Cross-generational analysis of predictive factors of addictive behavior in smartphone usage / Maya Blau

Abstract

The term "smartphone" first came into use in 1997 when Ericsson, the Swedish telecom equipment manufacturer, described its newly developed Penelope GS88 mobile phone, as a smartphone. This designation came to signify a new category in the mobile phone market, comprised of phones which offered combined services of communication, computerization, voice communication, text messaging, personal information management applications, and wireless communication capabilities (Davey and Davey, 2014).

Smartphones offer many additional advantages, notably, that they enable users to communicate unencumbered by the constraints of physical proximity and mobility, as well as their contribution to successful text messaging-based health interventions (such as diabetes self-management and ending nicotine dependence) (Billieux, 2012).

Simultaneously with the rising demand for smartphones, and despite their allure to consumers and the fact that they embody significant innovation in the field of information and communication technologies, there is an increasing amount of research into their less beneficial sides, and in particular, addictive usage behavior (Park and Less, 2013) – the phenomenon which is the subject of this study.

Significant research has been conducted in recent years on the topic of smartphone addiction, and has produced various approaches to studying this phenomenon as well as a range of variables found to influence the development of the addictive behavior, such as: personality, psychological and emotional parameters, and demographic parameters of education, gender, and age. However, despite a growing number of studies on the topic, no cross-generational study examining the different causes of smartphone addictive behavior has been conducted, neither has one been done in Israel. Despite the fact that previous studies point to significant variation in the way different generations use new technology (Charness& Bosman, 1992; Lenhart, Purcell, Smith &Zickuhr, 2010) most of the research into the use and problematic use of smartphones has focused on the youth population and college students, a sample belonging to just one generational cohort (Munasnighe, 2016; Ezoe and Toda, 2013; Albarashdi et al, 2015; Park and Park, 2014; Davey, 2014).

Research Goal

In the light of the above, the purpose of the present study is to examine the phenomenon of smartphone addictive behavior from a cross-generational perspective among the Israeli population. As such, the study will investigate the reasons for this addictive behavior and which of the previously presented variables affecting the tendency to develop addiction were dominant for each generation. The study is expected to make a substantial contribution towards deepening the understanding of an addictive behavior expected to become one of the major addictions of the 21st century (Madrid, 2003).

As there is an inextricable link between smartphone addiction and physical and mental health (Hooper and Zhou, 2007), research delving further into this phenomenon will help in promoting mental wellbeing through more effective public education campaigns on the effects that technology has on individual mental wellbeing. Additionally, since smartphone addictive behavior is a global phenomenon, it is appropriate to conduct such a study among the Israeli population.

Method

The study was conducted with the participation of 209 Israeli smartphone users of varying demographics, and representing three generations of smartphone users: Generation X, Generation Y, and Generation Z. Participants responded to an 82-item questionnaire based on the Smartphone Addiction Scale (SAS), which was translated into Hebrew and condensed. The factors affecting the tendency to develop addictive behavior were examined across the three cohorts and were as follows: social environment pressure to use smartphones, emotional gains from smartphone use, application types ranked by usage level, needs of the smartphone user, and personality traits.

Each participant's answers were analyzed using the standard statistical tools (Pearson Coefficient and ANOVA tests); additionally a multi-variable linear regression model was constructed for predicting smartphone addiction in the entire sample and for each cohort.

Findings

Regression analysis showed that there are significant differences between the generations, both in the extent of the addictive behavior and the factors affecting it. The study's main finding is that Generation Y demonstrates a level of addictive behavior significantly greater than the other two generations, while Generation X was found to have the lowest level of addictive behavior. The most powerful predictive factors for all the generations were pressure from the social environment to use smartphones, and emotional gains. In the two younger generations, a neurotic personality also acted as a predictive factor, and with respect to Generation Z, the WhatsApp application made a significant contribution in the hierarchical regression model to the explained variance of the level of addictive behavior.

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