AN INVESTIGATION OF THE RELATIONSHIP BETWEEN HIGH-SCHOOL STUDENTS' PROBLEMATIC MOBILE PHONE USE AND THEIR SELF-ESTEEM LEVELS

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Excessive mobile phone use, especially among adolescents, brings too many debates about its effects. To this end, in this study, we try to investigate the relationship between adolescents' mobile phone use and their self-esteem levels with regard to their genders. For 919 high school students, we evaluated mobile phone use concerning their self-esteem levels by using the Problem Mobile Phone Use Scale and Rosenberg Self-Esteem Scale. The findings indicate that there is a significant relationship between problematic phone use and self-esteem levels, and that there is also a significant difference between problematic mobile phone use and gender.

Keywords: Mobile phone use, self esteem, social interactions, mental health.

Introduction

Mobile phone is seen as one of the greatest innovations both in developed and developing countries. Advancements in mobile phones enable its users not just to communicate but also to use different applications such as camera, internet, music player, games, social media etc. According to The International Telecommunication Union, at the end of 2011, there were 6 billion mobile subscriptions. This number equals to 87 percent of the world population. There is a huge increase in subscriptions of mobile phone from 4.7 billion in 2009 to 5.4 billion in 2010 (http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats/a.). Especially, the young tend to be the most potential customers of the mobile services. In a study conducted by Martinotti *et al.* (2011), it was found that 91.7 % of the teenagers between 14 and 17 have their own mobile phones.

Mobile phone can be considered as one of the most commonly used mediums for a better communication in the new era (Liao & Wan, 2010) and it is also seen as the most outstanding device in the field of technology (Walsh, White, Cox & Young, 2010). With an excessive rise in smart mobile phones, the use of phones takes on a new dimension. Many findings have indicated that using only mobile phones for communication is generally common among young adults (Cotten, 2008; Walsh, White & Young, 2010). Indeed, they are more likely to use the SMS function more

frequently than older people (Bianchi & Phillips, 2005). However, this should not mean that older people cannot use any functions of mobile phones.

While mobile phones are extremely attractive as a tool for communication and interpersonal interaction, there has been a significant increase in its problematic use (Bianchi & Phillips, 2005). Nowadays, a marked addiction is also observed in technological devices although they offer crucial benefits for users; therefore, a new term has emerged in the literature about using mobile phones excessively which is called technological addiction (Yen *et al.*, 2009), which occurs when people overuse a device to obtain beneficial outcomes (Walsh, White & Young, 2010). Addiction is defined as an abnormal dependence on objects or activities (Park, 2005; Walsh, White & Young, 2007) despite their negative outcomes (Walsh, White & Young, 2008). Modernity, in a sociological perspective, requires new acquaintances to make people social beings; however, mobile phone use strictly narrows people's close environment and thus prevents them from having new and different social environments (Geser, 2006). For example, in a study, it was found that Koreans use mobile phone not for meeting new people but for keeping in touch with already-known people, and the same problem can also be noticed among people in Italy (Ko, *et al.*, 2011; Geser, 2006). Therefore, excluding oneself from the social surrounding or unwillingness to be included in it is one of the signs of addictive behavior. Other consequences of addictive behaviors are also possible for mobile phone addiction: losing control (as opposed to unwillingness that causes someone to overindulge in activities) and salience (desire to be dominant in activities) (Walsh, White & Young, 2007). In concordance with these, for example, in a study carried out among Korean college students, they reported that they tend to be anxious if they do not use mobile phones in a day (Park, 2005), which can be considered as the initial point of technological addiction.

As mentioned above, mobile phone use has corruptive results such as loneliness, anxiety due to lack of it, psychiatric and sleeping disorders (Liao & Wan, 2010; Thomée, Harenstam & Hagberg, 2011), depression (Thomée, Harenstam & Hagberg, 2011) and physical symptoms such as headache (Augner & Hacker, 2010; Liao & Wan, 2010; Thomée, Harenstam & Hagberg, 2011), earache (Thomée, Harenstam & Hagberg, 2011). For instance, when someone does not call a mobile phone user, s/he may probably feel lonely or when friends do not call back, s/he tends to feel nervous. Or anxiety can be observed if there is an obstacle for using the mobile phone (Yen *et al.*, 2009).

It has been stated that men have dominance over technology as compared to women (Augner & Hacker, 2010; Iqbal, 2010). The reason stems from behavioral differences; that is, men are thought to be strong, rational and ambitious as opposed to being sensitive and paying attention to people's needs. Thus, men's use generally focuses on technological reasons and business calls; however, women's use generally focuses on sociability (Iqbal, 2010). In a Spanish study carried out among the adolescents from 13 to 20, more frequent use of mobile phone is found among girls (Augner & Hacker, 2010). In addition, some other research emphasizes that today women have more tendency towards mobile phones (Bianchi & Phillips, 2005; Srivastava, 2005). Therefore, male's dominance over mobile phone should now be up-to-date as it is suggested that the latest technology, especially mobile phone technology, provides individual communication and causes complex social behaviors as well as providing immediate use, fashion and showing status, and portability (Iqbal, 2010). Therefore, all these features can easily address to both genders. Despite all

this information in the literature, research on genders in mobile phone use does not offer clear results and it is likely that this difference may be over.

Thus, in this study we seek answers to the following questions:

Is there a significant difference between the levels of problematic mobile phone use and self-esteem according to gender?

Is there any relationship between the levels of problematic mobile phone use and self-esteem?

Method

Population and Sample

In this research, a descriptive survey method was used. The population was selected from among the high school students of Aksaray, Niğde, Kayseri and Sakarya Provinces in Turkey. The sample consists of 919 students; 422 (43 %) female and 497 (57 %) male students.

Instruments

1- The Problematic Mobile Phone Use Scale

The Cronbach's Alpha was found to be 0.93 in the estimation of internal reliability of the original form of Bianchi and Phillips' scale (2005). The original scale was then adapted by Şar and Işıklar (2012) to Turkish. This scale, whose aim is to indicate the level of adults' problematic mobile phone use, is composed of 27 items and is a five point likert scale. The scores vary from 1 to 135 and higher scores reveal mobile phone addiction. In the first step of the adaptation study, the correlation between English and Turkish forms was estimated at 0.78 and both of them were accepted as having equivalent value. In reliability and validity studies, the Cronbach Alpha internal consistency coefficient was estimated at 0.94 and the reliability coefficient was found to be 0.88.

2- The Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (RSES) (Appendix D) is a 10-item Guttman Scale which was developed by Rosenberg (1965) and adapted by Cuhadaroglu (1986). In the adaptation study, psychiatric interviews conducted with high school students were used as the criteria for the RSES. Examining the correlation coefficient between the scores of interviews and self-esteem scale revealed a good criterion coefficient of .71. On the other hand, in a recent study conducted by Celik (2004), RSES was also found to be quite reliable in a university sample. In Celik's study, Cronbach Alpha coefficient for RSES was found to be .87 (n = 733).

Findings

Descriptive statistics was used in the analysis of the data. In order to determine whether there was a significant difference between the levels of problematic mobile phone use and self-esteem according to genders, the independent samples t test was, and in order to determine whether there was any relationship between the levels of problematic mobile phone use and self-esteem, correlation analysis was used.

Table 1. The t-Test Results of Adolescents' Problematic Mobile Phone Use and Their Self- Esteem Levels According to Gender

	Gender	N	Mean	Std Deviation	t	P
Self-esteem	Female	422	4.81	1.14	30.09	.001
	Male	497	2.48	1.18		
Mobile Phone	Female	422	93.63	24.61	16.17	.001
	Male	497	66.03	26.71		

Table 2. The Correlation Results of Problematic Mobile Phone Use and Self-esteem

	Prb.Mob.P.U.	Self-esteem	Sig.(2-tailed)
Prb.Mob.P. U.	--------	.329**	.01
Self-esteem	.329**	---------	.01

** The correlation of these two variables is statistically significant (0.01)

Considering the results of t test in Table 1, when self-esteem scores are examined according to gender, the self-esteem level of females is found to be higher than the self-esteem levels of males. When the students' problematic mobile phone use scores are examined, the scores of the male students are higher than the scores of the female students. The male students' level of problematic mobile phone use is found to be higher than the female students' level of problematic mobile phone use.

The results indicate a positive correlation between these two variables (.329) and the correlation is significant at the level of .01. High scores of self-esteem suggest lower self-esteem and high scores of problematic mobile phone suggest problematic mobile phone use. Therefore, the more problematic mobile phone use is, the lower self-esteem individuals have.

Discussion

With the growing technology, mobile phone ownership and its use are seen as indicators of how we live and feel. Sharp rises, especially, in the smart phone consumption show how popular the use of mobile phones have become among young people. Like a range of other technologies, children and young adults have indeed been avid adopters of mobile phones (Leung, 2008). Adolescents' overuse of mobile phone, of course, causes many debates as it may lead to negative consequences (James & Drennan, 2005). Thus, this research addressed the following two fundamental questions regarding mobile phone use and self-esteem of the students: Is there any relationship between the levels of problematic mobile phone use and self-esteem? and Is there a significant difference between the levels of problematic mobile phone use and self-esteem according to gender?

The previous research stated that much frequent use is closely related to lower self-esteem (Liao & Wan, 2010) in adolescents as well (Ko *et al.*, 2011), which was also the case for our study. We found a similar relationship between mobile phone use and self-esteem as parallel to the previous research (Phillips *et al.*, 2006; Yang *et al.*, 2010; Leung, 2008; Walsh *et al.*, 2009) which implied lower self-esteem levels regarding the overuse of mobile phone.

As we stated above, problematic phone use has negative consequences. Abnormal behaviors, social problems and emotional conditions are related to problematic use. For example, it is stated that emotional conditions such as lower self-esteem and tendency to suicide affect mobile phone use negatively (Augner & Hacker, 2010).

For the gender variable, as reported in the introduction part, it is difficult to conclude whether there is a sharp difference in mobile phone use between gender. Another question of the study was Is there a significant difference between the levels of problematic mobile phone use and self-esteem according to gender? As a result, the male students' level of problematic mobile phone use was found to be higher than the female students' level of problematic mobile phone use. When relevant studies are examined, there is no significant correlation between males and females regarding problematic mobile phone use (Augner & Hacker, 2010). In Billieux *et al.*'s

study, it is also emphasized that as for problematic mobile phone use, females tend to be more addicted than males, whereas males tend to use mobile phones more frequently in dangerous situations (Billieux *et al.*, 2008). Bianchi & Philips (2005) also found that females use mobile phones for social reasons, whereas males use them for business. Still another study found that females tend to talk much more on the phone than males do, whereas males are interested in mobile phone more for business purposes (Balakrishnan & Raj, 2011). Therefore, we can conclude that these findings cannot supply sufficient information about whether gender is one of the best predictors of the mobile phone use/addiction although there are some studies (and our research is also included) which change this gender balance. This study examined the relationship between problematic phone use and self- esteem with regard to gender. The limitation of the study is that although self-esteem is seen as a strong predictor of addiction, it is fairly weak to predict problematic mobile use on its own. In the lights of these findings, we can suggest that for further research, age and race differences should also be considered in order to get a more concrete and certain conclusion. For a better understanding, other dependent variables such as academic performance and subjective well-being as a consequence of addictive use of the mobile phone may also be examined. More studies should be done to clarify people's dependence on the technology, and every change in technology should also be taken into account about its effects especially on adolescents' lives.

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