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Extended Abstract

The Virtual World's Current Addiction: Phubbing

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Abstract

The aim of this work is to analyze both the reasons that young adults exhibit phubbing behaviors and the effects of these behaviors on their lives. Following a qualitative research approach, this study has been designed using a case study method. Selected using the criterion sampling method, participants consisted of a total of 9 university students studying in a School of Education in Turkey. The criterion used to include individuals into the sample group was 'using a smartphone instead of actively participating in an on-going discussion being had by one's surrounding peers' as well as a high score on the Phubbing Scale form. Data were obtained using a semi-structured interview form composed of 18 open-ended questions. Both a descriptive and content analysis were used to evaluate the data. The study's findings revealed that not only did smartphones negatively affect interpersonal relations, but also that phubbers lacked communication skills, experienced difficulty establishing and maintaining eye contact while using a smartphone, and misunderstood what was being discussed. Some participants even stated that they would become completely disconnected from the social environment while using a smartphone. It is argued in the discussion section that since smartphones have all the same features and abilities as traditional computers, they carry the same potential addictions as computers. Yet, instead of being restricted to a table, these addictions are now able to manifest in every aspect, environment, and moment of one's life. As such, since phubbing carries with it a type of addiction that is much more devious and pervasion than most previous virtual reality related addictions, it is recommended that further research be conducted before serious psychopathological and sociological problems begin to manifest themselves throughout the population.

Keywords

Phubbing • Phubber • Smartphone • Addiction • Social media • Internet • Game • Application

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With the advent of computers, a number of previously unseen problems have arisen. More recently however, these problems have gained a new dimension with the advent of smart phones. Having the same abilities as traditional computers, smart phones possess a wide array of features, including not only the ability to access the internet, but also to take photographs and record videos. More recent smart phones included advanced writing and drawing programs as well as game applications. All of these have come together causing a new, growing concern in real life: *phubbing*.

Phubbing can be described as an individual looking at his or her smartphone during a real-life conversation with other individuals, being engrossed in one's smartphone, and avoiding interpersonal communication. Constructed by merging the words *phone* and *snubbing*, the term *phubbing* has made its way into the updated version of *Macquarie Dictionary*. This specific smart phone addiction might be considered the trouble of our age. Due to smart phones' make-up, phubbing is an issue that shares commonalities with a wide number of addictions. While there is not enough evidence related to this phenomenon, we have been led to believe that due to smart phones numerous features and ability to access the internet, phubbing is a multi-dimensional phenomenon. These dimensions are (i) smartphone addiction, (ii) internet addiction, (iii) social media addiction, and (iv) game addiction. When carefully examined, it is seen that all of these addictions themselves are of a nested and complex nature. It should be noted that not only is phubbing more common, but its possible effects can be more devastating than has been thought. For example, an average of 36 phubbing cases are observed in a single restaurant during lunch, which is equivalent to spending 570 days alone while being with others. Moreover, 97% of individuals perceive their meals to taste worse while phubbing. Even more shocking is the finding that 87% of adolescents prefer to communicate via messages over face-to-face communication (<http://stopphubbing.com>).

Smartphone Addiction

Just as technology eases life, so does it cause a number of previously unseen problems in it. In the industrialized world, life requires faster access to various kinds of information as well as faster interactions and communication. This increasingly fast-paced lifestyle has caused many concepts, such as time, the perception of needs, and a sense of fun to have undergone fundamental changes. The hunger for more technology has consequences, such as excessive technology usage (Davis, 2001), high level of involvement in technology (Charlton & Danforth, 2007), and finally technology addiction (Turel, Serenko, & Giles, 2011). Technology addiction has been defined by the DSM-IV criteria for addiction as a psychological problem related to the inharmonious use of technology. This addiction depends mostly on factors that, for the most part, entered human life with the advent of computers. Equipped with the

same features and abilities as traditional computers, smart phones have the potential to be highly addictive objects.

Phubbing is a concept with many possible dynamics, such as being disrespectful toward another person or persons, disregard for others, and a preference for virtual environments over real-life ones. While phubbing can be based on applications, such as the internet or games transferred from one's computer to his or her smartphone, the very intrinsic nature of smartphones may themselves provoke addiction. In addition, the fact that one can now access the internet and games via smartphones has shifted internet addiction to another venue. As such, smartphones and internet addiction exist in a circular relationship, each triggering the other. For example, if the time one spends surfing the internet increases, so does phone addiction. However, problematic phone usage is seen as a behavioral addiction identical to the ubiquitous use of smartphones, even in prohibited environments, such as while driving (Bianchi & Philips, 2005). Researchers investigating smartphone addiction have shown that while smartphones are used as a tool to overcome loneliness and the need to manage oneself, anxiety, worry, and deprivation disorder behaviors are observed in addicted individuals who have been separated from their phone (Park, 2005); impulsivity (Billieux, Van der Linden, d'Acremont, Ceschi, & Zermatten, 2007; Billieux, Van der Linden, & Rochat, 2008). Leung (2007) has also shown one's need to be stimulated affects phone addiction. In light of these findings, phubbing, it may be claimed, is associated with phone addiction.

Internet Addiction

In addition to offering a variety of conveniences to daily life, computers are also the source of a number of negative effects on humans. Individuals' exaggerated use of computers has led researchers to investigate the concept of computer addiction (Griffiths, 2000; Shaffer, 2002; Shotton, 1991). These studies suggest that computers are not the problem in and of themselves, but that problems arise as a result of the applications loaded on them. Playing games (Charlton & Danforth, 2007; Weinstein, 2010; Wood, 2008) and staying online for extended periods of time (Chou & Hsiao, 2000; Lin & Tsai, 2002; Yang & Tung, 2007) are examples of such cases.

In the past decade, both the duration and frequency of the internet use have increased (Dong, Lu, Zhou, & Zhao, 2011; Smahel, Brown, & Blinka, 2012), rendering the question as to whether the increased duration of computer usage enslaves people to have gained importance. Internet addiction research, which began with an e-mail sent by Dr. Ivan Goldberg (1996) to his friends, joking about excessive internet usage by modifying the agents of pathological gambling disorder [can be found in DSM-IV (American Psychiatric Association, 1995)]. Combined with the fact that the period of time spent on the internet triggers pathological internet use (Nalwa & Anand,

2003), internet addiction became a new and significant research topic (Ceyhan, 2008; Ghamari, Mohammadbeigi, Mohammadsalehi, & Hashiani 2011).

Studies on internet addiction have been grouped into two different views. The first view considers internet addiction to be a new disorder whereas the second advocates that it is actually the content (porn, games, e-mail) accessed that constitutes problematic internet use (Yellowlees & Marks, 2007). As a result of years of research, it can be said that the reasons individuals spend such large amounts of time on the internet include the desire to access sexual content (Griffiths, 2012; Pallanti, Bernardi, & Quercioli, 2006; Frangos, Frangos, & Kiohos, 2010), games and entertainment (Gilbert, Murphy, & McNally, 2011; Ceyhan, 2010; Öztürk & Özmen, 2011), and communication and socialization (Akçay, 2011; Balcı & Gülнар, 2009; Ceyhan, 2011). In summary, although the increase in time spent on the internet (Smahel, Brown, & Blinka, 2012; Lin & Tsai, 2002), improved access to the internet (Hall & Parsons, 2001), and the desire to access vast amounts of content via the internet (Hawi, 2012) all show that internet use may have become a problem, no consensus has yet to be reached in naming the existing problems.

There exists a wide variety of definitions for the problems caused by the internet in the literature. Although excessive internet use, itself being one of the problems listed, is mostly defined as excessive or poorly controlled preoccupation, urges, or behaviors regarding computer use and internet access that lead to impairment or distress (Weinstein & Lejoyeux, 2010). In some studies, it is used synonymously with internet addiction (Hansen, 2002; Hardie, & Tee, 2007). Some researchers have suggested that considering excessive internet users as internet addicts is wrong, arguing that such individuals use the internet this excessively in order to satisfy other addictions, such as sex and communication related addictions (Griffiths, 1999). Defined as media consumption having evolved as a result of insufficient self-regulation (La Rose, Lin, & Eastin, 2003), the term “irregular internet use” is also used to express the negative usage patterns. Improper internet use is a term mostly used to define the use of the internet to access content regarded as undesirable or negative, such as porn, gambling, or other similar content (Durkin, 1997; Hope, 2007; Khazaal, Xirossavidou, Khan, Edel, Zeboun, & Zullino, 2012; Parker, Taylor, Eastabrook, Schell, & Wood, 2008; Tsitsika, Critselis, Kormas et al., 2009). Different definitions, based on various factors, such as the degree and nature of internet usage habits, are not limited to those listed. Pathological internet use (Morahan-Martin, & Schumacher, 2000; Davis, 2001), problematic internet use (Caplan, 2002; Odacı & Çıkrıkçı, 2014; Shapira, Goldsmith, Keck Jr, Khosla, & McElroy, 2000; Shapira, Lessig Goldsmith et al., 2003), problematic internet behavior, excessive internet use (Bener, Al-Mahdi, Ali, Al-Nufal, Vachhani, & Tewfik, 2011; Wright, Tone, Dyck et al., 2005), internet abuse (Young & Case, 2004), and cyber addiction are other terms

that are used (Hua, 2005). In summary, although there are different approaches, it can be said that there is indeed a consensus in the literature that the internet can be addictive. Moreover, the internet, with its variety of media-related tools, is an addiction object itself, which has led to the development of a powerful new type of addiction: social media.

Social Media Addiction

Almost defined as an addiction itself (Karaiskos, Tzavellas, Balta, & Paparrigopoulos, 2010; Turel & Serenko, 2012), social media is a communication channel where highly complex interactions are intertwined. Including a wide array of elements such as games, communication, information exchange, and the sharing of multimedia, social media has not only encouraged people to begin using the internet and to remain online it has also encouraged those using it to move from using traditional computers to smart phones. While using a traditional computer to access social media on a traditional computer requires one to remain at a desk or table, smart phones, with their ability to be carried everywhere, have allowed people to access social media at virtually any time and place, thereby becoming an integral part of an individual. Smart phones, whose usage has increased compared to other types of phones (Smith, 2012), are also used to download and use a vast number of applications (Falaki, Mahajan, Kandula et al., 2010). The most frequently used applications are game applications along with applications on social media sites. In other words, social media maintains a significant place among the various different addictions brought upon by smart phones (Kwon et al., 2013). Although people access social media through their smartphones, it should not be forgotten that social media is just one of the various addictions caused by smartphones and that the phone addictions would still exist even if social media did not.

On the top of the list of social sharing sites whose habitual usage has become an addiction are Facebook (Andreassen, Torsheim, Brunborg, & Pallesen, 2012) and Twitter (Malita, 2011). Motivated by entertainment and social interaction, Facebook (Dhaha, 2013) is a complex blend of various multimedia tools allowing one to access pictures, music, videos, entertainment, and online games. Interacting in ways similar to how they would in real life, Facebook users also find inclusion into social groups in which they have the ability to share information and personal views, to communicate with familiar and unfamiliar people, and to make video calls. Although Facebook's initial purpose was to communicate with friends that one had not seen for a long time, research shows that the most common reason for using Facebook is to view others' profiles (69.57%) and to look at their photos (58.70%) (Pempek, Yermolayeva, & Calvert, 2009). Twitter, on the other hand, has gained popularity for its features allowing users to contact many people at the same time, to receive messages (called

tweets) at undefined periods of time, and to respond to others' tweets instantly. These features have rendered Twitter into an addiction not only for the many individuals who use it to follow someone, but also individuals considered by others to have answers to specific questions or who generates ideas about subjects, who are themselves followed by others (Malita, 2011). In summary, since smart phones allow social networks, such as Facebook and Twitter to be accessible at any moment without needing to access a traditional computer, individuals can make social media a real-time part of their life. In other words, many individuals make a concerted effort to maintain their presence on one or several social networking sites while living their real lives. In doing this however, they are diminishing the value of their real-life activities, as is the case for phubbing. In phubbing, individuals' efforts to maintain their presence in the real world through social media are engaged in a variety of multimedia posts and sharing, making use of specific applications. The most commonly used applications are gaming applications. However, it must be noted that gaming is itself an important issue that can be addictive both within and beyond social media contexts.

Game Addiction

Among the various manifestations of phubbing, games are another source of addiction just as important as the phone addiction. Individuals who lack time management skills play games to escape from problems and as a mental relaxation tool (Wood, 2008). Game addiction (Weinstein, 2010), referring to online games (Charlton & Danforth, 2010; Kim, Namkoong, Ku, & Kim, 2008; Lo, Wang, & Fang, 2005; Young, 2009), video games (Chiu, Lee, & Huang, 2004; Kim, Namkoong, Ku, & Kim, 2008), and computer games (Grüsser, Thalemann, & Griffiths, 2006), all of which have substantially the same origin, means to play computer games to the extent that it affects one's personal and/or professional life and is regarded as an addictive behavior. Factors that increase one's addiction to games include being engaged in a game for long periods of time, immediately being reward even for the smallest progress made in a game, and levels varying according to a person's performance. Chou and Ting (2003) stated that a sense of flow has a significant impact on individuals' addiction to games. Gaming maintains a significant place among the various activities considered as phubbing. Although smart phones or computers are the vehicle one uses to satisfy his game addiction, these kinds of addictions are mutually related and are therefore difficult to separate from each other. Another example of these mutual relations is game and social media addiction. Games such as Candy Crush (Walsh, White, & Young, 2008) and Angry Birds (Böhmer, Hecht, Schöning, Krüger, & Bauer, 2011), which are among the most widely played games on Facebook, can now be accessed by millions of people and are becoming almost addictive. Social media in general, and Facebook in particular, has become the medium for spreading many of these and other similar games.

Despite being described as the end of civilization in popular journals and newspapers and as a chronic addiction of the digital age in academic articles, phubbing has yet to become a research topic of its own. It is necessary to examine the fundamental addictions of phubbing as it shares several fundamental characteristics with a number of other addictions. As such, the aim of this work is to describe phubbing behaviors, the reasons individuals exhibit these behaviors, and the effects phubbing has on the lives of young adults exhibiting phubbing behaviors. In doing so, it is hoped that this study will contribute new and relevant findings to the literature. In order to realize this goal, answers to the following questions were solicited:

What are phubbers' views on:

- Frequent smartphone use?
- Their reasons for using a smartphone?
- Why they feel the need to use a smartphone?
- How they feel when they are not actively using a smartphone?
- The meanings they attribute to their smartphone?
- How smartphones have changed the way people live?
- How they feel, think, and act when they are phubbed?
- Their relations with friends?
- Interacting with their environment?

Method

This study follows a qualitative research approach using a case study design. Nine students studying in a School of Education in Turkey were selected to participate in the research. Participants were selected using the *criterion sampling method*. The criterion used to select students was defined in a two-step process. In the first step, since phubbing occurs when an individual uses a smartphone in a social environment, individuals' phubbing behaviors were observed in a defined social environment. As such, it was decided that the criterion '*using a smartphone instead of actively participating in an on-going discussion being had by one's surrounding peers*' should be used to include students into the study group. In the second step, the Phubbing Scale (Karadağ et al., 2015), a 5-point Likert scale composed of a total of 10 items measuring (i) Communication Disorders (5 items; $\alpha = .87$) and (ii) Telephone Obsession (5 items; $\alpha = .85$), was used. A score of 40 or more indicated an addiction to phubbing. The Phubbing Scale was applied to participants after they had been observed for at least one hour in a social environment in which they

were seen exhibiting multiple instances of phubbing behaviors. Although there was no significant difference in the number of men and women in the specific social environment in which the observations took place, it was observed that female students exhibited more instances of phubbing behaviors. Moreover, since females tended to score higher (40 or more points) on the Phubbing Scale, the majority of participants (89%) were female. In order to ensure anonymity, participants were given codes, with female participants coded as “F1, F2, ... F8” and male participants as “M1.” Participants’ personal information is presented in Table 1. Data were collected using a semi-structured interview form. The interview form was composed of 18 open-ended questions and was brought together after having performed a review of the related literature. Interviews lasted approximately 30 minutes and, after having received permission from the participants, were voice recorded. The data obtained from the interviews were then subjected to both a descriptive and content analysis for interpretation.

Findings

Phubbers’ Views on Their Reasons for Using a Smartphone

Three sub-themes related to why young adults exhibiting phubbing behaviors use smartphones were revealed: (i) social media, (ii) communication, and (iii) difficulty conversing with others in real-life. These three sub-themes and their codes are presented in Table 3. Under the *social media* sub-theme, participants stated that they most frequently used social media to read comments and to follow posts shared by others. Under the *communication* sub-theme, participants stated that they most often used smartphones to send and receive messages. The female participants further emphasized that they used their smartphones to communicate with their significant other. Under the *difficulty conversing with others in real-life* sub-theme, participants most frequently stated that they felt the need to use their smartphone due to feeling bored or uncomfortable in their environment.

Phubbers’ Views on Why They Feel the Need to Use a Smartphone

Participants’ views on why they feel the need to use a smartphone are presented in Table 4. This theme is composed of the following 4 sub-themes: (i) communication, (ii) social media, (iii) emotional needs, and (iv) relationships. Listed under the *communication* sub-theme were participants’ communication-related needs in which participants stated that they most often used smartphones to stay in contact with their family and friends. Social media related needs were collected under the *social media* sub-theme, for which participants stated that they needed a smartphone to share information and updates, to look at photographs, and to follow the news or

other current developments. Participants' reasons related to emotional needs were grouped under the sub-theme *emotional needs*, with participants' most frequently cited emotion being loneliness. Listed under the *relationships* sub-theme were needs related to participants' private lives. Participants most frequently stated that they needed a smartphone to communicate with their family members and friends living far away from them.

Phubbers' Views on How They Feel When They Are Not Actively Using a Smartphone

Participants' views on how they feel when not actively using a smartphone are presented in Table 5. While participants' most commonly expressed feelings were those of tension, unease, anxiousness, and worry, they also stated that they experienced feelings of expectation, hope, and curiosity.

Phubbers' Views on the Meanings They Attribute to Their Smartphone

Individuals exhibiting phubbing behaviors attribute certain meanings to their smartphones. Presented in Table 6 are the meanings that participants attribute to their smartphone. These meanings have been divided into three sub-themes: (i) a tool for communication, (ii) a part of one's body, and (iii) a central role in one's life. The most commonly cited meaning falling under the *communication* sub-theme was smartphones' ability to easily contact people faraway. The fact that participants stated that smartphones were *a part of one's body* is of note, as it indicates participants' understanding that their smartphone completes them. Falling under the sub-theme in which a smartphone is considered to fill *a central role in one's life* were such meanings as smartphones being *an integral part of one's life*, their being *indispensable*, and their being *everything* to a person. As understood from their statements, participants considered smartphones to fulfill an indispensable need in various aspects of their lives.

Phubbers' Views on How Smartphones Have Changed the Way People Live

Presented in Table 7 are participants' views on how smartphones have changed the way people live. The three sub-themes falling under this theme are (i) their effect on interpersonal relations, (ii) their effect on personal development, and (iii) their negative effect on people's personalities. Participants stated that smartphones had both positive and negative effects on *interpersonal relations*. As their understanding of how smartphones contribute to *personal development*, participants listed exposure to new perspectives and the ability to access information quickly and easily as being among the benefits to using smartphones. The most commonly cited negative effect of smartphones was their addictive nature.

Phubbers' Views on How They Feel, Think, and Act When They Are Phubbed

Presented in Table 8 are participants' views on how they feel, think, and act when they are phubbed. This category's three sub-themes are (i) feeling empathy, (ii) reactionary behaviors, and (iii) experiencing negative emotions. Upon being phubbed, participants stated that they *empathized* with those whom they might have phubbed, realizing that they too exhibit similar behaviors disliked by them. Participants stated that they most frequently exhibited *reactionary behaviors* when they did not have their conversation partner's full attention, choosing to use his or her smartphone instead. While a number of participants stated that they only reacted in such a way to their close friends, others stated that they would only remain silent in such situations. Under the *experiencing negative emotions* sub-theme, participants most frequently stated feeling disrespected and devalued.

Phubbers' Views on Their Relations with Friends

Presented in Table 9 are participants' views on how phubbing behaviors affect their relations with friends. The four sub-themes falling under this theme are (i) warning and reaction, (ii) awareness, (iii) negative feelings experienced by the other party, and (iv) the normalization of such behaviors. Participants stated that family members and friends were most likely to exhibit behaviors falling into the *warning and reaction* sub-theme. Under the *awareness* sub-theme, participants stated that not only did they feel excluded from the social environment and unable to partake in conversations, but that the other party was unable to establish and maintain eye contact. Participants further stated that they felt bad in such situations. Under the *negative feelings experienced by the other party* sub-theme, participants stated that they felt that their conversation partner was not taking them seriously while using a smartphone. Participants stated reasons why people felt comfortable exhibiting phubbing behaviors in a group under the *normalization of such behaviors* sub-theme. Under this sub-theme, participants stated that people most often justified their phubbing behaviors by claiming that using a smartphone has become a very important affair, that everyone exhibits such behaviors, that people have become accustomed to such behaviors, and that no one feels uncomfortable when it happens.

Phubbers' Views on How They Interact with Their Environment

Participants' views on how smartphones have affected the way they interact with their environment and perceive events around them are presented in Table 10. The four sub-themes grouped under this theme are (i) lack of understanding of what is being said, (ii) being completely closed off to one's environment, (iii) the ability to divide one's attention in two directions, and (iv) eye contact. Participants stated that they experienced problems interacting with their environment while exhibiting phubbing

behaviors. The most frequently cited issues related to a *lack of understanding of what is being said* are not fully perceiving what is being communicated and an acute loss of attention. As for *being completely closed off to one's environment*, participants stated that they might completely miss what was being discussed or would experience communication disconnect. A number of participants did state, however, that they were able to remain connected to the real-life conversation while sending and receiving messages on their smartphone, an ability that falls under *the ability to divide one's attention in two directions*. With this being said however, participants also stated, in relation to the *eye contact* sub-theme, that they not only felt bad when they could not establish eye contact, but that they felt that eye contact was forced and only for show.

Discussion

Since humans are social creatures and since smartphones have permeated into a wide number of areas of life, it is only expected that smartphones might provoke change in a wide number of contexts, including social life. Recognizing these developments, this work has attempted to contribute to the literature on this subject by shedding light on the phubbing behaviors of young adults exhibiting such behaviors, their reasons for exhibiting them, the effects of such behaviors, and other findings revealed as a result of this study.

This work found that such behaviors as *looking at one's phone every minute* and *looking at one's phone every five minutes* were most commonly cited by participants when asked about how frequently they used a smartphone. The most valuable finding of this study is that students were found to use their smartphones heavily and in excess of one hour per day (Tutgun-Ünal & Arslan, 2013). A previous study on university students found similar results. Arslan and Tutgun-Ünal (2013) found that more than half of the students attending the university in their study had used a smartphone for at least six years and that they used it for at least one hour a day. There exists a large number of studies in the literature conducted on young individuals, excessive smartphone use, and smartphone addiction that not only support the findings of this study, but that also bring to light the seriousness of the situation at hand (Bianchi & Philips, 2005; Ha et al., 2007; Lee & Hwang, 2009; Walsh, White, & Young, 2008). Supporting this idea are the findings obtained stating that university students allocate an excessive amount of time each day to use their smartphones, with this excessive allocation of time being one of the fundamental dynamics of phubbing. With this being said however, the dynamics behind individuals' allotment of so much time to use their smartphones are still not completely clear. That research on this specific issue has yet to come to full fruition and that new technology is continuously being integrated into telephones with each passing day renders it ever more difficult to determine the reasons behind and the effects of such excessive use.

The fact that females listed sharing information with their significant other as being among their reasons for using smartphones is of significance. Similar to the findings of a number of previous studies (Brown, 2013), although participants stated that they preferred using their smartphone to remain in contact with people living in distant places, when this desire is further questioned, it is found that the dominant use of smartphones among university students was to communicate with their significant other. Özaşçılar (2012) found that the participants in his study expressed feeling of annoyance when their family members used smartphones to constantly check up on them. This finding lends support to the fact that using smartphones to communicate with one's significant other is more important than communicating with one's family members. Mante and Paris (2002) found that the vast majority of young individuals preferred using smartphones' messaging features to communicate with their significant other. The fact that female participants in particular used smartphones to communicate with their significant other gives pause to think about the traditional understanding in which females are *apprehensive of discussing personal, sensitive issues and events with their boyfriends*. It is thought that smartphones' being increasingly used to send and receive messages combined with female participants' apprehension of discussing personal issues with their boyfriends have caused phubbing behaviors to increase among individuals. On the other hand, being in constant contact allows females the ability to keep up with their significant other throughout the day, a desire which may stem from females' distrust of men, from a desire to keep track of their significant other, and/or from a desire to control his behaviors. Future studies may contribute to the field by researching not only whether females use smartphones as a tool to control men's behaviors and actions, but also the link between such addiction-type relations and phubbing. All of the findings indicate that people are increasingly using telephone technology to gain control over their environment. It must be made clear however, that this desire to control others is not limited to one's significant other. Since information is able to be transferred at such high speeds and shared on such a wide variety of platforms, including on the internet, another type of control mechanism has begun to emerge: *social media*.

This study reports that individuals exhibiting phubbing behaviors in social environments are most likely to use a smartphone to *read comments on social media networks, to look at photographs, to follow the news and current events, and to share daily occurrences*. Karaduman and Kurt (2010) found that students use social media first and foremost to communicate with others followed by using it to share their own daily occurrences and follow those of others. Furthermore, Sönmez (2013) found that the participants in his study most frequently used smartphones to connect to Facebook, stating that females in particular used Facebook to look at other people's photographs. That females found pleasure in looking at photographs depicting other people's private lives indicates that in addition to reading posts and comments, the

ability to follow changes in another's life by looking at personal photographs satisfies a number of psychological needs in an individual. A recent trend, called *photolurking* in the literature, in which an individual takes another person's photograph and, without his or her knowledge, discusses its details with a third party in a different setting (Khalid & Dix, 2007) has become yet another aspect of phubbing due to smartphones' ever increasing capabilities and iniquitousness. Participants exhibiting phubbing behaviors have been found to use posts on social media networks to follow the daily activities and developments of their friends and acquaintances, resulting in high instances of photo lurking, where they examine the post, read what has been said about it, and then make their own comments on it. Although information's ability to be transferred at such high speeds has facilitated people's ability to control their environment, the current *modus operandi* has become one indicating heavy addiction. The findings of this study reveal the reasons why an individual feels the urge to use a smartphone. People's desire to remain in constant contact with others, their desire to follow and control what is happening around themselves, the fact that obtaining news on individuals' private lives has now become a fundamental part of people's lives, the fact using the internet to access social media networks has become almost ubiquitous, and the ability to obtain news from social media provide behavioral clues to just what these urges may be. In addition to these behavioral clues, knowing what their accompanying emotional reactions are and what emotional needs an individual is trying to fulfill through phubbing will provide even further clues on the complicated nature of phubbing.

While participants in our study stated that using smartphones to communicate with their family and being able to reach others instantly were among smartphones' positive aspects, Özaşçılar (2012) found the opposite; namely, that participants felt annoyed when they were in constant communication with their family and when they felt that they were constantly required to inform their family about their current whereabouts. Participants also stated that smartphones could be used to alleviate loneliness, remorse, and boredom, indicating that they attached great deal of importance to their smartphone and considered it to be more than a mere communicate device. As such, smartphones provide a means to meet a number of emotional needs, a finding supported by Humphreys (2003) in his study in which he found that participants used smartphones to alleviate their feelings of loneliness. Since smartphones were also found to be used to access social media networks, to post information on them, to gain acceptance, and to increase one's sense of self-confidence, participants perceived smartphones to be a fundamental need in life. As such, it can be claimed that smartphones provide an easily accessible venue for individuals to socialize, interact, pass time, and meet their emotional needs without needing to enter into a physical social environment. These findings are in line with the philosophical concept of *entropy*. Under normal conditions, one must allot a separate and specific

amount of energy for prestige, money, entertainment, socialization, and to interact with others whereas performing all of these activities in a single venue, even if it be a virtual environment, while exerting a considerably less amount of energy is only natural for an organism. However, it must not be forgotten that considering phubbing to be nothing more than an instance of entropy and perceiving it as a normal behavior will result in a false understanding of its true nature. For although it may be natural for one to attempt to achieve maximum output while expending minimum resources, due to this output being realized on a virtual environment while also causing one to neglect his or her real-life responsibilities, it is necessary to consider this behavior as a disorder.

Participants stated that they not only experienced feelings of tension, unease, anxiousness, unhappiness, disappointment, worry, and depression at times when they were unable to use their smartphone, but also feelings of expectation, hope, and curiosity. In previous studies, students expressed that they felt not only high levels of worry and discomfort, but also as if a part of them were missing when they had forgotten their smartphone at home (Ling, 2005). These feelings indicate that participants use mobile phones as their primary means of communicate with others and that when they are unable to use it to communicate with others, their psychological state is negatively affected, causing them to feel as if something were missing. The emotions and feelings felt when one is unable to use his or her smartphone can be explained by the fact that individuals value the ability to contact their friends and family members. One of the more poignant findings is that participants considered their significant other to be the most important individual from among their friends and family, a finding that can be related to the meanings individuals attribute to their smartphones.

While the participants of this study considered their smartphones to be an integral and indispensable part of their life, they also described it similar to a part of their body, such as their heart, eye, ear, hand, or foot. Similarly, Aydoğdu-Karaaslan and Budak (2012) found that while a portion of students considered their smartphone as an indispensable, integral device that they used to organize their life, other students stated that their smartphone did not hold such an important place in their lives. Providing further support to this finding is the fact that 90% of young individuals stated that they were most afraid of losing their smartphone among all of their personal belongings (Telecom News, 2008) and that 26% of American smartphone users stated that they could not live without their smartphone (Brown, 2013). The findings of this and previous studies provide further support to the notion that phubbing is an addictive behavior. When participants' behaviors and statements are considered in light of the DSM-IV Criteria for Substance Dependence and Abuse, further evidence supporting the addictive nature of such behaviors is found. According to the DSM-

IV (1995) classifications, among the criteria defining substance dependence are (1) tolerance being built against a substance as defined by a need for increased amounts of the substance to achieve desired effects and the diminished effect with continued use of the same amount of the substance, (2) withdrawal syndrome in which the substance is taken to relieve withdrawal symptoms, (3) using the substance in larger amounts, (4) unsuccessful efforts to cut down or control substance use, (5) important social, occupational, or recreational activities are given up or reduced because of substance abuse, (6) substance use is continued despite knowledge of having a persistent physical or psychological problem that is likely to have been caused or exacerbated by the substance. When participants' statements and data related to their habits of using smartphones are taken into consideration, the above listed criteria are observed at varying levels in phubbing behaviors. In other words, phubbing may lead to a number of potentially serious psychopathological consequences. With this being said however, it cannot be said that all effects of phubbing are necessarily negative.

In this work, participants' statements indicate that smartphone use produces both positive and negative effects in their interpersonal relations. By participants' own admission, the most serious of all the negative effects cited is addiction. A number of studies have revealed that while there are many smartphone users' who believe that smartphones have had a *positive* effect on daily life by allowing people the ability to contact others quickly and easily, there are others who consider constant messaging, as opposed to face-to-face communication, to be among the *negative* effects of smartphones. Such a *modus vivendi* warps technology's intended goal of freeing people, working instead to turn people into technology addicts (Aydoğdu-Karaaslan & Budak, 2012).

When participants were themselves subject to phubbing behaviors, although they stated that they were able to feel empathy for those whom they have phubbed, they also stated that they responded to such behaviors in a reactionary manner. Wei and Leung (1999) found that most individuals considered using a smartphone in a social context as an irritating, rude, disrespectful, annoying, and inappropriate behavior. With this being said however, although individuals described phubbing as annoying, they not only continued to exhibit such behaviors, but also responded in a reactionary manner when subject to phubbing. These results indicate a number of possibilities, one being that individuals' emotional intelligence and ability to empathize with others is weak. A second possibility is that these individuals are simply unable to regulate their behaviors due to their addiction without there being any problem in their emotional intelligence or empathy skills. Of course, this result indicates that individuals' self-regulation is weak. All of these possibilities may be considered potential future research topics.

In regards to the data obtained on individuals exhibiting phubbing behaviors, it has been observed that not only do such individuals exhibit a deficiency in their ability to communicate with others, they also have difficulty establishing and maintaining eye contact while using a smartphone and often misunderstand what is being discussed. Some individuals were even found to be completely disconnected to the entire discussion and the environment in which it is being held. As such, just as individuals' excessive propensity toward smartphones results in complete disengagement from social environments, so does it severely harm interpersonal relations.

In conclusion, in spite of individuals' awareness of phubbing's negative effects, they continue to exhibit phubbing behaviors in real-life social environments. Having all the same features and abilities as traditional computers, smartphones carry the same potential addictions as computers. Yet, instead of being restricted to a table, these addictions are now able to manifest in every aspect, environment, and moment of one's life. As such, since phubbing carries with it a type of addiction that is much more devious and pervasion than most previous virtual reality related addictions, measures must be taken before serious psychopathological and sociological problems begin to manifest themselves throughout the population.

Kaynakça/References

- Amerikan Psikiyatri Birliđi. (1995). *Mental bozuklukların tanimsal ve sayımsal elkitabı: DSM-IV* (E. Körođlu, Çev.). Ankara: Hekimler Yayın Birliđi.
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale 1, 2. *Psychological Reports, 110*(2), 501–517.
- Arslan, A. & Tutgun-Ünal, A. (2013). Eđitim fakóltesi öđrencilerinin cep telefonu kullanım alışkanlıkları ve amaçlarının incelenmesi. *International Journal of Human Sciences, 1*(10), 182–201.
- Aydođdu-Karaaslan, İ. & Budak, L. (2012). Üniversite öđrencilerinin cep telefonu kullanımlarının ve gündelik iletiřimlerine etkisinin araştırılması. *Journal of Yařar University, 26*(7), 4548–4525.
- Bianchi, A., & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *Cyber Psychology & Behavior, 8*(1), 39–51.
- Billieux, J., Van der Linden, M., & Rochat, L. (2008). The role of impulsivity in actual and problematic use of the mobile phone. *Applied Cognitive Psychology, 22*(9), 1195–1210.
- Böhmer, M., Hecht, B., Schöning, J., Krüger, A., & Bauer, G. (2011, August). *Falling asleep with Angry Birds, Facebook and Kindle: A large scale study on mobile application usage*. In Proceedings of the 13th international conference on Human computer interaction with mobile devices and services (pp. 47–56). Stockholm, Sweden: ACM. <http://dx.doi.org/10.1145/2037373.2037383>
- Brown, C. (2013). Are we becoming more socially awkward? An analysis of the relationship between technological communication use and social skills in college students. *Psychology Honors Papers, 40*. Retrieved from <http://digitalcommons.conncoll.edu/psychhp/40>

- Burns, A. C., Gillett, P. L., Rubinstein, M., & Gentry, J. W. (1990). An exploratory study of lottery playing, gambling addiction and links to compulsive consumption. *Advances in Consumer Research*, 17(1), 298–305.
- Casey, B. M. (2012). *Linking psychological attributes to smart phone addiction, face-to-face communication, present absence and social capital* (Doctoral dissertation, The Chinese University of Hong Kong). Retrieved from <http://pg.com.cuhk.edu.hk/>
- Charlton, J. P., & Danforth, I. D. (2007). Distinguishing addiction and high engagement in the context of online game playing. *Computers in Human Behavior*, 23(3), 1531–1548.
- Chen Y. F., & Katz J. (2009). Extending family to school life: College students use of the mobile phone. *International Journal of Human-Computer Studies*, 67(2), 179–191.
- Chiu, S. I., Lee, J. Z., & Huang, D. H. (2004). Video game addiction in children and teenagers in Taiwan. *Cyber Psychology & Behavior*, 7(5), 571–581.
- Chou, C., & Hsiao, M. C. (2000). Internet addiction, usage, gratification, and pleasure experience: The Taiwan college students' case. *Computers & Education*, 35(1), 65–80.
- Chou, T. J., & Ting, C. C. (2003). The role of flow experience in cyber-game addiction. *Cyber Psychology & Behavior*, 6(6), 663–675.
- Church, K., & de Oliveira, R. (2013, August). What's up with Whatsapp? Comparing mobile instant messaging behaviors with traditional SMS. In *Proceedings of the 15th international conference on Human-computer interaction with mobile devices and services* (pp. 352–361). Munich, Germany: ACM. <http://dx.doi.org/10.1145/2493190.2493225>
- Davis, R. A. (2001). A cognitive-behavioral model of pathological internet use. *Computers in Human Behavior*, 17(2), 187–195.
- Deloitte. (2013a). *The state of the mobile consumer*. Retrieved from <http://www.deloitte/globalmobile2013>
- Deloitte. (2013b). *Türkiye mobil tüketici anketi*. <http://www.deloitte/globalmobile2013> adresinden edinilmiştir.
- Dhaha, I. S. Y. (2013). Predictors of Facebook addiction among youth: A structural equation modeling. *Journal of Social Sciences*, 2(4), 186–195.
- Dong, G., Lu, Q., Zhou, H., & Zhao, X. (2011). Precursor or sequela: Pathological disorders in people with Internet addiction disorder. *Plos One*, 6(2), 1–5.
- Economides, A. A., & Grousopoulou, A. (2008). Use of mobile phones by male and female Greek students. *International Journal of Mobile Communications*, 6(6), 729–749.
- Ghamari, F., Mohammadbeigi, A., Mohammadsalehi, N., & Hashiani, A. A. (2011). Internet addiction and modeling its risk factors in medical students, Iran. *Indian Journal of Psychological Medicine*, 33(2), 158–162.
- Gilbert, R. L., Murphy, N. A., & McNally, T. (2011). Addiction to the 3-dimensional Internet: Estimated prevalence and relationship to real world addictions. *Addiction Research & Theory*, 19(4), 380–390.
- Goldberg, I. (1996). *Internet addiction disorder*. Retrieved from <http://www.psycom.net/iadcriteria.html>
- Gönül, A. S. (2002). Patolojik internet kullanımı. *Yeni Symposium*, 40(3), 105–110.
- Griffiths, M. (2000). Does Internet and computer “addiction” exist? Some case study evidence. *Cyber Psychology and Behavior*, 3(2), 211–218.

- Griffiths, M. (2001). Sex on the Internet: Observations and implications for Internet sex addiction. *Journal of Sex Research, 38*(4), 333–342.
- Griffiths, M. D. (1999). Internet addiction: Internet fuels other addictions. *Student British Medical Journal, 7*, 428–429.
- Griffiths, M. D. (2012). Internet sex addiction: A review of empirical research. *Addiction Research & Theory, 20*(2), 111–124.
- Grüsser, S. M., Thalemann, R., & Griffiths, M. D. (2006). Excessive computer game playing: Evidence for addiction and aggression? *Cyber Psychology & Behavior, 10*(2), 290–292.
- GSM Association. (2007). *Global mobile communication is 20 years old*. Retrieved from <http://www.gsma.com/newsroom/global-mobile-communication-is-20-years-old>
- Ha, J. H., Kim, S. Y., Bae, S. C., Bae, S., Kim, H., Sim, M., ... & Cho, S. C. (2007). Depression and Internet addiction in adolescents. *Psychopathology, 40*(6), 424–430.
- Hansen, S. (2002). Excessive internet usage or 'internet addiction'? The implications of diagnostic categories for student users. *Journal of Computer Assisted Learning, 18*(2), 235–236.
- Hardie, E., & Tee, M. Y. (2007). Excessive internet use: The role of personality, loneliness and social support networks in internet addiction. *Australian Journal of Emerging Technologies & Society, 5*(1), 34–47.
- Humphreys, L. (2003). *Can you hear me now? A field study of mobile phone usage in public space* (Master's thesis, Cornell University, U.S.A.). Retrieved from <http://citeseerx.ist.psu.edu/>
- Jones, S., Johnson-Yale, C., Millermaier, S., & Pérez, F. S. (2009). US college students' Internet use: Race, gender and digital divides. *Journal of Computer-Mediated Communication, 14*(2), 244–264.
- Karadağ, E., Tosuntaş, Ş. B., Erzen, E., Duru, P., Bostan, N., Şahin, B. M., ... & Babadağ, B. (2015). Determinants of phubbing, which is the sum of many virtual addictions: A structural equation model. *Journal of Behavioral Addictions, 4*(2), 60–74.
- Karaduman, M. & Kurt, H. (2010, Aralık). *İletişim fakültesi öğrencilerinin sosyal medyayı kullanım düzeyleri*. XV. Türkiye'de İnternet Konferansı'nda sunulan bildiri özeti, İstanbul. <http://inet-tr.itu.edu.tr/dosya/inet-tr-bildiri-ozetleri.pdf> adresinden edinilmiştir.
- Khalid, H., & Dix, A. (2007). Designing for photo lurking. In T. Ormerod & C. Sas (Eds.), *Proceedings of the 21st British HCI Group Annual Conference on People and Computers: HCI... but not as we know it: Vol. 2* (pp. 145–148). Lanchester, UK: British Computer Society.
- Kim, E. J., Namkoong, K., Ku, T., & Kim, S. J. (2008). The relationship between online game addiction and aggression, self-control and narcissistic personality traits. *European Psychiatry, 23*(3), 212–218.
- Kwon, M., Lee, J. Y., Won, W. Y., Park, J. W., Min, J. A., Hahn, C., ... & Kim, D. J. (2013). Development and validation of a smartphone addiction scale. *Plos One, 8*(2), e56936. <http://dx.doi.org/10.1371/journal.pone.0056936>
- Lee, J-K., & Hwang, S.-J. (2009). A study on teenager's mobile phone use motives and addiction. *Korea Association for Broadcasting & Telecommunication Studies, 23*(5), 296–338.
- Leung, L. (2008). Linking psychological attributes to addiction and improper use of the mobile phone among adolescents in Hong Kong. *Journal of Children and Media, 2*(2), 93–113.
- Ling, R. (2005). The sociolinguistics of SMS: An analysis of SMS use by a random sample of Norwegians. In R. Ling & Per E. Pedersen (Eds.), *Mobile communications* (pp. 335–349). London, UK: Springer.

- Malita, L. (2011). Social media time management tools and tips. *Procedia Computer Science*, 3, 747–753.
- Mante, E. A., & Piris, D. (2002). SMS use by young people in the Netherlands. *Revista de Estudios de Juventud*, 52, 47–58.
- Milli Eğitim Bakanlığı. (2011). *Gazetecilik: İletişim süreci ve türleri*. Ankara: Yazar.
- Nalwa, K., & Anand, A. P. (2003). Internet addiction in students: A cause of concern. *Cyber Psychology & Behavior*, 6(6), 653–656.
- Neuman, L. W. (2007). *Toplumsal araştırma yöntemleri: Nitel ve nicel yaklaşımlar* (S. Özge, Çev.). İstanbul: Yayın Odası.
- Özaşçılar, M. (2009). *Cep telefonu kullanımının sosyolojik boyutu: Bireysel güvenlik ve günlük hayattaki yeri* (Doktora tezi, İstanbul Üniversitesi, Sosyal Bilimler Anabilim Dalı, İstanbul). <https://tez.yok.gov.tr/UlusalTezMerkezi/> adresinden edinilmiştir.
- Özaşçılar, M. (2012). Genç bireylerin cep telefonu kullanımı ve bireysel güvenlik: Üniversite öğrencilerinin cep telefonunu bireysel güvenlik amaçlı kullanımları. *Sosyoloji Araştırmaları Dergisi*, 15(1), 43–74.
- Park, W. K. (2005). Mobile phone addiction. In R. Ling & Per E. Pedersen (Eds.), *Mobile communications* (pp. 253–272). London, UK: Springer.
- Pemppek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227–238.
- Shaffer, H. J. (2002). Is computer addiction a unique psychiatric disorder? *Psychiatric Times*. Retrieved from <http://www.psychiatristimes.com/articles/computer-addiction-unique-psychiatric-disorder>
- Shotton, M. A. (1991). The costs and benefits of 'computer addiction'. *Behaviour & Information Technology*, 10(3), 219–230.
- Smith, A. (2012). *46% of American adults are smartphone owners*. Washington: Pew Internet & American Life Project. Retrieved from <http://www.pewinternet.org>
- Sönmez, B. (2013). *Sosyal medya ve ortaöğretim öğretmenlerinin Facebook kullanma alışkanlıkları* (Doktora tezi, Akdeniz Üniversitesi, Sosyoloji Anabilim Dalı, Antalya). <https://tez.yok.gov.tr/UlusalTezMerkezi/> adresinden edinilmiştir.
- Sultan, A. J. (2014). Addiction to mobile text messaging applications is nothing to “lol” about. *The Social Science Journal*, 51, 57–69.
- Telekom Haber. (2008). *Bak şu gençlerin korkusuna*. <http://www.telekomhaber.com> adresinden edinilmiştir.
- Turel, O., & Serenko, A. (2012). The benefits and dangers of enjoyment with social networking websites. *European Journal of Information Systems*, 21(5), 512–528.
- Turel, O., Serenko, A., & Giles, P. (2011). Integrating technology addiction and use: An empirical investigation of online auction users. *MIS Quarterly*, 35(4), 1043–1062.
- Tutgun-Ünal, A. & Arslan, A. (2013). Devlet ve vakıf üniversiteleri eğitim fakültesi öğrencilerinin cep telefonu kullanım sıklıklarının ve marka tercihlerinin karşılaştırılması. *Gaziantep University Journal of Social Sciences*, 2(1), 1–19.
- Van Rooij, A. J., Schoenmakers, T. M., Vermulst, A. A., Van Den Eijnden, R. J., & Van De Mheen, D. (2011). Online video game addiction: Identification of addicted adolescent gamers. *Addiction*, 106(1), 205–212.

- Walsh, S. P., White, K. M., & Young, R. M. (2008). Over-connected? A qualitative exploration of the relationship between Australian youth and their mobile phones. *Journal of Adolescence*, 31, 77–92.
- Wei, R., & Leung, L. (1999). Blurring public and private behaviors in public space: Policy challenges in the use and improper use of the cell phone. *Telematics and Informatics*, 16(1-2), 11–26.
- Weinstein, A. M. (2010). Computer and video game addiction - A comparison between game users and non-game users. *The American Journal of Drug and Alcohol Abuse*, 36(5), 268–276.
- Weinstein, A., & Lejoyeux, M. (2010). Internet addiction or excessive internet use. *The American Journal of Drug and Alcohol Abuse*, 36(5), 277–283.
- Wood, R. T. (2008). Problems with the concept of video game “addiction”: Some case study examples. *International Journal of Mental Health and Addiction*, 6(2), 169–178.
- World Economic Forum. (2014). *Global risks 2014*. Geneva: Author.
- Yang, S. C., & Tung, C. J. (2007). Comparison of Internet addicts and non-addicts in Taiwanese high school. *Computers in Human Behavior*, 23(1), 79–96.
- Yellowlees, P. M., & Marks, S. (2007). Problematic internet use or internet addiction? *Computers in Human Behavior*, 23(3), 1447–1453.
- Yin, K. R. (2003). *Case study research*. London, UK: Sage.
- Young, K. (2009). Understanding online gaming addiction and treatment issues for adolescents. *The American Journal of Family Therapy*, 37(5), 355–372.
- Yuen, C. N., & Lavin, M. J. (2004). Internet dependence in the collegiate population: The role of shyness. *Cyber Psychology & Behavior*, 7(4), 379–383.
- Zulkefly, S. N., & Baharudin, R. (2009). Mobile phone use amongst students in a university in Malaysia: Its correlates and relationship to psychological health. *European Journal of Scientific Research*, 27(2), 206–218.