavior. In addition, it has been found that the arithmetic mean score of the average level children's instant messaging was 2.05 and the arithmetic mean score of the attentiveness level children's instant messaging was 2.16. There wasn't significantly different (t=4.24) addiction level in terms of instant messaging dimension between children who have average and attentiveness level challenging behavior. It has also been found that the arithmetic mean score of the average level children's online games was 3.17 and the arithmetic mean score of the attentiveness level children's online games was 4.22. Table 2 showed that there was a significantly different ($t=0.00$) addiction level in terms of online games dimension between children who have average and attentiveness level challenging behavior. According to their parents, six years old children who play online games more often displays higher level of challenging behavior comparing to the average level. Lastly, it has been found that the arithmetic mean score of the average level children's internet surfing was 2.23 and the arithmetic mean score of the attentiveness level children's internet surfing was 2.61. There wasn't significantly different (t=2.37) addiction level in terms of internet surfing dimension between children who have average and attentiveness level challenging behavior. These findings have demonstrated that six years old children who have higher level of challenging behavior play longer periods of online games comparing to their peers.

Table 3. Correlation scores of technology addiction and challenging behavior

	Social Network	**Instant Messaging**	**Online Games**	**Internet Surfing**
Average level	.37	.36	.55	.32
Attentiveness level	.42	.39	.78	.38

Table 3 presents the Pearson correlation scores of technology addiction (social network, instant messaging, online games and internet surfing) and challenging behavior (average and attentiveness levels) of six years old children. It has been found that there were significant and positive correlation between children who have attentiveness level of challenging behavior and online games (0.78). It has also been found that there were moderate and positive correlation between children who have average level of challenging behavior and online games (0.55). These findings showed that both groups of children had relatively higher correlation scores in terms of online games dimension. It has also been found that there was poor correlation between average level challenging behavior of children and social network dimension (.37), instant messaging dimension (.36), and internet surfing dimension (.32). These findings were very close to the correlation scores of children with attentiveness level

challenging behavior. It has been presented that there was poor level of correlation between attentiveness level challenging behavior of children and social network dimension (.42), instant messaging dimension (.39), and internet surfing dimension (.38). Both two groups of children who have average and attentiveness level of challenging behavior had respectively lower correlation scores in all dimensions except online gaming. It can be assumed that in the concept of technology addiction, playing online games is the most challenging part for adults to interfere with children.

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4. Conclusions

This paper analyzes the technology usage level of young children and their challenging behaviors. Results showed that online gaming is prominent part of the technology addiction among young children. There is also a correlation between online gaming and displaying challenging behavior. Gaining social skills and appropriate behaviors are very important for young children for their later success in school and community. On the other hand, it is inevitable to eliminate the technology from children's lives. Parents should be able to balance the technology use of their children.

Technology addiction of young children should be taken under supervision. For this reason, parents' supervision skills need to be supported in terms of controlling technology abuse and behavior modification of young children. Further research on the content of online games and their effect on young children is also needed.

This paper applies an exploratory method in technology addiction and challenging behavior of young children. Data was collected using Technology Addiction Scale and Challenging Behavior Inventory. There are several approaches and tools delving technology addiction and challenging behavior. This paper limits exploration of the issue using TAS and CBI based on parent's anticipations. It would be useful to facilitate broader studies to extend the dimensions of technology addiction.

References

AAP (2016). American Academy of Pediatrics Council on Communications and Media:Media Use in School-Aged Children and Adolescents. *Pediatrics*, 138 (5):20162592. doi: 10.1542/peds.2016-2592

Akçay, D., & Özcebe, H. (2012). Okul öncesi eğitim alan çocukların ve ailelerinin bilgisayar oyunu oynama alışkanlıklarının değerlendirilmesi. *Çocuk Dergisi,* 12(2), 66–71.

Arabiyat, Abdul-Kareem & Abdelbaset, Ibrahim & Hasoneh, Abdelbaset. (2019). *The Impact of Intellectual Capital on Competitive Advantage at Jordanian Commercial Banks*. 2617-7641.

Aydın, F. (2017). Teknoloji bağımlılığının sınıf ortamında yarattığı sorunlara ilişkin öğrenci görüşleri. (Yüksek Lisans Tezi), Ankara Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Ayık, A. & Ataş, Ö. (2014). Öğretmen Adaylarının Öğretmenlik Mesleğine Yönelik Tutumları ile Öğretme Motivasyonları Arasındaki İlişki. *Eğitim Bilimleri Araştırmaları Dergisi,* 4(1), 25-43.

Blum-Ross, A. & Livingstone, S. (2016) Families and screen time: Current advice and emerging research. *Media Policy Brief 17*. London: Media Policy Project, London. School of Economics and Political Science.

Connell, S.L., Lauricella, A.R. & Wartella, E. (2015). Parental co-use of media technology with their young children in the USA. *Journal of Children and Media,* 9(1), 5-21.

Duman (2013). Pre-service preschool teachers' self competency evaluation of challenging play behaviors. *Educational Research and Reviews* Vol. 8(24), pp. 2313-2316, 23 December, 2013. DOI: 10.5897/ERR2013.1581

Field E (1999). Using the preschool age as a developmental leverage to prevent behavior problems with early screening and intervention. *Effective School Practices*, 17(3): 50-55.

Griffiths, Mark. (1996). Behavioural addictions: An issue for everybody?. *Journal of Workplace Learning*. 8. 19-25.

Griffiths, M.D. (1990). The acquisition, development and maintenance of fruit machine gambling in adolescents. *Journal of Gambling Studies,* Vol. 6, pp. 193-204.

Karasar, N. (2006). *Bilimsel araştırma yöntemi*. Ankara: Nobel Yayın Dağıtım

OECD (2012). *The Protection of Children Online.* Retrieved from https://www. oecd.org/sti/ ieconomy/childrenonline_with_cover.pdf

OFCOM (2015). *Children and parents: Media use and attitudes report.* London.

Odabaşı, F. H. (2005). Parent's Views On Internet Use, *The Turkish Online Journal of Educational Technology (TOJET)*, 4(1), ISSN: 1303-6521.

Radke-Yarrow, M., Richters, J., & Wilson, W.E. (1991). Child development in a network of relationships. In R.A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships Within Families, Mutual Influences* (pp. 48–67). Oxford, UK: Oxford Science Publications.

Rice, F. Ph., & Dolgin, K. G. (2005). *The Adolescent Development, Relationships, and Culture* (11th ed.). Boston, MA Allyn and Bacon.

Arabiyat, R., Al-nasraween, M., Odeh, A., Maharmeh, L.M. & Shogran, R.I.. (2019). *The Degree of Using Technology Tools by Adolescent and Its Effect on Them from Parents' Point of View. Asian Social Science*. 15. 66. 10.5539/ass.v15n5p66.

UNICEF (2017). *How does the time children spend using digital technology impact their mental well-being, social relationships and physical activity?* An evidence-focused literature review, https://www.unicef-irc.org/publications/ pdf/Children-digital-technology-wellbeing.pdf.

Yücelyiğit, S, Aral, N. (2021). Children's Sophisticated Use of Digital Technology. *Cumhuriyet Uluslararası Eğitim Dergisi* , 10 (2) , 781-798. DOI: 10.30703/cije.773845