Effect of Sex, Course and Age on SMS Addiction in Students

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Abstract: The purpose of this research is the study of effect of sex, course and age on SMS addiction in students the use of the mobile has increased considerably over the last few years. With this increasing number of mobile users, the problem of SMS addiction has attracted high attention from psychiatrists, psychologists, educators and the public.The method of the study was descriptive. The entire student of Islamic Azad University in Mazandaran province was considered as population of this research. The sample included 345 students were selected by using Kerejcie and Morgan's table. The research instrument was SMS addiction questionnaire. As for the reliability of the instrument, Cronbach's Alpha Reliability Coefficient were calculated 0.81. The scores obtained from both questionnaires were subjected to a number of descriptive and inferential statistics. Results of research showed that: 1) There is not significant difference between SMS addiction in male and female (t=0.313, p>0.05).2) There is significant difference between SMS addiction in students of university with different course or academic groups (F=3.071 & p<0.05).3) There is significant difference between SMS addiction in students of university with different ages (F=3.73 & p<0.05). SMS Addiction is currently becoming a serious mental health problem among college students. Cellular phone use (CPU) is an important part of life for many adolescents. Problematic CPU may complicate physiological and psychological problems. SMS Addiction is new challenge in health psychology needed to prevention and cure considerations.

Key words: SMS Addiction · Sex · Course · Age · College students

INTRODUCTION

Leave it to psychologists to label yet another behavior as an "addiction"-short message service (SMS), also commonly known as text messaging (or just plain "texting"). However, let us back up a bit, because this is becoming commonplace with any new technology that seems to eat up people's time and attention. In modern times, we can trace the desire to call certain behaviors without drugs "addictions" to the rise and popularity of coin-operated and home video games in the 1970s and 1980s. Really, is SMS and texting an addiction, or just the latest technological fad that people obsess about for a while? Cellular phone use (CPU) is an important part of adolescent life in many developed countries [1]. In the Asia Pacific region, Taiwan is the first economy to have more than 100 subscribers of cellular phones per 100 inhabitants [2]. Problematic CPU could be considered as one form of technological addictions. Because DSM-IV-TR does not offer a category for addictions [3], confusion has reigned in the diagnosis, treatment and research of these conditions. A popular response, reflected in the work of addictions researchers such as Griffiths [4], is that

non-substance addictions are compared to the diagnostic criteria for established substance addictions to provide both a biopsychosocial context and a direction for a comprehensive model of addiction [5,6].

Although the widespread availability of text-messages provides a convenient way of communication, it has been pointed out that some people show overdependence on text-messages in their daily lives, or the so-called 'text-message dependency' [7]. According to the definition and the characteristics of Internet dependency introduced above, this study operationally defines text-message dependency as "text-messaging-related compulsive behavior that causes psychological/behavioral symptoms resulting in negative social outcomes." Although this definition involves broader ranges of phenomenon caused by text-messages, this study particularly aims to focus on the relationship between psychosocial factors and psychological/ behavioral symptoms throughout the process of text-message usage. In terms of text-message dependency, interpersonal relationships with intimate friends are considered to be a significant trigger [8, 9].

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The contextual mobility of mobile phones provides freedom of choice to users in both private and public situations [10]. In particular, text-message dependency may be based on an acute need for interpersonal communication. Text-messages are exchanged mainly within existing social networks composed of acquaintances who have already known each other [11,12]. Although text-messages are useful for maintaining weak and strong relationships, they also cause 'text-messaging ostracism' that leads to isolation or exclusion in text-message-mediated friendship networks [13]. Thus, some people may be obsessive about receiving and sending text-messages to avoid rejection, implying that text-message dependency is related to a compulsion for gaining approval from intimate friends. Compulsive use of communication media may produce negative social outcomes. Due to excessive time spent online, psychological/behavioral symptoms, such as sleeping disorder and social withdrawal, come to appear [14]. Existing research has revealed a strong positive relationship between psychological/behavioral symptoms and the amount of time spent on the Internet [15]. In fact, while people who use the Internet for many hours can become dependent on the Internet, it is also plausible that one can spend large amounts of time on the Internet without experiencing psychological/behavioral symptoms. For example, recent research has reported that first year college students in Japan exchange 20.1 text-messages on average in a day [7]. Recently, Igarashi *et al.* [11] proposed three factors of self-perception related to psychological/behavioral symptoms of text-message dependency. The first factor is the perception about excessive use of text-messages. Heavy message users spend a substantial amount of time exchanging messages throughout the day and may perceive themselves as being too involved in text-messages without self-control. The second factor is the perception about relationship maintenance function of text-messages by means of an alternative for face-to-face communication. While text-messages are most frequently used among adolescents, there is evidence that adolescents especially yearn for building close relationships and having a strong anxiety toward failure in communication [16].

To moderate such obstacles in face-to-face situations, adolescents may prefer indirect communication via text-messages. Consequently, it may cause compulsive use of text-messages and thus psychological/behavioral symptoms are incurred. Finally, the third factor is emotional reaction to text-messages. Since text messaging is asynchronous communication, people with text message dependency would pay excessive attention to message replies. Most people would attribute a delay in response to inevitable causes, such as the receiver being busy at work, or already being engaged in a conversation with another person. However, if people with text message dependency do not receive an instant reply to the message they send, they may feel neglected or isolated and increase their anxiety about being ostracized. Thus, these perceptions, rather than the actual amount of text-messages, would be potential causes of psychological/behavioral symptoms. Finally, we aimed to explore the important personality factors that drive text-message dependency in interpersonal communication. Although there is no specific personality factors predicting Internet dependency, several studies have examined the relationship of Internet dependency with individual dispositions, such as self-esteem [17], perceived social skills [18] and loneliness [7].

However, CPU may result in physiological and psychological complications. For example, cellular phone radiation can lead to the change of genetic regulation [19] and exacerbate oxidative stress in corneal and lens tissues [20]. Long-term CPU can cause neck, shoulder and low back pain [21]. Frequent computer-related activities increase the risk of neck-shoulder and low back pain in adolescents. Previous studies also found that long-term CPU might lead to brain tumors [22,23]. Although it is still controversial whether CPU can replace smoking in adolescents [24,25], intensive CPU has been found to be associated with adolescent alcohol drinking and weekly spending money [25] and increased body mass index [26].

In contrast to the computer and the Internet where gender-related differences in usage are still pervasive, the cell phone is usually described as a highly egalitarian technology that has been adopted similarly by both genders (as well as by populations differing in age, income, education and ethnic origin). In a very fundamental way, the cell phone has contributed to equalize the communicative social integration of men and women much more than the Internet, where male users still dominate. In several countries, women use it more heavily than men - for voice calls as well as for text messages. Certainly, girls were lagging somewhat in ownership in the earlier stages of mobile diffusion (but most of them were still able to borrow a phone when they needed one [27]. This initial gender gap is usually attributed to a generalized positive stance of males toward innovative technologies - an addiction to novelties and an eagerness to try out that disposes them to adopt immediately all kinds of new equipments [28].

However, gender gaps in usage extensity and intensity soon narrowed and in many places, women even began to lead after 1998. In his Norwegian study of 2001, Rich Ling found that among teenagers, more females than males were in possession of a mobile phone [28], while among young adults (over 20), the reverse was the case. In this advanced age, more males than females owned a handset and they used it more intensively [28, 29]. Women reached their peak usage intensity relatively early, at 18, while men reached it much later, at about 23, when they sent significantly more calls than women of the same age [28,30]. The researchers concluded that when access to a readily borrowed mobile telephone is reduced - that is when they move away from home - young women are not motivated to the same degree as boys to establish their own subscription. In accordance with this hypothesis, Ling [28] also found that more boys than girls pay their phone bill themselves, instead of getting "subsidies" from home. However, psychological gender divergences may also be involved because it has been found that women seem to become more reluctant to talk on mobile phones when they get older than 25-30 [31].

While both genders are rather similar in the quantitative intensity of usage, they still differ significantly in the qualitative patterns and purposes of use. In fact, men and women have always been found to maintain quite different attitudes toward the phone and to give it a different place in their whole "communicative economy" [32, 33]. In a very early study of mobile phone usage, Rakov and Navarro [34] hypothesized that the mobile telephone was reinforcing conventional gender patterns, e.g. by emphasizing the role of the woman as an "accessible nurturer" and a person in need of male protection. Without corroborating the need for such dramatic typological characterizations, later studies have nevertheless confirmed that the motivations and goals of cell phone usage patterns vary in accordance with rather conventional gender roles. The symptom of "giving up or reducing important social, academic, or recreational activities because of CPU" was the symptom that was most associated with functional impairment caused by CPU. Compared with other symptoms of problematic use, this symptom was easier to be detected by others [35]. The factor analysis of female high school students confirmed a large difference compared to male university students, male high school students and Japanese female university students [36]. Mobile phone use is banned or illegal under certain circumstances and in some jurisdictions. Nevertheless, some people still use their mobile phones despite recognized safety concerns, legislation and informal bans.

MATERIALS AND METHODS

The method of the study was descriptive. The entire student of Islamic Azad University in Mazandaran province was considered as population of this research. The sample included 345 students were selected by using Kerejcie and Morgan's table. The research instrument was SMS addiction questionnaire [11]. As for the reliability of the instrument, Cronbach-Alpha coefficients were calculated 0.81. The scores obtained from both questionnaires were subjected to a number of descriptive and inferential statistics.

RESULTS AND DISCUSSION

Hypothesis Number One: In this study, the t-test (t= 10.23, P<0.05) showed that student of university have SMS addiction (Table 1).

Hypothesis Number Two: In this study, the t-test (t=0.313, p>0.05) showed that There is not significant difference between SMS addiction in male and female (Table 2).

Hypothesis Number Three: In this study, the F-test (ANOVA) (F= 3.041, P<0.05) showed that there is significant difference between SMS addiction in students of university with different course or academic groups (Table 3).

Hypothesis Number Four: In this study, the F-test (ANOVA) (F= 3.73, P<0.05) showed that there is significant difference between SMS addiction in students of university with different ages (Table 4).

Mobile communication has putatively affected our time-space relationship and the co-ordination of social action by weaving co-present interactions and mediated distant exchanges into a single, seamless web.Like in other Western countries where research studies have been conducted, mobile communication technology has penetrated the daily life of almost all young Swiss apprentices (born between 1980 and 1987) - males and females alike.While teenage boys are somewhat slower than girls to adopt the cell phone universally, they then tend to use it on the same scale (e.g. by producing the same monthly bills). Apart from this basic consensus in overall usage intensity, however, several gender divergences related to the ways of adoption, the modes of usage and the driving motivations of phone activities stand out. First, some data support the notion that female phone usage is more strongly conditioned by exogenous social factors. Thus, girls are more likely than boys to

Table 1: Brief results of t- test (hypothesis 1)

Hypothesis	N	M	SD	DF	t	P-Value
1	345	39.95	9.175	344	10.23	P<0.05

Table 2: Brief results of t-test, hypothesis 2

Groups	N	M	SD	DF	T	P-Value
Male	204	39.7589	9.17053	343	0.313	P<0.05
Female	141	40.0735	9.19785			

Table 3: Brief results of ANOVA analysis (hypothesis 3)

Source of variations	SS	Df	MS	F	P-Value
Between Groups	1009.682	4	252.420	3.071	P<0.05
Within Groups	27946.272	340	82.195		
Total	28955.954	344			

Table 4: Brief results of ANOVA analysis (hypothesis 4)

Source of variations	SS	Df	MS	F	P-Value
Between Groups	1510.068	5	302.014	3.73	P<0.05
Within Groups	27445.886	339	80.961		
Total	28955.954	344			

have received their phone as a present and their usage intensity is more tightly determined by family background variables (parental education). Secondly, girls (especially of lower age) are much more active in exchanging text messages, why boys (particularly of older age) are emitting and receiving more audio calls. This accord well with previous findings, which demonstrated that females were more prone to exploit the mobile,'s potential for written communication (e.g. transmitting texts that are more elaborate).

Thirdly, boys tend to spread their phone calls over a larger number of partners and to use their mobile for enlarging their networks (by contacting new individuals with whom a more intimate acquaintanceship is sought). Girls seem to restrict their communication to a smaller number of more frequently contacted partners. However, the number of family members and relatives within their networks is about the same. Fourth, the results support the widespread assumption that females see the phone mainly as a medium for subjective personal communication, while boys emphasize more instrumental functions (e.g. of increasing personal mobility and role coordination). However, there is one instrumental aspect to which women give more weight than males: security concerns. Fifth and finally, significantly more women than men have assimilated the mobile phone as a central component of their personal existence by integrating it into their lifestyle or by becoming so dependent on it that life without it has become unimaginable. More than that, such emotional commitments seem also to be more consequential, because they determine the intensity of

cell phone usage (especially for text messages) more than in the case of men. Disregarding such gender differences, the data support the conclusion that while the cell phone has easily won total victory on the behavioral level of everyday usage, it has nevertheless not (yet) become an item to which attitudinal commitment is attached.

Typically, men are stressing instrumental phone uses, as "more amongst boys than girls, the mobile phone is seen as an instrument helping to organize life, to arrange dates and contacts, actions, meetings, etc. thus aiding in growing in maturity and autonomy, both necessary for the adult stage" [37]. Women, on the other hand, tend to use the phone more as a medium for personal and emotional exchange [37, 38]. "Men appear to have a different concept of communication. In contrast to women, they give an "objective reason" for the "usefulness" of their call. Men maintain that they mainly arrange appointments, exchange short snippets of news or information and discuss defined questions or problems. Women admit to calling "for the sake of it", to speak with one another and to exchange general news. The shorter duration of men's calls seems to be connected with their different understanding of communication and its embodiment in the telephone". More recent studies have demonstrated that women use the mobile more for lengthy talks about personal and emotional matters, while males make shorter calls dedicated more frequently for instrumental purposes (e. g. for coordinating meeting times and places). Females are more involved in gossip, because also men tend to gossip primarily with women, not with other males [39]. Such findings are in accordance with the more general socio-psychological regularity that girls are more prone to disclose personal information and emotions and to discuss their subjective tastes and interests with others than boys [40] and that they are more disposed to talk about their anxieties. They also converge on the regularity that women have more sophisticated communication and conversation skills, they are more apt to initiate new topics of conversation and to adapt when topics are changed. It has also been found that such gender gaps widen during adolescence because girls increase their emotional expressiveness, while boys develop norms that restrict such personalized articulations.

In this view, males see the mobile phone primarily as an empowering technology that mainly increases the independence from, not the connectedness the social environment, "Its ownership, but not necessarily its use for social interaction, provides a secure foothold. It increases ones' potential for independent action and, when confronted with the unexpected such as coming

upon a car accident along the road, the mobile telephone allows one to aid in setting things aright. There is also the symbolic value of being involved with the newest technologies as being a sign of one's modernity". Boys are also more prone to explore the ever expanding new functional features of current mobile phones (e. g. for gaming, hooking up to the Internet etc.), while girls use a narrower scope of (exclusively communicational) functions [41]. Therefore, boys report more frequently that they have "fun" in using the phone. As is well known, women have a central role in maintaining any kind of social network) especially among family members and kin. Therefore, the networks of women are often larger and more complex that those of men. Women are also more prone to keep connected to their family - what should result in a higher preference for family members (and other highly familiar individuals) as phone partners

"Possibly, boys at adolescence make greater effort in their self-presentation to appear autonomous and free from their families, whereas girls worry more about appearing connected, both to families and increasingly at adolescence, to romantic partners." [40]. Thus, it is to be expected that phone adoption by girls is more heavily determined by parental status characteristics, preferences and behavior than in the case of boys, "The mobile amongst the former would seem to be brought in more frequently through the role of parents, as a safety means for controlling the girls' autonomy. In the case of boys, however, adopting the mobile would seem more linked to an autonomous process with this telephone being at once an item for achieving masculine identity and a symbol of modernity"[42,43]. Several studies have shown that the meaning and use of the mobile phone changes with age. The pre-occupation with SMS messaging is especially high in the early teens. After 16, the adolescent shows a more 'grown-up' pattern of mobile phone use, in which SMS becomes less and face-to-face more important. When they are around 20 years old, voice calls have replaced SMS to a significant degree.

Interpersonal transactions are a fundamental element of society and by extending the reach and immediacy of communication, the mobile phone has changed the scope of interpersonal interaction. Introduced to the Australian market in 1987, mobile phone connections exceeded the number of landline connections by 2001 and a nationwide estimate in 2004-5 revealed that at least 81% of the Australian population used a mobile phone. The phenomenal uptake of this technology indicates that it has struck a strong chord within the community in a way that some other technologies might not have. Hence, a

consideration of factors associated with the uptake of the mobile phone may be informative when contemplating other innovations. Nevertheless, despite having a tremendous impact on the lives of many people, the mobile phone has only recently started to attract the interest of psychologists. As a communication tool, the mobile phone is used mostly for either business or social purposes, but as it is such a personal device, it is also used as an illustration of status, security and identity. It is therefore highly likely that the personality of an individual will predict types of mobile phone use [40]. The present paper addresses the psychological predispositions that might underpin mobile phone use.

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