ISBN: 978-989-8533-61-6 © 2017

NOMOPHOBIA: IS SMARTPHONE ADDICTION A GENUINE RISK FOR MOBILE LEARNING?

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ABSTRACT

Repeated surveys have shown that all students at our university have smartphones and use them regularly both at home and in the university. Excessive regular use of anything, including digital devices, can lead to addiction which has promoted researchers to classify and label smartphone addiction as "nomophobia". Using a self-assessment survey developed at Iowa State University this papers evaluates whether nomophobia is a problem at the institution and to what extent. A non-representative sample of 104 students showed that a small minority (<3%) could be classified as having severe nomophobia and almost 40% as moderately nomophobic. The remaining students were classed as mildly nomophobic with absolutely zero students being categorized as not nomophobic. This creates a potential risk for any teacher-led activities, such as mobile learning, which encourage further use of mobile devices. It is therefore recommended that this situation be monitored and that the issue of nomophobia be included in future programs teaching digital literacy. Further research using qualitative methods is recommended to gain more accurate data and a deeper insight into how students are using their smartphones and how aware they are of the dangers of nomophobia.

KEYWORDS

Nomophobia, smartphone, addiction, mlearning.

1. INTRODUCTION

New technologies have brought new forms of addiction with them. Traditional addictions to alcohol, drugs or gambling have now been joined by addictions to videogames, the internet and even mobile phones. Mobile phone addiction, commonly termed nomophobia, is one of the newest forms of digital addiction and as such has been less researched than other forms, such internet addiction, for example. However, researchers in South Korea (Kim, 2013; Kwon et al., 2013) have found that levels of smartphone addiction are even higher than internet addiction. One of the causes posited for this was the convenience of mobile devices. One of the same factors which makes mobile learning so interesting and useful may therefore also be leading to a dangerous addiction. As an institution which has actively encouraged students to make use of mobile devices it would therefore seem prudent to investigate this topic before further expanding the use of mobile learning.

2. NOMOPHOBIA & LEARNING

Kim's study in South Korea found that smartphone addiction has genuine consequences which affected student success (Kim, 2013). Sufferers were unable to do school work, found that interpersonal relationships suffered and felt anxiety and loneliness without their smartphones. In research on undergraduate students in the US Emanuel found that one-fifth of respondents were classed as totally dependent on their smartphones and about one-half were overly dependent (Emanuel et al., 2015). Their literature review also concluded that college age students are the group most likely to be nomophobic. Evidence from a study in Saudi Arabia supports this view and the negative consequences of smartphone addiction (Alosaimi et al., 2016). This study of university students found that they suffered from a lack of sleep and a loss of energy, had a more unhealthy lifestyle and that 25% of the participants attributed smartphone use to a drop in academic performance. Hawi & Samaha (2016) also found a correlation between excessive smartphone use and GPA

test results. This was seen to be partly due to the students´ tendency to multitask with their smartphones, even when doing coursework, rather than just concentrating on one thing at a time. Alijoma et al. (2016) found that Bachelor degree students have the highest degree of addiction. Significant differences were also found on the health dimension in favour of participants with lower monthly income (Alijoma et al., 2016). Al-Barashdi et al. (2014) found that some studies of their literature review have shown significant gender differences in smartphone addiction and other studies have shown no gender differences. Some studies have examined the relationship between addiction and the course of studies (Al-Barashdi et al., 2014). The study by Haug et al. (2015) provides the first insights into smartphone addiction and predictors of smartphone addiction among young people from a European country (Switzerland).

3. RESEARCH METHODOLOGY

To assess the amount of nomophobia at the South Westphalia University of Applied Sciences a convenience sample of 104 undergraduate students of business and engineering programs completed an online survey based on research at Iowa State University (Yildirim & Correia, 2015). After answering initial demographic questions on age, gender, degree program and smartphone ownership students were asked if they had already used a smartphone for learning purposes and if they had their phone with them in class. Students then responded to the 20 questions from the Iowa study on a scale of 1 (strongly disagree) to 7 (strongly agree). The survey questions were translated into German to ease understanding. In Yildirim & Correia's assessment of nomophobia, participants receive between 1 and 7 points per answer giving a minimum total of 20 points and a maximum of 140 points. Four possible degrees of nomophobia are identified: 20 points and under – not nomophobic, 21 – 60 points – mild nomophobia, 61 – 100 points moderate nomophobia, 101 – 120 points – severe nomophobia.

3.1 Findings

The majority of the participants were in the age range 20 to 25 years – the age group which previous studies have identified as most at risk from nomophobia (Emanuel, 2015).

Table 1. Participant age.

	<20	20 - 25	26 – 30	> 30	Total
Female	3	38	9	1	51
Male	3	34	11	5	53
	6	72	20	6	104

All of the students who participated confirmed that they owned a smartphone. The questions regarding the use of mobile phones in class revealed how ubiquitous these devices have become. 99% of the students surveyed stated that they regularly had their smartphones with them and switched on during class. Although 86% had their phone switched to silent mode, the remaining 12% had their phones on as normal with the ringer activated. Incoming calls or messages could therefore create a disturbance and disrupt class. The students were also asked how often they used their phones for private (non-class related activities) during a lesson. Only 3% answered never, 59% sometimes and 36% often. 95% did however state that they had already also used their smartphones for learning purposes – either inside or outside of class.

The demographic and general questions were followed by the 20 questions from the ISU study.

Table 2. Results of nomophobia self-test (Part 1).

Somewhat/Mostly/Completely disagree	**Neither agree nor disagree**	**Somewhat/Mostly/Completely agree**
I would feel uncomfortable without constant access to information through my smartphone.		
42	20	42
I would be annoyed if I could not look information up on my smartphone when I wanted to do so.		
23	12	69
Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous.		
66	17	21
I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so.		
30	19	55
Running out of battery in my smartphone would scare me.		
64	15	25
If I were to run out of credits or hit my monthly data limit, I would panic.		
89	9	6
If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.		
66	14	24
If I could not use my smartphone, I would be afraid of getting stranded somewhere.		
88	7	9
If I could not check my smartphone for a while, I would feel a desire to check it.		
51	16	37

Table 3. Results of nomophobia self-test (Part 2).

If I did not have my smartphone with me ...		
Somewhat/Mostly/Completely disagree	**Neither agree nor disagree**	**Somewhat/Mostly/Completely agree**
I would feel anxious because I could not instantly communicate with my family and/or friends.		
64	17	23
I would be worried because my family and/or friends could not reach me.		
48	20	36
I would feel nervous because I would not be able to receive text messages and calls.		
69	13	22
I would be anxious because I could not keep in touch with my family and/or friends.		
59	21	24
I would be nervous because I could not know if someone had tried to get a hold of me.		
60	22	22
I would feel anxious because my constant connection to my family and friends would be broken.		
71	14	19
I would be nervous because I would be disconnected from my online identity.		
100	0	4
I would be uncomfortable because I could not stay up-to-date with social media and online networks.		
99	3	2
I would feel awkward because I could not check my notifications for updates from my connections and online networks.		
98	4	2
I would feel anxious because I could not check my email messages.		
80	7	17
I would feel weird because I would not know what to do.		
89	7	8

Firstly the students were asked whether they would feel uncomfortable without permanent access to information on their smartphone. 40% of the respondents agreed or strongly agreed with this statement however an equal amount disagreed or strongly disagreed. The results were however clearer when asked whether they would be annoyed if they could not access information on their phone when they wanted to do so. 65% agreed or strongly agreed with this statement and only 22% disagreed or strongly disagreed. 53% of the participants agreed or strongly agreed that they would be annoyed if they could not use their smartphone or its capabilities when they wanted to do so. Only 29% disagreed or strongly disagreed with this statement.

Issues of personal connectivity have been highlighted as important in other studies. However, when asked if they would feel nervous if they didn't know if someone had tried to contact them, 57% of students disagreed or strongly disagreed.

Based on the total survey results nomophobia is a serious problem for only a small group of students (less than 3%). However, almost 40% of the respondents were in the category "Moderate nomophobia". This is therefore the group that perhaps requires most caution when encouraging students to use their mobile devices for learning purposes. The results also show that male students were more likely to be nomophobic than female students, given the size of the survey group this is however not statistically significant.

Table 4. Total results of nomophobia self-test.

	Not nomophobic	Mild nomophobia	Moderate nomophobia	Severe nomophobia	Total
Female	0	31	19	1	51
Male	0	29	22	2	53
	0	60	41	3	104

4. CONCLUSION

The nomophobia test was conducted as a self-analysis by only a small part of the student body (approximately 10% of the full-time undergraduate population). Whether the students answered honestly is therefore questionable as is how representative the participants were of the group as a whole. The project does however raise student and staff awareness of the risk of smartphone addiction and gives pause for thought when implementing mobile learning initiatives. The results suggest that creating new or expanding existing programs to raise student digital literacy, especially in relation to addiction, would be a wise step for any institution promoting mobile learning.

A further qualitative study is recommended to explore what extent students are using their mobile devices and what percentage of this time is actually used in relation to learning. Also further qualitative methods are recommended to provide better understanding of smartphone addiction and its impact on the academic achievement of the students. Also more studies are needed to find out if nomophobia can be linked to family relations or gender differences.

ACKNOWLEDGEMENT

Our gratitude to the students who voluntarily took part in the nomophobia survey. We hope the results may make them think about how attached they are to their devices and whether they are using them in the most productive way.

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