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Alcohol Scale, Internet Addiction Scale, E-Victim Scale and E-Bullying Scale in Cigarette Addicted University Students

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Abstract. The present study aims to determine the relevant variables for the scores obtained from alcohol addiction, internet addiction, e-bullying, and e-victimization scales of smoking addictive university students and to investigate the possible correlations between the scales. The study group consists of 300 students who declared that they smoked at least one cigarette every day for the last 6 months. The data were collected with a face-to-face interview method. The form used in the study consisted of items belonging to alcohol addiction, Internet addiction, e-bully, and e-victimization scales. According to the Alcohol Scale, 61.3% of the participants were in the non-addictive group, and 63.3% were in the risk group according to the Internet addiction scale. 2.7% of the participants were e-bullies and 2.3% were e-victims. There was no correlation between the Alcohol Addiction and the Internet Addiction scores of the participants ($p>0.05$), while a weak positive correlation was detected between the e-bullying and e-victimization scores (for each; $p<0.05$). A positively weak correlation was found between the Internet Addiction score and e-bullying and e-victimization scores ($p<0.05$ for each). Our results suggested that students with any type of addiction have a higher risk for other types of addictions (substance-behavioral) as well.

Keywords. Alcohol, Internet, Addiction, E-Victim, E-Bullying

Introduction

University studentship covers the ages of 18–25 years, which are a part of the youth. This period is often accompanied by various problems, such as stress from exams, separation from the family, adapting to a different environment, economic difficulties and future anxiety. Although young adults want to escape their problems in an effort to prove themselves, they can turn to addictive substances as a result of envy due to the influence of social environment or as a means of entertainment (Çetin, Cantürk, & Dağalp, 2019a).

Addiction is the inability of a person to quit the use of a substance or a certain behaviour despite attempting to do so various times, or the loss of control over the use of the substance or behaviour (WHO).

People who use any addictive substance have an increased likelihood of using other types of substances as well. Several studies have shown that the rate of alcohol use in smokers is higher than in non-smokers; similarly, the likelihood of smoking is higher in those who drink alcohol compared to those who do not drink alcohol (Çetin, Cantürk, & Dağalp, 2019a; Bold et al. 2020). The rapid development and spread of the internet has provided convenience to human life in many ways. Furthermore, the increasing duration of internet use and the changing areas of use have resulted in the emergence of new concepts like internet addiction and cyber bullying. Young describes internet addiction as, in general, the inability to overcome the desire to overuse the internet, loss of importance given to the time spent without being connected to the internet, state of excessive irritability and aggression when deprived and the gradual deterioration of the work, social and family life of a person (Young 2004). The internet usage rate is higher in young people. High school and university students in the younger age group are the risk group for the development of internet addiction (Young 2004; Çetin, Cantürk, & Dağalp, 2019b).

Although there are many different definitions of the term ‘e-bullying’, it generally refers to the use of digital technology to cause damage or bully repeatedly (Englander et al. 2017). Similarly, in e-victimisation, an individual, group, or private or legal entity is deliberately subjected to harmful behaviour by electronic communication devices, and therefore is victimised morally or materially (Aricak, Tanrikulu, & Kinay, 2012).

This study aimed to determine the variables associated with alcohol abuse, internet addiction, e-bullying and e-victimisation scale scores of university students who are addicted to smoking and determine whether a correlation between the scales exists.

Method

Study-group Procedure

This cross-sectional study was performed on students studying at Ankara University Faculty of Medicine (AÜTF), Faculty of Law (AÜHF) and Faculty of Engineering (AÜMF) between October 2018 and March 2019. The study group comprised 300 students who declared that they had smoked at least one cigarette every day for the last 6 months and volunteered to participate in the study (WHO 1998).

To conduct the study, Ankara University Ethics Committee’s approval (Date: 25/06/2018; No.: 10/155) was obtained. Additionally, written permissions were obtained from the dean’s office of the relevant departments. Furthermore, the necessary permissions were obtained from the authors of the scales used in the study. After being informed about the subject and study aim, written consent was obtained from the students who agreed to participate in the study. The form containing scale materials was filled out by the investigators using the face-to-face interview technique.

Data Collection Tools Used in the Study

The form used in the study contains scale items and has three parts.

Alcohol Scale: This scale was developed by Ögel et al. in 2017 for identifying risk groups. The alcohol scale is a 3-point Likert scale consisting of six items. It is used to determine the amount of alcohol consumed in the last six months, the frequency and time of alcohol use and its effects on the participant’s social and family life. The highest score on the scale is 12, and a score of 3 and above is considered high risk (Ögel, Koç, & Görücü, 2017). A study on the validity and reliability of this scale was conducted by Çetin et al. in 2019 on teenagers addicted to smoking (Kaiser-Meyer-Olkin [KMO] value = 78.5%, Bartlett’s Test chi-square value = 236.847, Cronbach’s alpha coefficient = 0.805) (Çetin, Cantürk, & Dağalp, 2019a).

Internet Addiction Scale: It was developed by Güniç (2009) in a study on secondary school students. The internet addition scale is a 5-point Likert scale comprising 35 items. As the score received from the scale increases, the level of addiction increases (Güniç & Kayri, 2010).

The validity and reliability study of this scale was conducted by Çetin et al. in 2019 on university students that were smokers (KMO value = 88.1%, Bartlett's Test chi-square value = 2661.017, Cronbach's alpha coefficient = 0.943) (Çetin, Cantürk, & Dağalp, 2019b).

E-Bullying and E-Victimisation Scales: The Turkish validity and reliability study of the scales developed by Lamı and Lii in 2013 was conducted by Gençdoğan and Çikrikci in 2015 (Gençdoğan & Çikrikci 2015). Both scales are 7-point Likert scales; the e-bullying scale contains six items, and the e-victimisation Scale includes five items. Çetin et al. conducted a validity and reliability study of the scales in 2019 on university students that were smokers (E-Bullying Scale KMO value = 79.8%, Bartlett's Test chi-square value = 323.480, Cronbach's alpha coefficient = 0,834; E-Victimisation Scale KMO value = 73.9%, Bartlett's Test chi-square value = 224.418, Cronbach's alpha coefficient = 0.808) (Çetin, Cantürk, & Dağalp, 2019c).

Statistical Analysis

The data obtained in our study was evaluated using IBM SPSS (version 20.0) package programme on a personal computer. The responses provided by the participants were presented with descriptive statistical information such as number, percentage and standard deviation (SD). The normal distribution of the scores from the scales was evaluated by the Shapiro Wilk test, which showed a lack of normal distribution. Chi-square test was used for the categorical evaluation of the scores obtained from the scales and the Spearman correlation analysis was used for the evaluation of the continuous data.

Results

It was determined that 68.7% of the participants (n = 206) had not used alcohol in the last 6 months. The scores from the alcohol scale ranged from 0 to 11; the mean (SD) and median scores were 2.3 (2.5) and 2, respectively. There was no relationship between the department in which the participants were studying and the scores they received from the alcohol scale (Kw = 5.631; p = 0.060) (Table 1). Based on the categorical evaluation, 61.3% (n = 184) of the students were in the non-addicted group according to the alcohol scale.

Table 1. Distribution of alcohol addiction status of the participants based on their study departments

Alcohol Addiction Status	n (%)	Study Department			Statistical Analysis Chi-square; p
		Law n (%)	Engineering n (%)	Medicine n (%)	
(0-2) Non-addicted Group	184 (61.3)	66 (35.9)	57 (31.0)	61 (33.1)	9.378; 0.153
(3-5) Threshold Group	83 (27.7)	25 (30.1)	27 (32.5)	31 (37.3)	
(6-8) Risk Group	25 (8.3)	9 (36.0)	10 (40.0)	6 (24.0)	
(9-12)	8	0	6	2	

Addicted Group	(2.7)	(0.0)	(75.0)	(25.0)	
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The scores of the participants on the internet addiction scale ranged between 35 and 157; the mean (SD) and median scores were 81.5 (24.8) and 78.190, respectively. Additionally, 63.3% of the participants were in the threshold group. There was no relationship between the department in which the participants were studying and the scores they received from the internet addiction scale ($p > 0.05$) (Table 2).

Table 2. Distribution of internet addiction status of the participants based on their study departments

Internet Addiction Status	n (%)	Study Department			Statistical Analysis Chi-square; p
		Law n (%)	Engineering n (%)	Medicine n (%)	
(0–44) Non-addicted Group	11 (3.7)	5 (45.5)	4 (36.3)	2 (18.2)	5.030; 0.540
(45–88) Threshold Group	190 (63.3)	67 (35.3)	61 (32.1)	62 (32.6)	
(89–132) Risk Group	87 (29.0)	23 (26.4)	33 (38.0)	31 (35.6)	
(133–175) Addicted Group	12 (4.0)	5 (41.7)	2 (16.6)	5 (41.7)	

The scores of the participants on the e-bullying scale ranged between 0.0 and 36.0; the mean (SD) and median scores were 3.9 (6.6) and 1.0, respectively. Additionally, 91% of participants ($n = 273$) were not e-bullies. There was no relationship between the department in which the participants were studying and the scores they received from the e-bullying scale ($p > 0.05$) (Table 3).

Table 3. Distribution of the participants' scores from e-bullying scale based on their study departments

E-bullying Status	n (%)	Study Department			Statistical Analysis Chi-square; p
		Law n (%)	Engineering n (%)	Medicine n (%)	
(0–12) Not a Bully	273 (91.0)	93 (34.0)	90 (33.0)	90 (33.0)	0.737; 0.947
(13–24) Tendency for Bullying	19 (6.3)	5 (26.2)	7 (36.8)	7 (36.8)	
(25–36) Bully	8 (2.7)	2 (25.0)	3 (37.5)	3 (37.5)	

The scores of the participants on the e-victimisation scale ranged between 0.0 and 30.0; the mean (SD) and median scores were 4.7 (6.2) and 2, respectively. Furthermore, 82.3% of the participants ($n = 247$) were not e-victims. The distribution of the scores received by the participants from the e-victim scale based on the department in which they were studying are provided in Table 4. There was no significant difference between the groups ($p > 0.05$).

Table 4. Distribution of the participants' scores from the e-victimisation scale based on their study departments

E-victimisation Status	n (%)	Study Department			Statistical Analysis Chi-square; p
		Law n (%)	Engineering n (%)	Medicine n (%)	
(0–10) Not a Victim	247 (82.3)	79 (32.0)	86 (34.8)	82 (33.2)	3.647; 0.456
(11–20) Risk of Victimisation	46 (15.3)	19 (41.3)	13 (28.3)	14 (30.4)	
(21–30) Victim	7 (2.3)	2 (28.6)	1 (14.3)	4 (57.1)	

In this study, no relationship was observed between the scores received from the alcohol abuse scale and those from the internet addiction scale ($p > 0.05$). However, there was a weak positive correlation between the scores received from the internet addiction scale and those from the e-bullying and e-victimisation scales ($p < 0.05$ for each). The relationship between the scores received from the scales are provided in Table 5.

Table 5. Relationship between the scores obtained from scales

Scales	Alcohol Addiction r; p	Internet Addiction r; p	E-bullying r; p	E-victimisation r; p
Alcohol Addiction	-	0.107; 0.063	0.173; 0.003	0.124; 0.031
Internet Addiction	0.107; 0.063	-	0.278; 0.000	0.191; 0.001
E-bullying	0.173; 0.003	0.278; 0.000	-	0.503; 0.000
E-victimisation	0.124; 0.031	0.191; 0.001	0.503; 0.000	-

Discussion

University years, which typically coincide with the young adult period, are among the most risky periods for behavioural addictions, such as smoking, alcohol and internet use, due to various reasons, including separation from the family, adapting to a new environment, coping with stress, self-assertion, and mental agitation due to adolescence (Çetin, Cantürk, & Dağalp, 2019a). Although the reasons are not fully understood, using an addictive substance can increase the likelihood of using other addictive substances due to the effects of neurobiological mechanisms in addition to genetic and environmental factors (Drobes, 2002). Substance use often begins with smoking and can be accompanied by other the use of addictive substances

over time. According to the theory of problem behaviour, it is assumed that problematic behaviours have a tendency to occur simultaneously among young people, and that individuals who have problematic behaviour are at a higher risk of other problematic behaviours (Jessor & Jessor 1977). Accordingly, our study aimed to evaluate the scores of university students that were smokers on the alcohol abuse, internet addiction, e-bullying and e-victimisation scales.

In our study, it was found that approximately one of three students who smoked had alcohol in the last six months. Similar to our study, a study by Miller and Gold demonstrated that 30% of smokers drink alcohol (Miller & Gold 1998). A study on 10234 students who presented to the primary health care department of universities in the United States and Canada had shown that 84.0% of the participants drink alcohol, and another study on 1851 university students in Lebanon had shown that 49.4% of the students drink alcohol (Karam et al. 2000; Zakletskaia, Wilson, & Fleming, 2010). In our study, it was found that 8.3% of the students were in the risk group for alcohol abuse, and 2.7% of the participants were in the group addicted to alcohol. In the study by Zakletskaia et al., alcohol use by students was evaluated in two different ways; it was reported that 57% of the students were in the risk group, which was based on classification according to the amount of alcohol consumed. Additionally, the frequency of alcohol abuse and alcohol addiction in this study was 33% and 1%, respectively, according to the scale evaluation (Zakletskaia, Wilson, & Fleming, 2010). In the study conducted by Karam et al. in Lebanon, 2.1% of the students were in the alcohol abuse group and 2.4% were in the alcohol addiction group (Karam et al. 2000). In another study conducted in Turkey, 2.2% of the students were diagnosed with alcohol abuse and 1.2% were diagnosed with alcohol addiction (Kaya & Çilli 2002). The higher frequency of alcohol use in our study compared to the general population in Turkey is due to the fact that our study was conducted only in smokers and a narrower age range. The frequency of alcohol use and its declaration may vary according to the belief structure and cultural characteristics of the countries. Additionally, factors like not using the same classifications and scales to evaluate alcohol use may lead to differences in the study results.

The overlap between internet addiction and other substance addictions, such as alcohol, can be attributed to personal traits that predispose individuals to addiction, psychosocial and neurobiological factors. Therefore, the likelihood of other types of addiction is higher in individuals with any substance and behaviour addiction (Morioka et al. 2017; Lee et al. 2013). In this study, there was no correlation between the scores received from the alcohol and internet addiction scale. However, those in the threshold group and above for alcohol abuse had a tendency for internet addiction, and those in the risk group and above for internet addiction had a tendency for alcohol addiction ($p < 0.05$ for each). In the study conducted by Morioka et al. in Japan, it was reported that the rate of internet addiction was higher in alcohol users, and the frequency and amount of alcohol use was higher in those with internet addiction (Morioka et al. 2017). In a study conducted by Lee et al., it was reported that alcohol use was a risk factor for internet addiction, but this relationship could not be demonstrated after adjustment in the multivariate analyses (Lee et al. 2013).

E-bullying and e-victimisation are closely related to depression, anxiety disorder and substance use (Mitchell, Ybarra, & Finkelhor, 2007). In this study, there was a positive correlation between students' scores on the alcohol abuse scale and e-bully and e-victimisation scales. It was also found that those at risk of alcohol addiction had a higher tendency to become e-bullies/victims, whereas e-bullies had a higher tendency to be addicted to alcohol. In a study conducted by Chan et al. in the USA, it was reported that youngsters who were e-bullies had a higher alcohol consumption frequency and amount, and youngsters with high alcohol consumption frequency and amount were more likely to commit e-bullying over time. The same

study showed that e-victims consumed more alcohol over time (Chan, La Greca, & Peugh, 2019). In a meta-analysis study by Fisher et al. and by Kowalski et al., e-victimisation was associated with alcohol-substance use and e-bullying was associated with alcohol-substance use, respectively (Fisher, Gardella, & Teurbe-Tolon, 2016; Kowalski, Giumetti, Schroeder, & Lattanner, 2014). There is a complex relationship between e-bullying/victimisation and alcohol abuse, and the theory of self-medication is widely accepted. Based on this theory, e-bullies or e-victims tend to use alcohol to deal with negative emotions, such as impulse control disorder, depression, social anxiety and stress (Mitchell, Ybarra, & Finkelhor, 2007).

In addition to providing many advantages, uncontrolled use of the internet can result in negative consequences from social, psychological and physical aspects. Hence, internet addiction has negative consequences on family relations, daily functionality and social life and therefore, has become an important public health problem (Hassan, Alam, Wahab, & Hawlader, 2020). In our study, it was found that approximately one in three students was in the risk group for internet addiction; 4% were addicted to the internet. In Cheng and Li's meta-analysis study covering research in seven regions and 31 countries of the world, the global prevalence estimate of internet addiction was 6.0% (Cheng & Li 2014). A study by Hassan et al. in Bangladesh using Young's internet addiction scale, the rate of internet addiction was 28.6% in the 19–24 age range. In the same study, the rate of internet addiction was 47.0% in smoker, which was significantly higher than in non-smokers (Hassan, Alam, Wahab, & Hawlader, 2020). A study by Islam and Hossin reported that the frequency of problematic internet usage was 24% and was associated with the habit of smoking (Islam & Hossin 2016). In a study conducted by Al-Gamal et al. on university students in Jordan the rate of problematic internet usage was 40%. The rate of internet addiction was 5.9% in a study conducted by Chien and Hsiao in Taiwan (Al-Gamal, Alzayyat, & Ahmad, 2016; Chou & Hsiao 2000). The difference in the study results may be explained by the cultural characteristics of the societies where these studies were conducted, the lack of a standard diagnostic criterion for defining internet addiction and the variations in measuring instruments used in the studies.

The rise in internet and information technologies has resulted in individuals spending more time online. As the time spent online increases, the risk of exposure to various potential risks, such as meeting dangerous people, exposure to deviant sexual messages, neglect of privacy, and commercial abuse, increases (Leung & Lee 2012). In our study, there was a positive correlation between the scores from the internet addiction scale and those from the e-bullying and e-victimisation scales. Also, the scores obtained from the e-bullying and e-victimisation scales of those in the internet addiction risk group and e-victimisation and e-bullying risk groups had higher scores in the internet addiction scale ($p < 0.05$ for each). Similarly, a study by Şimşek et al. reported a positive correlation between the scores of the internet addiction scale and e-bullying and e-victimisation scales (Simsek, Sahin, & Evli, 2019).

Today, e-bullying and e-victimisation and the problems caused by them have become an important public health problem (Lin et al. 2020). Rapid changes and developments in technology and communication tools result in the spread of e-bullying and e-victimisation. In our study, 9% of the students were prone to e-bullying, whereas 17% were at risk of e-victimisation. In addition, scores from the e-bullying and e-victimisation scales were positively correlated. The rate of e-bullying was 35.8% for those with the risk of e-victimisation, whereas this rate was 3.2% for those with no risk of e-victimisation ($p = 0.000$). In a survey conducted by Dilmaç in Turkey, 55.3% of the respondents were exposed to e-bullying at least once in their lifetime and 22.5% were e-bullied at least once (Dilmaç, 2009). In a study conducted by Arıcak et al. in adolescents, 35.7% of students exhibited e-bullying behaviour, 23.8% exhibited e-victim behaviour and 5.9% were e-victims (Arıcak et al. 2008). A study conducted by

MacDonald and Roberts-Pittman in the United States, 38% of university students knew someone who was subjected to e-bullying, 21.9% were e-victims and 8.6% were e-bullies (MacDonald & Roberts-Pittman 2010). In a study conducted by Qudah et al. in Saudi Arabia, the rate of e-bullying among students was 17.6% (Al Qudah, et al 2020). This study, which included 1501 young people who were regular internet users, reported that 19% of the participants were involved in e-bullying. Additionally, 12% of the participants were e-bullies, 4% experienced e-victimisation and 3% experienced both e-bullying and e-victimisation ($p = 0.000$) (Ybarra & Mitchell 2004). In a study conducted with 432 students in Canada, 69% of the students witnessed cyberbullying, 21% experienced cyberbullying multiple times, and 3% committed cyberbullying (Beran & Li 2005). Similar to our study, in a study by Peker et al., there was a positive correlation between the scores from the e-victimisation and e-bullying scales (Peker, Eroğlu, & Ada, 2012). There are various reasons for university students being in the at risk group for being e-bullies/e-victims. Factors like getting acquainted with peers in a new environment, having devices like smartphones, feeling freer as a result of leaving the family, changing responsibilities and the stress of dealing with these may be playing a role. On the contrary, the overlap of e-bullying and e-victimisation may be due to a sense of vengeance (Al Qudah, et al. 2020; Ybarra & Mitchell, 2004; Beran & Li 2005; Peker, Eroğlu, & Ada, 2012).

In conclusion, our study demonstrated that students with any addiction are at a higher risk for other types of addiction (substance-behavioural) and the negative outcomes caused by them. Therefore, it is important to study sensitive groups, such as university students, at certain intervals for risky behaviour. It is also clear that more comprehensive studies are needed to gain a complete understanding of the rate and types of addiction, their causes and interaction with each other.

The limitations of our study were that this was a cross-sectional type study and that our sample does not represent the entire university.

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