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Screen Time Differences among Turkish University Students as an Indicator of Sedentary Lifestyle and Inactivity

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Abstract

The aim of the present study was to examine the screen time differences as an indicator of sedentary lifestyle in terms of some socio-demographic variables among university students. A total of 2209 university student (M_{age} = 20.80, SD = 1.61 years) participated in this study. The demographic information and screen time data were collected by using a survey form. The screen time refers to the combined time spent on watching TV/video, watching/playing/working on a computer, and playing video games. Two x three factorial ANOVA revealed significant gender and socio-economic status differences in the screen time. The male students and those with a high socio-economic status had higher screen time. In addition, one-way ANOVA showed significant screen time differences in terms of parental education level and place of residence ($p < .001$). The students living in dormitories and those whose parents had lower education level had lower screen time. Also, the students who had an opportunity to access technological devices in their place of residence and in their bedrooms had higher screen time than the students who did not have these facilities ($p<.001$). The screen time as a sedentary behavior among university students is quite high and these findings can be taken into account as a warning indicating increases in the sedentary lifestyle of these young adults.

Key words: *inactivity; sedentary behavior; socio-demographic variables; young adults.*

Introduction

Various health risks associated with sedentary behavior as an indicator of inactivity have been reported in the literature. For example, many studies showed that there is a relationship between the sedentary behavior (involving prolonged sitting time) and the risk of obesity, diseases such as type 2 diabetes, cardiovascular diseases (CVD), some cancer types, etc. (Proper, Singh, van Mechelen, & Chinapaw, 2011; Rezende, Lopes, Rey-Lo´pez, Matsudo, & Luiz, 2014; Van Dyck et al., 2011). Using systematic reviews and primary studies in them, Biddle et al. (2016) reported some evidence for sedentary behavior, being causally associated with all-cause mortality. In addition, Dunstan et al. (2010) claimed that television viewing time was associated with an increased risk of all-cause and CVD mortality. These harmful relationships have been demonstrated independently of the physical activity level, and besides the studies analyzing the total sitting time, these relationships also have been defined in the longitudinal and cross-sectional studies examining specific behaviors, such as watching television (TV), other screen-based entertainments, and time spent sitting in cars (Grontved & Hu, 2011; Thorp, Owen, Neuhaus, & Dunstan, 2011; Van Dyck et al., 2011). The relations between cognitive functions and inactivity have also been investigated. Hoang et al. (2016) examined the correlation between the long-term patterns of physical activity and television watching time during young adulthood with cognitive functions in midlife. They found that low levels of physical activity and high levels of television viewing time during young to mid-adulthood were associated with worse cognitive performance in midlife. Participants with the least active patterns of behavior (i.e., both low physical activity and high television watching time) were the most likely to have poor cognitive functions.

The sedentary behavior, which is associated with various diseases, refers to the activities that do not increase energy expenditure above the resting level, and it includes the activities, such as sleeping, sitting, lying down, watching TV and other screen-based entertainments. Functionally, sedentary behavior consists of the activities including the energy expenditure at the level of 1.0-1.5 metabolic equivalent units (METs) (Pate, O'Neill, & Lobelo, 2008). Watching TV and engaging in the screen-based entertainments included in sedentary behaviors in the leisure time gradually show increases (Proper et al., 2011), and the screen time is often studied as an indicator of inactivity (Marshall, Gorely, & Biddle, 2006). Watching TV as a part of the screen time in developed countries, such as the United States and Australia, is considered as the major leisure time sedentary behavior (Raynor, Phelan, Hill, & Wing, 2006; Tremblay, LeBlanc, Kho, Saunders, Larouche, Colley, Goldfield, & Gorber, 2011). The development of modern technology increases the availability of devices such as TV, computer, DVD, etc. and brings along an increase in time spent sitting. The studies have emphasized that increasing participation in physical activity as well as decreasing the time spent on sedentary behaviors will be important for reducing the prevalence of overweight and obesity or at least for preventing the weight gain (Salmon, Bauman, Crawford, Timperio, & Owen, 2011;

Van Dyck et al., 2011). Identifying the environmental and socio-demographic factors that may be effective in the screen time can play an important role in determining precautions to be taken to reduce the screen time. Indeed, Owen, Healy, Matthews, and Dunstan (2010) provided a research framework for the sedentary behavior studies in their review related to "too much sitting"; they stated that the first three framework stages consist of determining a relationship between the sedentary behavior and the health outcomes, measuring the sedentary behavior and characterizing the variations and prevalence of sedentary behavior according to populations. They have reported that evidence within the first stage has strengthened rapidly during the past ten years, while the second and third stages have had modest evidence base. The next two stages comprise of identifying the determinants of sedentary behavior, and developing and testing interventions towards the sedentary behavior. They stated that these two stages have limited evidence base. In addition, Owen et al. (2010) reported that these stages were the areas less examined among adults. In the studies on children and adolescents, it has been found that access to TV and computer, low socio-economic level and being male were related to the increase of children's screen time (Totland, Bjelland, Lien, Bergh, Gebremariam, Grydeland, Ommundsen, & Andersen, 2013). As far as these authors are concerned, there are no studies that have examined the screen time of young adults in terms of environmental and socio-demographic factors determining the screen time. Analyzing the screen time, one of the factors which determine the inactivity level of young people in this period, that is the pre-stage of adulthood, will provide significant contributions in terms of taking precautions. Country-level baseline information on the determinants of screen time is required for policy makers, public health practitioners and researchers to be able to develop policies and programs for reducing the physical inactivity. Therefore, this research was performed for the purpose of determining the screen time of university students as an indicator of sedentary lifestyles, along with analyzing screen time differences in terms of some socio-demographic variables (gender, economic status, parental education level, opportunity to access technology, etc.).

Related Works

In a number of European countries, on average, 40% of daily free time is spent on watching TV. The same can be said about 50% of daily free time in Australia. These averages correspond to approximately 3.5 to 4 hours as daily TV watching time. This period corresponds to 5 hours in the United States (Grontved & Hu, 2011). In a review, Biddle et al. (2017) reported that adults in the USA were sedentary on average between 7.2 and 9.5 hours per day, as measured by an accelerometer in large-scale studies. This sedentary behavior includes various activities, such as watching TV in the leisure time, doing sedentary office work, and sitting in motorized means of transport, etc. Considering university students, Fountaine, Liguori, Mozumdar, and Schuna (2011) found, on average, that the US college students dedicated 144.60 minutes per day to screen-based activities, with 61.26 minutes spent on watching television. In their study

on the participation of the US college students in video games, Ogletree and Drake (2007) reported that male university students were significantly more likely to play video games when compared to female university students.

Rouse and Biddle (2010) examined the physical activity and sedentary behavior patterns of British university students. Their findings revealed that university students spent eight hours per day on sedentary activities, such as studying, watching television, gaming, doing computer activities, sitting and talking, shopping and hanging out. They found that "TV watching" was the most prevalent behavior after "studying". They reported that both genders had a similar pattern of spending sedentary time on technology [M = 134 (male) vs 135.4 min/day (female)], but they found significant gender differences with reference to computer game playing, in which male university students spent more time than female students.

Peltzer, Pengpid, and Apidechkul (2014) studied the intensive Internet use among Thai university students and they reported that students spent on average 5.3 hours per day on the Internet, and 35.3% of them were engaged in the intensive Internet use (6 or more hours per day). They found a correlation between the sedentary lifestyle (sitting for at least 6 hours per day) and the intensive Internet use.

Deliens, Deforche, De Bourdeaudhuij, and Clarys (2015) identified the determinants of physical activity and sedentary behavior in Belgian university students, who reported that both physical and sedentary activities were influenced by individual factors (e.g. perceived enjoyment, self-discipline, time and convenience), their social networks (e.g. (lack of) parental control, modelling, social support), physical environment (e.g. availability and accessibility, travel time/distance, prices), and macro environment (e.g. media and advertising). Availability and accessibility of sports lessons and facilities as well as those of TVs or computers were found to influence the physical and sedentary activities of university students.

In terms of a socio-economic status, the screen time research findings vary depending on countries. For example, Mielke, da Silva, Owen, and Hallal (2014) examined the sedentary behaviors of Brazilian adults by life domain. They found that men, younger adults, those with higher education level and from the wealthiest socio-economic groups had higher overall sedentary scores. TV time was higher in women, older adults and among those with low education level and socio-economic position. Computer use at home was more frequent among young adults and those from high socio-economic groups. In the study on Scottish adults, Stamatakis, Hillsdon, Mishra, Hamer, and Marmot (2009) found that adults exposed to poorer socio-economic circumstances spent more time on the screen-based entertainment forms.

Methods

Participants

The convenience sampling method was used to recruit the participants. A total of 2209 university students (M_{age} = 20.80, SD = 1.61 years), 1034 male (M_{age} = 21.00, SD = 1.68 years) and 1175 female students (M_{age} = 20.63, SD = 1.52 years) from two

state universities voluntarily participated in this study. The permission to conduct the study was obtained from the administrative bodies of the universities and met the ethical requirements for conducting research with the adult participants in Turkey. The informed consent form was obtained from each student.

Instruments

Screen Time Survey Form

Demographic information and screen time data were collected by using a survey form, developed by the researchers. The survey form included the questions considering the individual daily time for watching TV/video, using a computer and the Internet, gender, age, parental education level, residence type, technological opportunities in his/her residence, and whether s/he has a room at home where s/he lives with his/her family. The parental education level was categorized into four groups according to the students' responses: (1) primary school and lower; (2) middle school; (3) high school; and (4) university and higher.

Screen time (hours/week) referred to the sum of weekly time spent on watching TV/video, using computer and playing video games.

Family Affluence Scale II

The Family Affluence Scale (FAS) was used in order to determine the students' economic status. The scale was developed within the Health Behavior in School-Aged Children (HBSC) project, conducted by the World Health Organization in 1997 (Currie, Elton, Todd, & Platt, 1997). The given scale was revised within the same project in 2001-2002, as FAS II (Boyce & Dallago, 2004). The revised form (FAS II) was used in this study. FAS II includes four items questioning the family affluence in terms of having a car and a separate room, having an opportunity to take a vacation regularly, and identifying the number of computers at home. It has a composite score ranging from 0 to 9. Boyce and Dallago (2004) suggested the categories to divide the composite score into low affluence (0-2), middle affluence (3-5) and high affluence (6-9). The validity of FAS II was examined by combining it with the Socioeconomic Status Scale (Bacanlı, 1997) in separate sample of university students (n = 50). The Pearson correlation coefficient was used to examine a relationship between the FAS II and the Socioeconomic Status Scale. It was determined that the scale validity was at the acceptable level ($r = .74$, $p < .05$).

Data Collection

The survey form and the FAS II were administered to the students in the classroom with the self-report method. The researchers provided visual and verbal information about how to fill in the survey, and the survey was completed anonymously.

Data Analysis

Besides descriptive statistics, one-way ANOVA, factorial ANOVA and t-test were performed to test the screen time differences in terms of socio-demographic variables. The Tukey HSD test was used for post-hoc comparisons.

Results

The mean of the total screen time obtained from the university students was found to be 4.33 hours/day. The descriptive statistics related to the screen time (watching TV/video, playing video games and using computers) on weekdays and over the weekend are presented in Table 1. The screen time was longer on weekdays than it was at the weekend for both genders.

Table 1

Descriptive statistics of the weekday and weekend screen time (hours/week) of the students

		Female (n = 1175)		Male (n = 1034)	
		M	SD	M	SD
Weekday	TV/video	8.95	8.21	13.06	10.95
	Computer	8.00	8.18	11.83	10.37
Weekend	TV/video	4.15	4.05	6.34	6.02
	Computer	3.56	3.78	5.60	5.26
Total week	TV/video	13.10	11.02	19.40	15.64
	Computer	11.57	10.55	17.44	14.23

Figure 1 shows descriptive statistics regarding the screen time according to the students' gender and economic status.

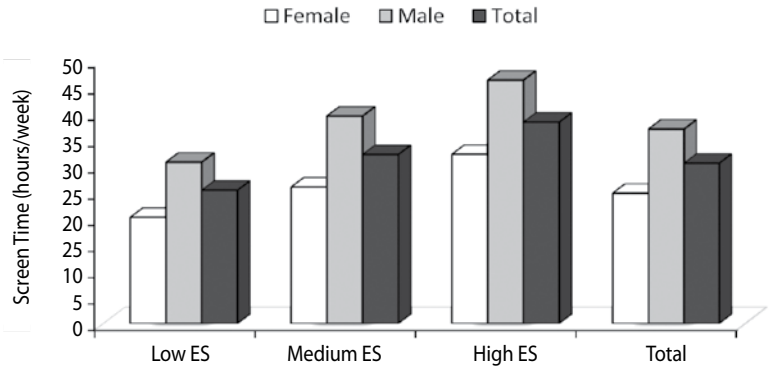

Figure 1. The average screen time of the students with regard to gender and economic status (ES)

Two (gender) x three (economic status) factorial ANOVA results showed significant gender ($F_{(1, 2153)} = 132.28$; $eta^2 = 0.06$; $p<.001$) and economic status ($F_{(2, 2153)} = 50.20$; $eta^2 = 0.05$; $p<.001$) differences in the screen time. The male students had higher screen time than female students (see Figure 1). Post-hoc comparisons using the Tukey HSD test indicated that the screen time in the three economic status (ES) categories was significantly different from each other. The means analysis reveals that the students with a high ES had the highest screen time, while the students with a low ES had the lowest screen time (see Figure 1).

Table 2

The screen time (hours/week) of the students according to their parental education level

	Screen Time				
	n	M	SD	F	p
Mother's education level				$F_{(3,2165)}$	
Primary school and lower	1235	27.90	20.95	14.66	.001
Middle school	372	32.39	21.06		
High school	428	35.06	23.56		
University and higher	134	33.98	19.28		
Father's education level				$F_{(3,2185)}$	
Primary school and lower	707	27.07	20.31	11.42	.001
Middle school	385	29.42	20.35		
High school	630	32.21	21.88		
University and higher	467	33.86	23,55		

One-way ANOVA revealed significant screen time differences in terms of parental education level (p<.001). Post-hoc comparisons using Tukey HSD test indicated that the mean screen time of the students whose parental education level was at the primary school and lower, significantly differed from those in other categories. Their screen time was lower than the other ones (Table 2).

Also, one-way ANOVA showed significant screen time differences according to the type of students' residence (p<.001). Post-hoc comparisons indicated that the difference was derived from the screen time of the students living in dormitories and those living with their families at home. The students living in the state dormitories had lower screen time, while those staying with their families had higher screen time than their counterparts (Table 3).

Table 3

The screen time (hours/week) of the students according to their residence type

	Screen time			$F_{(3,2095)}$	p
	n	M	SD		
State dormitories	501	23.17	18.51	30.73	.001
Private dormitories	275	30.45	20.23		
Sharing a flat with friends	721	31.02	23.07		
Living with family at home	602	35.37	21.25		

In addition, t-test revealed significant screen time differences with regard to the availability of TV, computer and the Internet access in residences. It was found that the students having an access to the TV (p<.01), the computer (p<.001) and the Internet (p<.001) had higher screen time than those not having this opportunity (Table 4).

Table 4

The screen time (hours/week) of the students with regard to the availability of TV, computer and the Internet access in their residence

	Available			None			
	n	M	SD	n	M	SD	t
In the residence							
TV	1584	31.28	21.30	625	28.09	22.25	-3.13*
Computer	1451	32.09	21.56	633	28.01	21.87	-3.95**
Internet	1183	33.19	21.84	1026	27.13	20.90	-6.63**

*p <.01, **p <.001

Furthermore, there were significant screen time differences regarding the students having their own rooms at home where they live with their families and having access to the TV, the computer and the Internet in their own rooms (p<.001). The students having these opportunities had higher screen time than those not having such opportunities (Table 5).

Table 5

The screen time (hours/week) of the students according to the availability of own bedroom at home where they lived with their families and those having access to TV, computer and the Internet in their rooms

	Available			None			t
	n	M	SD	n	M	SD	
Own room	1692	32.10	21.94	501	24.74	19.59	-7.17**
In his/her own bedroom							
TV	543	36.67	24.18	1146	29.92	20.46	-5.62**
Computer	1319	34.38	22.45	373	24.02	17.81	-9.33**
Internet	993	36.55	23.02	699	25.78	18.56	-10.62**

**p <.001

Table 6

The screen time (hours/week) of the students according to the number of people in their families and the number of computers at home

	Screen time			t	p
Number of people in the family	n	M	SD		
Four people and fewer	986	33.13	21.66	5.41	.001
More than four people	1223	28.15	21.33		
Number of computers at home				$F_{(3,2197)}$	p
None	253	19.55	16.97		
One	1245	28.80	19.63	49.79	.001
Two	578	37.30	23.95		
Three or more	125	36.70	25.12		

When examining the screen time according to the number of family members, it was found that the students having a family of four people and less had a significantly

higher screen time than those having a family of over four people ($p<.001$) (Table 6). Moreover, one-way ANOVA showed significant screen time differences with regard to the number of computers at home ($p<.001$). Post-hoc comparisons indicated that the students not having any computer or having just one computer had lower screen time than those having two computers and even more (Table 6).

Discussion

This study investigated the screen time differences as an indicator of sedentary lifestyle in terms of some socio-demographic variables (gender, economic status, parental education level, access to technology, etc.) among university students**.** It was found that the screen time as one of the major indicators of inactivity was quite high in university students. In addition, the overall sample had a longer screen time on weekdays than at the weekend. As previously mentioned, in various European countries, on average, 40% of daily free time, and 50% of that in Australia, are spent on watching TV. This corresponds to daily TV watching time of about 3.5 to 4.0 hours. In the United States, the average number of daily hours spent on TV watching is 5 (Grontved & Hu, 2011). Considering university students, the US university students averagely dedicate 2.41 hours per day to the screen time, with 61.26 minutes spent on watching television (Fountaine et al., 2011). Similarly, the sedentary technology time (watching television, playing computer games, and using a computer) of British students was 2.24 hours per day (Rouse & Biddle, 2010). The average screen time score (4.33 hours/day) of the students in the present study was much higher than in the cases of US and British students. However, the Turkish university students had a lower screen time than the Thai students who had averagely spent 5.3 hours per day on the Internet (Peltzer et al., 2014). There are no guidelines on the quantity of sedentary behavior patterns to prevent the health risk in adults. Besides, the sedentary behavior guidelines for children and adolescents recommend no more than 2 hours of the screen time per day. A similar suggestion for adults (i.e., no more than 2 hours per day of screen time) may be a practical starting point (Healy, Dunstan, Salmon, Shaw, Zimmet, & Owen, 2008). The screen time of the young adults in this study was thus far above the recommended level (4.33 hours per day for the overall sample). Considering screen time as one of the inactivity indicators, this situation increases the possible risk of health problems in adulthood, as it has been previously mentioned.

In the current study, the results indicated significant gender differences in the screen time. Male students were engaged in more screen media activities than female ones. Similarly, Fountaine et al. (2011) found that male university students reported significantly higher levels of the overall screen time and watching television than their female counterparts. Many studies (Iannotti, Janssen, Haug, Kololo, Annaheim, & Borraccino, 2009; Karaca, Çağlar, Bilgili, & Ayaz, 2011; Rideout, Foehr, & Roberts, 2010), carried out on adolescents, reported that boys had longer screen time than girls, with most of the difference coming from the time spent on playing console video and

computer games. To support this, Rouse and Biddle (2010) found that male university students spent more time on playing computer games than female students, which is similar to the findings from Ogletree and Drake's study on college students (2007). These gender differences may be a function of social influences and cultural factors. Female students living with their families may help their mothers with the housework, such as cooking, cleaning, etc., whereas male students may be more engaged in watching TV and playing computer or video games like their fathers do. Blair (1992) showed that the amount of housework done by each parent has a significant influence on the amount of housework done by the same-sex child (as cited in Cunningham, 2001). In Turkey, the housework is generally the responsibility of women, while men often have a passive or supportive role at home (Savaş-Gün, Pirtini, Çelik, & Başçı, 2008). For these reasons, male students, at least those living with their families, may have more free time and their screen time may be longer. On the other hand, the only reason for lower screen time in female students may not be housework. As stated in the study by Hager (2006), female students may prefer other sedentary behaviors, such as having a chat on the phone, doing homework and reading a book. Supporting this suggestion, Rouse and Biddle (2010) reported that female university students spent significantly more time "sitting and talking" as sedentary behaviors than male students. In addition, Fountaine et al. (2011) found that female university students reported significantly higher levels of time spent on doing homework when compared to their male peers.

In terms of economic status, the results showed that the students with a low economic status had lower screen time. In addition, the students having an opportunity to access the TV, the computer and the Internet in their residences, those having two or more computers at home, those living with their families, those having their own rooms in their family homes and those having their own TVs, computers and the Internet in their bedrooms had higher screen time when compared to those who did not have such opportunities. These findings are in line with the research results presented in the relevant literature. For example, Van Dyck et al. (2011) reported a positive relationship between the number of computers at home and the Internet use in free time. In the study of Brazilian adults, Mielke et al. (2014) reported that the computer use at home was more frequent among young adults and those from high socio-economic groups. Some studies (Ramirez, Norman, Rosenberg, Kerr, Saelens, Durant, & Sallis, 2011; Wethington, Pan, & Sherry, 2013), conducted on adolescents, stated that the presence of a TV or video game system in the bedroom was positively associated with the screen time. Similarly, other studies (de Jong, Visscher, HiraSing, Heymans, Seidel, & Renders, 2013; Tandon, Zhou, Sallis, Cain, Lawrence, & Saelens, 2012; Wethington et al., 2013) with children pointed out that some important determinants of watching TV are the number of TVs in the household and a TV in the child's bedroom. In the study of Belgian university students, Deliens et al. (2015) reported that the availability and accessibility of the TV or the computer were found to influence university students' sedentary activities. The findings in the present study might be explained by the students' socio-economic status since all these variables are related to the family incomes. The students with a high economic

status have such opportunities more than the others. Their access to technology, such as the Internet, is likely to be greater than in their counterparts. According to the World Bank data (2014), 98% of the people in Turkey have a TV at home (2005-2013 data), a computer is possessed by 52.9% (2013 data), and 46.3% of them use the Internet (2013 data). In the light of the given data, the students with a low economic status might have lower screen time because they do not have access to technology, e.g. personal computers, console video games etc., which could increase the screen time.

In the current study, the students whose parental education was at the primary school level and lower had significantly lower screen time. At lower education levels (for this study, primary school and lower) in Turkey, individuals are less likely to have sufficient income to afford, and therefore use, technological devices. In other words, this finding may be explained as a consequence of a lack of or limited access to technology. In contrast to this finding, some studies (Common Sense Media, 2013; Øverby, Klepp, & Bere, 2013) on children in the Western culture reported that the children whose parental education was at the university level and higher had lower screen time. Other studies conducted on adolescents found that the lower levels of parental education were associated with more time spent on watching TV (Babey, Hastert, & Wolstein, 2013). It was claimed that parents with a higher education level are more likely to follow health advice and behave in accordance with these guidelines (Øverby et al., 2013). Therefore, their children might have lower screen time. The remarkable viewpoint of the present study is that those having parents at higher education levels had also higher screen time. This finding may be taken as a warning related to raising parents' awareness of health risks that arise from the long screen time. Furthermore, university students should be made aware of the possible harmful effects of long screen time on health.

Conclusions

The present study indicates that the screen time-based sedentary behavior is quite high among university students in Turkey. Moreover, male university students have higher screen time than female students, and the screen time increases with an increase in the socio-economic status and access to technology. These results may be taken as a warning for young adults due to the fact that they show students' tendency to prefer a sedentary life style. The public health institutions may benefit from the current findings for the purpose of taking precautions to reduce the young people's screen time – therefore, decreasing inactivity – and developing intervention strategies (determining the target groups, raising awareness of parents and young people, etc.). In their review "How to reduce sitting time?" Gardner, Smith, Lorencatto, Hamer, and Biddle (2016) suggested that intervention planners should consider using environmental restructuring and self-regulatory techniques, such as self-monitoring, problem-solving, and providing information on health consequences.

Some limitations of the present study should be addressed. First, the findings may be relevant only for university students, which makes their generalization impossible,

considering that not all young adults are university students. Secondly, a cause and effect relationship could not be established because of the cross-sectional design of the study. Irrespective of these limitations, the strength of this study is that it provides one of the first screen time data in terms of socio-demographic variables among the young adults in Turkey. The use of cell phones was not included in this study since they can be used while on the move or on foot. Future studies could examine the time spent on using cell phones while sitting. Also, further studies could investigate the screen time of young people who are not university students. Moreover, the screen time could be examined according to accessibility to other leisure time activities in the surroundings.

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Razlike u vremenu provedenom ispred ekrana između sveučilišnih studenata u Turskoj kao pokazatelj sjedilačkog stila života i neaktivnosti

Sažetak

Cilj istraživanja bio je utvrditi, na uzorku sveučilišnih studenata, razlike u vremenu provedenom ispred ekrana kao pokazatelju sjedilačkog stila života s obzirom na neke društveno-demografske varijable. U istraživanju je sudjelovalo ukupno 2209 sveučilišnih studenata (M_{dob}=20,80, SD=1,61 godina). Demografski podaci i podaci o vremenu provedenom ispred ekrana prikupljeni su s pomoću anketnog obrasca. Vrijeme provedeno ispred ekrana odnosi se na kombinaciju vremena provedenog gledajući televiziju/video, gledajući računalo/igrajući se/radeći na njemu, te igrajući videoigre. 2 x 3 faktorska ANOVA otkrila je značajne razlike u vremenu provedenom ispred ekrana prema spolu i društveno-ekonomskom statusu. Kod studenata muškog spola i onih s visokim društveno-ekonomskim statusom zabilježene su više vrijednosti. Jednosmjerna ANOVA dodatno je pokazala značajne razlike s obzirom na obrazovanje roditelja i mjesto stanovanja (p<,001). Studenti u studentskim domovima i oni čiji su roditelji na niskoj obrazovnoj razini imaju niže vrijednosti za vrijeme provedeno ispred ekrana. Također, studenti koji imaju mogućnost pristupa tehnološkim uređajima u svom domu i vlastitoj sobi imaju više vrijednosti od onih koji nemaju takve mogućnosti (p<,001). Vrijednost zabilježena za vrijeme provedeno ispred ekrana kao pokazatelj sjedilačkog ponašanja kod sveučilišnih studenata sasvim je visoka, pa se rezultati mogu uzeti u obzir kao upozorenje koje ukazuje na uzlazni trend s obzirom na sjedilački stil života mladih odraslih.

Ključne riječi: *društveno-demografske varijable; mlade odrasle osobe; neaktivnost; sjedilačko ponašanje.*

Uvod

U literaturi se navode različiti zdravstveni rizici povezani sa sjedilačkim ponašanjem kao pokazateljem neaktivnosti. U mnogim se istraživanjima, primjerice, navodi povezanost između sjedilačkog ponašanja (vremenski dužeg sjedenja) i rizika od

pretilosti, bolesti kao što su drugi tip dijabetesa, kardiovaskularne bolesti (KVB), neke vrste tumora itd. (Proper, Singh, van Mechelen, i Chinapaw, 2011; Rezende, Lopes, Rey-Lo´pez, Matsudo, i Luiz, 2014; Van Dyck i sur., 2011). Koristeći se sustavnim pregledom i primarnim istraživanjima u njemu, Biddle i sur. (2016) izvješćuju o dokazu kojim se potvrđuje da je sjedilačko ponašanje uzročno-posljedično povezano sa sveukupnom smrtnošću. Nadalje, Dunstan i sur. (2010) tvrde da se vrijeme provedeno gledajući televiziju dovodi u vezu s povećanim rizikom od sveukupne smrtnosti, kao i one uzrokovane KVB-om. Spomenuti se štetni odnosi pokazuju neovisno o razini fizičke aktivnosti i utvrđeni su, osim s pomoću istraživanja u kojima se analiziralo ukupno vrijeme provedeno sjedeći, longitudinalnim i transverzalnim istraživanjima u kojima su proučavana specifična ponašanja, kao što su gledanje televizije (TV), ostali oblici zabave koji se temelje na gledanju u ekran i sjedenje u automobilu (Grontved i Hu, 2011; Thorp, Owen, Neuhaus, i Dunstan, 2011; Van Dycket i sur., 2011). Također su istraživani odnosi između kognitivne funkcionalnosti i neaktivnosti. Hoang i sur. (2016) proučavali su povezanost dugotrajnih obrazaca fizičke aktivnosti i vremena provedenog gledajući televiziju u mlađoj odrasloj dobi s kognitivnim funkcijama u srednjoj dobi. Utvrdili su da su niže razine fizičke aktivnosti i više razine gledanja televizije tijekom razdoblja između mlađe i srednje odrasle dobi povezane s lošijim kognitivnim funkcijama u srednjoj dobi. Najmanje aktivni ispitanici, to jest oni sa slabom fizičkom aktivnošću i dužim gledanjem televizije, vjerojatno će loše kognitivno funkcionirati.

Sjedilačko ponašanje, koje se povezuje s raznim bolestima, odnosi se na aktivnosti koje ne povećavaju potrošnju energije iznad razine odmaranja, a obuhvaćaju spavanje, sjedenje, ležanje, gledanje televizije i ostale zabavne aktivnosti koje se temelje na gledanju u ekran. Funkcionalno gledano, sjedilačko se ponašanje sastoji od aktivnosti koje podrazumijevaju potrošnju energije na razini 1,0 – 1,5 metabolički ekvivalentnih jedinica (MEJ, eng. MET) (Pate, O'Neill, i Lobelo, 2008). Gledanje televizije i sudjelovanje u zabavi koja se temelji na gledanju u ekran kao sjedilačka ponašanja u slobodno vrijeme postupno pokazuju porast (Proper i sur., 2011), a vrijeme provedeno ispred ekrana često se istražuje kao pokazatelj neaktivnosti (Marshall, Gorely, i Biddle, 2006). Gledanje televizije kao sastavni dio vremena provedenog ispred ekrana u razvijenim zemljama kao što su Sjedinjene Države i Australija smatra se glavnim sjedilačkim ponašanjem u slobodno vrijeme (Raynor, Phelan, Hill, i Wing, 2006; Tremblay, LeBlanc, Kho, Saunders, Larouche, Colley, Goldfield, i Gorber, 2011). Zahvaljujući razvoju suvremene tehnologije, TV, računalo, DVD i slični uređaji postaju dostupniji, čime se produžava vrijeme sjedenja. Provedena istraživanja ističu važnost ne samo povećane fizičke aktivnosti već i kraćeg vremena provedenog u tim sjedilačkim aktivnostima kako bi se smanjila dominantnost pretjerane težine i pretilosti ili barem spriječio porast težine (Salmon, Bauman, Crawford, Timperio, i Owen, 2011; Van Dycket i sur., 2011). Utvrđivanje okolišnih i društveno-demografskih čimbenika koji su potencijalno učinkoviti kada je u pitanju vrijeme provedeno ispred ekrana može imati važnu ulogu u određivanju mjera opreza koje treba poduzeti da bi se spomenuto vrijeme skratilo. Owen, Healy, Matthews

i Dunstan (2010) u svom su pregledu u vezi s „previše sjedenja" doista predložili okvir za provedbu istraživanja o sjedilačkom ponašanju; naveli su da se njegove prve tri faze sastoje od utvrđivanja odnosa između sjedilačkog ponašanja i zdravstvenih rezultata, mjerenja sjedilačkog ponašanja te određivanja karakteristika varijacija i prevalencije sjedilačkog ponašanja prema populacijama. Izvijestili su da je dokaz unutar prve faze ubrzano snažniji u proteklih deset godina, a da je dokaz za drugu i treću fazu umjeren. Sljedeće se dvije faze sastoje od utvrđivanja determinanti sjedilačkog ponašanja te razvijanja i testiranja intervencija u smjeru sjedilačkog ponašanja. Navode da su dokazi za te dvije faze ograničeni. Osim toga, Owen i sur. (2010) izvijestili su kako te dvije faze predstavljaju područja koja su manje istražena među odraslim ispitanicima. U istraživanjima s djecom i adolescentima otkriveno je da su pristup djece televiziji i računalu, loš društveno-ekonomski status i pripadnost muškom spolu povezani s dužim vremenom provedenim ispred ekrana (Totland, Bjelland, Lien, Bergh, Gebremariam, Grydeland, Ommundsen, i Andersen, 2013). Prema spoznajama navedenih autora, ne postoje istraživanja koja se bave vremenom provedenim ispred ekrana na uzorku mlađih odraslih osoba s obzirom na okolišne i društveno-demografske čimbenike kojima se takvo vrijeme utvrđuje. Analizom upravo vremena provedenog ispred ekrana, jednog od čimbenika kojim se određuje razina neaktivnosti mladih ljudi u tome razdoblju, odnosno onom koje prethodi odrasloj dobi, bitno će se doprinijeti poduzimanju mjera opreza. Temeljna informacija o odrednicama vremena provedenog ispred ekrana na razini neke zemlje potrebna je onima koji kreiraju politiku, praktičarima u sektoru javnog zdravstva i istraživačima kako bi mogli razviti politiku i programe za smanjivanje fizičke neaktivnosti. Ovo je istraživanje, prema tome, provedeno s ciljem utvrđivanja vremena koje sveučilišni studenti provode ispred ekrana kao pokazatelja sjedilačkog stila života te analiziranja razlika u vremenu provedenom ispred ekrana s obzirom na društveno-demografske varijable (spol, ekonomski status, roditeljsko obrazovanje, mogućnost pristupa tehnološkim uređajima itd.).

Relevantni radovi

U različitim se europskim zemljama u prosjeku 40 % slobodnog vremena dnevno, odnosno 50 % u Australiji, provede gledajući televiziju. Te prosječne vrijednosti odgovaraju dnevnom gledanju televizije od otprilike 3,5 do 4 sata, što pak odgovara trajanju od 5 sati u Sjedinjenim Državama (Grontved i Hu, 2011). U jednom preglednom radu, Biddle i sur. (2017) navode da odrasle osobe u SAD-u dnevno u prosjeku sjede između 7,2 i 9,5 sati, uzimajući u obzir mjerenja akcelerometra iz opsežnih istraživanja. Takvo se sjedilačko ponašanje sastoji od raznih aktivnosti, kao što su gledanje televizije u slobodno vrijeme, sjedenje u uredu, sjedenje u motoriziranim prometnim sredstvima itd. Što se tiče sveučilišnih studenata, Fountaine, Liguori, Mozumdar i Schuna (2011) utvrdili su da studenti u SAD-u u prosjeku provedu 144,60 minuta dnevno ispred ekrana, od toga 61,26 minuta gledaju televiziju. U istraživanju o sudjelovanju američkih studenata u videoigrama, Ogletree i Drake (2007) izvješćuju da će sveučilišni studenti s

većom vjerojatnošću igrati videoigre od svojih kolegica. Rouse i Biddle (2010) istraživali su fizičku aktivnost i obrasce sjedilačkog ponašanja britanskih sveučilišnih studenata te su otkrili da provode osam sati dnevno u sjedilačkim aktivnostima, kao što su učenje, gledanje televizije, igranje igara, računalne aktivnosti, sjedenje i razgovaranje, kupovanje i druženje. Utvrdili su da je „gledanje televizije" aktivnost koja prevladava nakon „učenja". Izvijestili su da pripadnici obaju spolova imaju slične obrasce ponašanja s obzirom na vrijeme za uporabu tehnologije [M = 134 (muški) vs 135,4 min/dnevno (ženski)], ali su otkrili značajne spolne razlike kada je u pitanju igranje računalnih igara, u čemu studenti provode više vremena od studentica.

Peltzer, Pengpid i Apidechkul (2014) istraživali su intenzivnu uporabu interneta na uzorku sveučilišnih studenata u Tajlandu te su otkrili da dnevno provode u prosjeku 5,3 sata na internetu, a njih je 35,3 % zaokupljeno intenzivnom uporabom interneta (6 ili više sati dnevno). Utvrdili su povezanost između sjedilačkog stila života (sjedenje od najmanje 6 sati) i intenzivne uporabe interneta.

Deliens, Deforche, De Bourdeaudhuij i Clarys (2015) utvrdili su determinante fizičke aktivnosti i sjedilačkog ponašanja kod belgijskih sveučilišnih studenata, koji su izvijestili da su i fizičke i sjedilačke aktivnosti pod utjecajem individualnih čimbenika (npr. percipirano zadovoljstvo, samodisciplina, vrijeme i korisnost), društvenih mreža (npr. (nedostatak) roditeljski nadzor, oblikovanje, društvena potpora), fizičke sredine (npr. dostupnost i pristup, vrijeme putovanja/udaljenost, cijene) i makrookoliša (npr. mediji i oglašavanje). Utvrđeno je da dostupnost sportske nastave i mogućnosti za bavljenje sportom, kao i pristup televiziji i računalu utječu na fizičke i sjedilačke aktivnosti sveučilišnih studenata.

U pogledu društveno-ekonomskog statusa, podaci o vremenu provedenom ispred ekrana variraju ovisno o zemlji. Primjerice, Mielke, da Silva, Owen i Hallal (2014) istraživali su sjedilačka ponašanja odraslih osoba u Brazilu prema određenim životnim područjima te su otkrili da muškarci, mlađe odrasle osobe, obrazovanije i osobe iz bogatijih društveno-ekonomskih skupina imaju sveukupno bolje rezultate. Vrijeme provedeno u gledanju televizije dominantnije je kod žena, starijih odraslih osoba, slabije obrazovanih i osoba s lošijim društveno-ekonomskim statusom. Češća je uporaba računala kod kuće zabilježena kod mladih odraslih osoba i onih visokog društveno-ekonomskog statusa. U istraživanju na uzorku škotskih odraslih ispitanika, Stamatakis, Hillsdon, Mishra, Hamer i Marmot (2009) otkrili su da odrasli ispitanici iz siromašnijih društveno-ekonomskih sredina provode više vremena zabavljajući se ispred ekrana.

Metode

Ispitanici

Pri odabiru ispitanika koristila se metoda prigodnog uzorkovanja. Ukupno 2209 sveučilišnih studenata (M_{dob} = 20,80, SD = 1,61 godina), 1034 muškog (M_{dob} = 21,00, SD = 1,68 godina) i 1175 ženskog spola (M_{dob} = 20,63, SD = 1,52 godina), s dvaju državnih sveučilišta dobrovoljno je sudjelovalo u ovom istraživanju. Dopuštenje za provedbu

istraživanja dobiveno je od uprave sveučilišta i provedeno je prema etičkim zahtjevima za provedbu istraživanja s odraslim osobama u Turskoj. Pisani pristanak dobiven je od svakog ispitanika.

Instrumenti

Obrazac o vremenu provedenom ispred ekrana

Demografski podaci i podaci o vremenu provedenom ispred ekrana prikupljeni su s pomoću anketnog upitnika koji su izradili autori. Taj se obrazac sastoji od pitanja o vremenu dnevno provedenom gledajući TV/video, koristeći se računalom i internetom, spolu, dobi, obrazovanju roditelja, vrsti stanovanja, tehnološkim mogućnostima kod kuće, vlastitoj sobi u obiteljskom domu. Obrazovanje roditelja podijeljeno je u četiri kategorije prema odgovorima studenata: (1) niži razredi osnovne škole i manje, (2) viši razredi osnovne škole, (3) srednja škola, (4) sveučilište i više.

Vrijeme provedeno ispred ekrana (sati/tjedno) sastoji se od zbroja vremena tjedno provedenog gledajući TV/video, koristeći se računalom i igrajući videoigre.

Ljestvica obiteljskog utjecaja //

Koristila se Ljestvica obiteljskog utjecaja (LJOU, engl. FAS) da bi se odredio ekonomski status studenata. Izrađena je u sklopu projekta Zdravstveno ponašanje školske djece (ZPŠD) Svjetske zdravstvene organizacije 1997. godine (Currie, Elton, Todd, i Platt, 1997), a revidirana je u sklopu istoimenog projekta 2001. – 2002. godine kao LJOU II (Boyce i Dallago, 2004). Revidirana se inačica koristila u ovom istraživanju. Sastoji se od četiri pitanja o obiteljskom utjecaju, koja se odnose na posjedovanje automobila i vlastite sobe za člana obitelji, mogućnost redovitog odlaska na godišnji odmor i broj računala kod kuće. Ukupan rezultat kreće se u rasponu od 0 do 9. Boyce i Dallago (2004) predložili su sljedeću kategorizaciju prema rezultatima: slab (0 – 2), srednji (3 – 5) i velik (6 – 9) utjecaj. Valjanost te ljestvice utvrđena je tako što je Ljestvica društveno-ekonomskog statusa (Bacanlı, 1997) primijenjena na različite sveučilišne studente (n = 50). Pearsonov koeficijent korelacije koristio se da bi se odredio odnos između LJOU II i Ljestvice društveno-ekonomskog statusa. Utvrđeno je da je njezina valjanost na prihvatljivoj razini (r =,74, p<,05).

Prikupljanje podataka

Studentima su u učionici predočeni anketni obrazac i LJOU II, kao i metoda samoizvješćivanja. Istraživači su im dali vizualne i verbalne informacije o tome kako popuniti obrazac, i to anonimno.

Analiza podataka

Osim deskriptivne statistike, primijenjeni su jednosmjerna ANOVA, faktorska ANOVA i t-test da bi se utvrdile razlike u vremenu provedenom ispred ekrana prema društveno-demografskim varijablama. Koristio se Tukeyev HSD za post-hoc usporedbe.

Rezultati

Utvrđeno je da srednja vrijednost za ukupno provedeno vrijeme ispred ekrana iznosi 4,33 sata/dnevno. Deskriptivna statistika za spomenuto vrijeme (gledanje TV/videa, igranje videoigara i upotrebu računala) radnim danima i vikendom odvojeno je prikazana u Tablici 1. Vrijeme provedeno ispred ekrana u slučaju oba spola bilo je duže radnim danima nego vikendom.

Tablica 1

Slika 1 prikazuje deskriptivnu statistiku za vrijeme koje studenti provode ispred ekrana s obzirom na njihov spol i ekonomski status.

Slika 1

Rezultati 2 (spol) x 3 (ekonomski status) faktorske ANOVA pokazali su značajne spolne ($F_{(1, 2153)}$=132.28; eta^2= 0,06; p<,001) i statusne ($F_{(2, 2153)}$=50,20;eta^2=0,05; p<,001) razlike u vremenu koje se provede ispred ekrana. Studenti imaju viši rezultat nego studentice (vidi Sliku). Post-hoc usporedbe s pomoću Tukeyeva HSD testa pokazale su da se vrijeme provedeno ispred ekrana u svim trima kategorijama ekonomskog statusa (ES) značajno međusobno razlikuje. Pregledom srednjih vrijednosti vidljivo je da studenti s visokim ES imaju najvišu vrijednost za vrijeme provedeno ispred ekrana, a da studenti s niskim ES imaju najnižu vrijednost za spomenuto vrijeme (vidi Sliku 1).

Tablica 2

Jednosmjerna ANOVA otkrila je značajne razlike u vremenu provedenom ispred ekrana s obzirom na roditeljsko obrazovanje (p<,001). Post-hoc usporedbe s pomoću Tukeyeva HSD testa pokazale su da se srednja vrijednost kod učenika čiji roditelji imaju završeno osnovnoškolsko ili niže obrazovanje značajno razlikuje od onih u drugim kategorijama. Vrijeme provedeno ispred ekrana kod tih je studenata bilo niže vrijednosti nego kod ostalih (Tablica 2).

Osim toga, jednosmjerna ANOVA pokazala je značajne razlike u vremenu provedenom ispred ekrana ovisno o tipu stanovanja studenata (p<,001). Post-hoc usporedbe pokazale su kako razlika proizlazi iz vremena provedenog ispred ekrana kod studenata koji stanuju u studentskim domovima i onih koji stanuju u obiteljskom domu. Oni koji stanuju u državnim domovima imaju nižu vrijednost za spomenuto vrijeme, a oni koji su s obitelji imaju višu vrijednost u usporedbi s kolegama i kolegicama (Tablica 3).

Tablica 3

Nadalje, t-test je ukazao na značajne razlike u vremenu provedenom ispred ekrana s obzirom na dostupnost televizora, računala i interneta na lokaciji stanovanja. Otkriveno je da studenti koji imaju mogućnost pristupa televizoru (p<,01), računalu (p<,001) i internetu (p<,001) imaju više vrijednosti za vrijeme provedeno ispred ekrana od onih koji nemaju takvu mogućnost (Tablica 4).

Tablica 4

Štoviše, postoje značajne razlike u vremenu provedenom ispred ekrana ovisno o tome imaju li studenti vlastitu sobu u kući u kojoj žive s obitelji, odnosno pristup televizoru, računalu i internetu u vlastitoj sobi (p<,001). Studenti koji imaju takve mogućnosti imaju više vrijednosti za vrijeme provedeno ispred ekrana od onih koji ih nemaju (Tablica 5).

Tablica 5

Kada se analizira vrijeme provedeno ispred ekrana s obzirom na broj članova, vidljivo je da studenti iz obitelji s četiri člana ili manje bilježe značajno više vrijednosti za vrijeme provedeno ispred ekrana u usporedbi s onima iz obitelji koje broje više od četiri člana (p<,001) (Tablica 6). Štoviše, jednosmjerna ANOVA pokazuje značajne razlike u vremenu provedenom ispred ekrana kada je u pitanju broj računala kod kuće (p<,001). Post-hoc usporedbe ukazuju na to da studenti koji uopće nemaju ili imaju samo jedno računalo imaju niže vrijednosti za vrijeme provedeno ispred ekrana od onih s dva ili više računala (Tablica 6).

Tablica 6

Rasprava

U ovom su istraživanju istražene razlike u vremenu provedenom ispred ekrana kao pokazatelju sjedilačkog stila života s obzirom na društveno-demografske varijable (spol, ekonomski status, roditeljsko obrazovanje, pristup tehnologiji itd.) sveučilišnih studenata**.** Utvrđeno je kako je vrijednost za vrijeme provedeno ispred ekrana kao jedan od glavnih pokazatelja neaktivnosti sasvim visoka kod sveučilišnih studenata. Kod svih je ispitanika također zabilježeno da provode duže vremena ispred ekrana radnim danima nego vikendom. Kao što je prije spomenuto, u mnogim se europskim zemljama u prosjeku 40 % slobodnog vremena dnevno, a u Australiji 50 %, provodi u gledanju televizije. To odgovara dnevnom gledanju televizije od oko 3,5 do 4,0 sata. U SAD-u prosječan broj sati dnevno provedenih u gledanju televizije iznosi 5 sati (Grontved i Hu, 2011). Kada su u pitanju sveučilišni studenti, američki studenti provedu u prosjeku 2,41 sat dnevno ispred ekrana, od toga 61,26 minuta gledaju televiziju (Fountaine i sur., 2011). Slično tome, vrijeme koje britanski studenti dnevno provedu uz tehnologije (gledanje televizije, računalne igre i računalo) iznosi 2,24 sata (Rouse i Biddle, 2010). Prosječno vrijeme provedeno ispred ekrana (4,33 sata/dnevno) kod studenata u ovom istraživanju iznosi mnogo više nego u slučaju američkih i britanskih studenata. Međutim, sveučilišni studenti u Turskoj imaju nižu vrijednost od tajlandskih studenata koji u prosjeku dnevno provedu 5,3 sati na internetu (Peltzer i sur., 2014). Ne postoje nikakve smjernice za odrasle i količinu njihovih sjedilačkih aktivnosti da bi se prevenirao zdravstveni rizik. Osim toga, kada su u pitanju djeca i adolescenti, preporuka je da ne provode više od 2 sata dnevno ispred ekrana. Sličan prijedlog za odrasle (ne više od 2 sata dnevno) može biti praktičan početak u tome smjeru (Healy, Dunstan, Salmon, Shaw, Zimmet, i Owen,

2008). Polazeći od spomenutoga, vrijeme provedeno ispred ekrana u slučaju mladih odraslih osoba bilo je daleko iznad preporučene razine (4,33 sata dnevno za cjelokupan uzorak). Kao jedan od pokazatelja neaktivnosti, ta situacija povećava mogući rizik od zdravstvenih problema u odrasloj dobi, što je već navedeno.

U ovom su istraživanju rezultati pokazali značajne spolne razlike u vremenu provedenom ispred ekrana. Studenti su više nego studentice uključeni u aktivnosti ispred ekrana. Fountaine i sur. (2011) slično su utvrdili da sveučilišni studenti značajno više vremena provode ispred ekrana općenito i gledajući televiziju nego njihove kolegice. Brojna istraživanja (Iannotti, Janssen, Haug, Kololo, Annaheim, i Borraccino, 2009; Karaca, Çağlar, Bilgili, i Ayaz, 2011; Rideout, Foehr, i Roberts, 2010) na uzorku adolescenata pokazuju da dječaci više nego djevojčice provode vrijeme ispred ekrana, pri čemu se najveća razlika očituje kod igranja igara s pomoću konzole i računala. Rouse i Biddle (2010) su također otkrili da sveučilišni studenti provode više vremena igrajući računalne igre u usporedbi sa studenticama, što je slično rezultatima koje su dobili Ogletree i Drake (2007) u svom istraživanju s učenicima. Navedene spolne razlike mogu biti u funkciji društvenih utjecaja i kulturnih čimbenika. Studentice koje žive sa svojim obiteljima možda pomažu majkama pri obavljanju kućnih poslova, kao što su kuhanje, čišćenje i slično, a studenti su možda više uključeni u gledanje televizije i igranje računalnih ili videoigara poput svojih očeva. Blair (1992) je pokazao da količina kućnih poslova koju obavlja svaki od roditelja bitno utječe na količinu kućnih poslova koju obavlja dijete istog spola (Cunningham, 2001). U Turskoj kućne poslove uglavnom obavljaju žene, a muškarci kod kuće često imaju pasivnu ulogu ili daju potporu (Savaş-Gün, Pirtini, Çelik, i Başçı, 2008). Stoga studenti, barem oni koji žive sa svojim obiteljima, mogu imati više slobodnog vremena, pa su duže ispred ekrana. No, kućni poslovi ne moraju biti jedini razlog zbog kojeg studentice povode kraće vrijeme ispred ekrana. Prema Hagerovu istraživanju (2006), studentice mogu preferirati neke druge oblike sjedilačkog ponašanja, kao što su vođenje telefonskih razgovora, pisanje domaće zadaće i čitanje knjige. Kao dokaz tome spomenimo da Rouse i Biddle (2010) izvješćuju kako studentice provode znatno više vremena „sjedeći i razgovarajući" u usporedbi sa studentima. Nadalje, Fountaine i sur. (2011) su utvrdili da su studentice vremenski znatno više angažirane u pisanju domaće zadaće nego njihovi kolege.

Kada se analizira ekonomski status, rezultati pokazuju da studenti čiji je ekonomski status loš imaju niže vrijednosti za vrijeme provedeno ispred ekrana. Osim toga, studenti koji imaju pristup televizoru, računalu i internetu u svom domu, oni koji imaju dva ili više računala kod kuće, oni koji žive u obitelji, oni koji imaju svoju sobu u obiteljskom domu i oni koji imaju televizor, računalo i internet u svojoj sobi duže provode vrijeme ispred ekrana od studenata koji nemaju takve mogućnosti. Navedeni rezultati odgovaraju onima iz istraživanja koja nalazimo u literaturi. Primjerice, Van Dyck i sur. (2011) ukazuju na pozitivan odnos između broja kućnih računala i korištenja interneta u slobodno vrijeme. U istraživanju na uzorku brazilskih odraslih ispitanika, Mielke i sur. (2014) izvješćuju da je kućna uporaba računala češća među mladim odraslim osobama i onima koje pripadaju skupinama čiji je društveno-ekonomski status visok. Prema

nekim istraživanjima (Ramirez, Norman, Rosenberg, Kerr, Saelens, Durant, i Sallis, 2011; Wethington, Pan, i Sherry, 2013) na uzorku adolescenata, televizor ili sustav za videoigre u spavaćoj sobi pozitivno je povezan s vremenom provedenim ispred ekrana. Na sličan način, druga istraživanja (de Jong, Visscher, HiraSing, Heymans, Seidel, i Renders, 2013; Tandon, Zhou, Sallis, Cain, Lawrence, i Saelens, 2012; Wethington i sur., 2013) provedena s djecom ukazuju na neke bitne odrednice gledanja televizije, kao što su broj televizora u domaćinstvu i njihovo prisustvo u dječjoj sobi. U istraživanju sa sveučilišnim studentima u Belgiji, Deliens i sur. (2015) navode kako dostupnost TV prijemnika ili računala utječe na njihove sjedilačke aktivnosti. Nalazi u ovom istraživanju mogli bi se objasniti društveno-ekonomskih statusom studenata zato što su sve te varijable povezane s obiteljskim primanjima. Studenti čiji je ekonomski status visok imaju na raspolaganju takve mogućnosti više nego ostali. Pristup tehnološkim izvorima kao što je internet vjerojatno će biti veći nego kod ostalih kolega i kolegica. Prema podacima Svjetske banke (2014), stopa posjedovanja TV-prijemnika u turskim domovima iznosila je 98 % (podaci od 2005. do 2013. god.), posjedovanja računala iznosila je 52,9 % (podaci za 2013. god.), a stopa onih koji se koriste internetom iznosila je 46,3 % (podaci za 2013. god.). U svjetlu navedenih podataka, učenici čiji je ekonomski status nizak mogli bi provoditi kraće vrijeme ispred ekrana zbog toga što nemaju tehnološki uređaj kao što je osobno računalo, konzola za videoigre i slično, što bi moglo produžiti spomenuto vrijeme.

U ovom su istraživanju studenti, čiji roditelji imaju završeno osnovnoškolsko obrazovanje ili manje od toga, imali značajno niže vrijednosti kada je u pitanju vrijeme provedeno ispred ekrana. Kada je obrazovna razina turskih roditelja niska (u ovom istraživanju, osnovna škola ili manje od toga), pojedinci često nemaju primanja koja bi omogućila nabavu tehnoloških uređaja. Drugim riječima, taj podatak možda proizlazi iz nedostatka bilo kakvog ili neznatnog pristupa spomenutim tehnološkim izvorima. Suprotno tome, u nekim se istraživanjima (Common Sense Media, 2013; Øverby, Klepp, i Bere, 2013) na uzorku zapadnjačke djece navodi kako djeca čiji roditelji imaju sveučilišno obrazovanje i viši status provode kraće vrijeme ispred ekrana. Druga istraživanja na uzorku adolescenata ukazuju na to da je niža obrazovna razina roditelja povezana s više vremena provedenog ispred televizora (Babey, Hastert, i Wolstein, 2013). Tvrdi se da će roditelji čija je obrazovna razina viša vjerojatno slijediti savjete o zdravlju i ponašati se u skladu s njima (Øverby i sur., 2013). Dakle, njihova bi djeca mogla provoditi kraće vrijeme ispred ekrana. Znakovit aspekt ovog istraživanja odnosi se na to da oni čiji su roditelji obrazovaniji također više vremena provode ispred ekrana, što bi se moglo smatrati određenim upozorenjem i ukazati na potrebu podizanja svjesnosti roditelja o zdravstvenim rizicima čiji je uzrok ispred ekrana dugo provedeno vrijeme. Štoviše, sveučilišni studenti trebali bi biti svjesni mogućih štetnih učinaka dugog boravka ispred ekrana na njihovo zdravlje.

Zaključci

Ovo istraživanje ukazuje na to da je sjedilačko ponašanje koje se temelji na vremenu provedenom ispred ekrana sasvim zastupljeno među sveučilišnim studentima u

Turskoj. Štoviše, studenti duže vrijeme provode ispred ekrana kada se usporede sa studenticama, a vrijeme ispred ekrana produžuje se s višim društveno-ekonomskim statusom i dostupnošću tehnologije. Ti se rezultati mogu smatrati upozorenjem kod mlađih odraslih osoba zbog činjenice da ukazuju na tendenciju preferiranja sjedilačkog stila života. Javno-zdravstvene institucije mogu imati koristi od rezultata ovog istraživanja te poduzeti mjere opreza da bi se vrijeme koje mladi provode ispred ekrana skratilo – dakle smanjila neaktivnost – i razviti interventne strategije (odrediti ciljne skupine, podizati svjesnost roditelja i mladih itd.). U svom pregledu pod naslovom „Kako skratiti vrijeme sjedenja?" Gardner, Smith, Lorencatto, Hamer i Biddle (2016) predlažu onima koji planiraju interventne mjere da razmotre restrukturiranje okoliša i primijene samoregulatorne tehnike, kao što su samonadgledanje, rješavanje problema i informiranje o zdravstvenim posljedicama.

Potrebno je spomenuti određena ograničenja u ovom istraživanju. Prvo, rezultati mogu biti relevantni samo za sveučilišne studente, što ograničava mogućnost njihova generaliziranja, s obzirom na to da nisu svi mladi odrasli ljudi sveučilišni studenti. Drugo, nije moguće uspostaviti uzročno-posljedične odnose jer je istraživanje transverzalno. Unatoč navedenim ograničenjima, doprinos istraživanja je u tome što, među prvima, omogućuje podatke o vremenu koje mlade odrasle osobe u Turskoj provode ispred ekrana u odnosu na društveno-demografske varijable. Uporaba mobitela nije uključena u istraživanje zbog činjenice da se oni mogu koristiti kada smo u pokretu ili se krećemo. Budućim bi se istraživanjima moglo analizirati vrijeme provedeno u upotrebi mobitela u sjedećem položaju, zatim vrijeme koje mladi koji nisu studenti provode ispred ekrana, te uzeti u obzir dostupnost ostalih aktivnosti kojima se osobe u svom okruženju bave u slobodno vrijeme.

Napomena

Autori izjavljuju da nisu u sukobu interesa i da su sami odgovorni za sadržaj i autorstvo ovog rada.