Cellphone Abuse and Academic Boredom Among University Students in Thailand

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Abstract

The emotional context of learning continues to be a problem while there is a growing concerns of cellphone abuse among university students. Within Thailand, cellphone abuse has been linked with interpersonal problems in particular. While abuse to cellphones is a concern there are also worries over academic boredom. Therefore, the purpose of this study was to explore the relationship between cellphone abuse and academic boredom. This study assessed participants' perceptions of cellphone abuse and academic boredom as well as determining the strength of the association between the two constructs. A sample of 176 participants, employing correlational survey design, was taken from a university located in MuakLek, Saraburi Thailand. The correlational analysis found weak or non-significant positive bivariate relationships. Using multiple regression, the results indicated that academic boredom has a slight positive relationship with cellphone abuse when controlling for number of credits studying, gender, major, club participation, and year of study. In addition, gender was not found to be a significant factor and participants admitted to their cellphone distracting them from completing work while also stating that they want more challenged at university. This study provided insights into students use of cellphones and their emotions in the context of Thailand. The results indicate that teachers may want to consider the academic load of students as well as the students' engagement when addressing how to encourage temperate use of cellphones. Further study may include the continued examination of emotions in the context of the learning experience in tertiary education.

Keywords: Academic boredom, cellphone abuse, regression, correlation

1. Background of the Study

There is growing evidence in the world today that cellphone abuse is slowly becoming a crisis. The average person swipes their smartphone over 2,600 times per day (Stibel, 2017). The average age that a person receives their first phone is as low as between 7-10 years of age with these young children spending as much as 4.5 hours per day on their phones (Chappell, 2018; Forester, 2017). Approximately, 50% of teens have stated that they are addicted to their phones with a third stating that cellphone use has led to conflicts with others and half stating that cellphone use has led to risky behavior such as driving while distracted (Chappell, 2018). Children as young as 13 are now being treated for abuse for

cellphone abuse with one researcher comparing giving a child a cellphone to giving him or her cocaine (Forester, 2017; Pells, 2017).

The abuse of cellphones has also had tremendous psychological and emotional impacts as well. The average attention span of a person has gone from 12 to 8 seconds which is below the 9-second attention span of a goldfish (McSpadden, 2015). This reduction in attention span can contribute to increases in boredom, which is a concern for lecturers at the university level.

Statistics on boredom in school are equally strong. Only half of students consider teachers lectures as engaging and 30% finding all their lectures as boring (Bryner, 2017; Mann, 2009). Students frequently complain of being tired and bored when it comes to school (Bryner, 2017). In addition, 66% of students indicate that they are bored in class every single day (Bryner, 2017). With the reduction in attention span and the growing concerns with boredom it is necessary to determine factors that are associated with this phenomenon.

Within in education few studies focus on the role of emotions beyond the influence of anxiety (Pekrun, Frenzel, Goetz, & Perry, 2007). In addition, other studies have examined cellphone abuse but with an emphasis on academic stress and not boredom (Thomas, 2016). Therefore, the purpose of this study is to examine the association between cellphone abuse and academic boredom among a sample of university students in Thailand in order to assess the extent of this phenomenon. Due to the crisis of cellphone abuse and the additional challenge of disengaged students, it would be beneficial for educators and even students to understand if there is any relationship between the ongoing abuse of cellphones and the disengagement that is commonly found in the learning among university students.

1.1 Cellphone Abuse

Abuse symptoms that are unique to cellphones include phantom vibration which is an experience that the phone is vibrating when it is not (Deb, 2015). Phubbing is the habit of avoiding social interaction in order to concentrate on one's phone (Chotpitayasunondh & Douglas, 2016). Shyness is also commonly associated with cellphone abuse (Han, Geng, Jou, Gao, & Yang, 2017). Nomophobia is a fear of not having one's cellphone in one’s possession (Yildirim&Correia, 2015). Despite this evidence, there are still many who are not in agreement with cellphone abuse as a true abuse (Billieux, Maurage, Lopez-Fernandez, Kuss, & Griffiths, 2015).

Phone abuse can have a negative impact on a person's social interaction. For example, cellphone abuse can lead to conflicts in one's family life, personal life, and job (Zheng & Lee, 2016). Mobile phone abuse has also been linked to lowered attention and increased depression which also influences social relationships (Seo, Park, Kim, & Park, 2016). Furthermore, cellphone abuse has also been linked with higher incidences of gambling (Fransson, Chóliz, & Håkansson, 2018). This may be because attention impulsiveness is positively associated with cellphone abuse, which can lead to poor decision-making such as participating in detrimental gambling practices (Roberts, Pullig, & Manolis, 2015).

Cellphone abuse has also been found to impact health. One study found that students who used their phones more than 5 hours a day slept less and were more likely to suffer from insomnia (Tamura, Nishida, Tsuji, & Sakakibara, 2017). The reduced sleep quality caused by cellphone abuse has also been linked with poorer general health (Eyvazlou, Zarei, Rahimi, & Abazari, 2016). Other physical problems include negative effects on posture as cellphone users tend to adopt what is called a "tech-neck" like posture (Vate-U-Lan, 2015). Cellphone abuse has also been found to cause thumb pain and decrease pinch strength in the hand (İNal, Demİrcİ, Çetİntürk, Akgönül, & Savaş, 2015).

Academic performance can also be affected by cellphone abuse. People who do not have cellphone access have been found to achieve more study goals than those with cellphone access (Cutino and Nees, 2017). In another study, it was found that excessive cellphone use leads to emotional and cognitive preoccupation, which in turn diminishes performance (Cao, Masood, Luqman, and Ali, 2018). Lastly, students who are addicted to cellphones are less likely to attain GPA that indicates academic excellence (Hawi and Samaha, 2016).

Several studies have found difference based on gender for cellphone abuse. For example, cellphone use is normally greater in women (Fransson et al., 2018; Kim, Lee, and Choi, 2015). Among women, cellphone abuse was predicted by self-control and how long the individual had a cellphone (Jiang & Zhao, 2017). Women struggle in particular with cellphone abuse while men struggle more with technology in general (Aljomaa, Al.Qudah, Albursan, Bakhiet, and Abduljabbar, 2016).

Within Asian, studies on cellphone abuse have also been conducted. In South Korea, cellphone abuse has been linked with depression among adolescents (Jun, 2016). In addition, another study in South Korea found that cellphone abuse was linked with anxiety and was more common in women (Kim et al., 2015). One study in India claims that cellphone abuse has no detrimental effects on cognition (Mohan, Khaliq, Panwar, and Vaney, 2016). In Thailand, cellphone abuse has been linked with interpersonal problems and academic stress (Kumjonmenukul, 2011; Thomas, 2016).

1.2 Academic Boredom

Boredom is often seen as an emotion (Fahlman, Mercer, Gaskovski, Eastwood and Eastwood, 2009). In addition, boredom can manifest itself in various ways such as indifference, daydreaming, anger, and apathy (Goetz, Frenzel, Hall,Nett, Pekrun and Lipnevich, 2014). Boredom often serves as an indicator that the individual needs to seek new goals (Macklem, 2015). In general, academic boredom is a deactivating emotion that impacts negatively student engagement and performance (Sharp, Sharp, & Young, 2018). The study of emotions other than anxiety has frequently been neglected in educational research (Pekrun et al., 2007). This indicates that examining academic boredom is pertinent.

There are several common causes of boredom in the academic setting. Lecturing with an over-reliance on PowerPoint presentations has been identified as a catalyst for experiencing boredom (Sharp, Hemmings, Kay, Murphy, & Elliott, 2017). Students consistency rate classroom discussion and group projects as more engaging than lectures (Bryner, 2017). However, teachers often do not see themselves as

the source of boredom in the classroom (Daschmann, Goetz, and Stupnisky, 2014). Students have also indicated that completing assignments caused boredom (Sharp et al., 2017).

Other causes of academic boredom include a lack of motivation and the shift from hands on activities to a more cerebral abstract learning style as students grow older (Jason, 2017). Students who are either over or underchallenged can also become bored (Krannich, Goetz, Lipnevich, Bieg, Roos, Becker and Morger,2018). A major difference between those who are bored and those who are not has to do with how much time a person spends in self-study, their attendance, and academic performance (Sharp et al., 2017). This may indicate that students who are taking more courses, participate in extracurricular such as clubs, or more challenging courses may have less boredom.

Academic boredom generally has a negative association with academic performance (Tze, Daniels, & Klassen, 2016). In one study, it was found that boredom and academic performance effect each other, meaning that boredom drives down performance and subsequent performances increases boredom (Pekrun, Hall, Goetz, and Perry, 2014). Boredom has also been found to impact curiosity and the loss of curiosity can impact academic performance (Eren and Coskun, 2016). Several studies also indicate that there is no difference based on gender, intelligence, or socioeconomic status when it comes to the association between academic boredom and academic performance (Pekrun et al., 2014; Pekrun, Lichtenfeld, Marsh, Murayama, and Goetz, 2017).

People who experience a negative emotion such as boredom were less likely to use a variety of cognitive and metacognitive strategies when compared to people who were experiencing positive emotions (King and Areepattamannil, 2014). Boredom has also been linked with an increase in internet use as bored individuals seek stimulating activities to alleviate the boredom they are experiencing (Skues, Williams, Oldmeadow, and Wise, 2016). Generally, boredom often leads poor choices to alleviate the boredom such as risk taking, impulsivity, drug and alcohol use, and aggression (Macklem, 2015).

In Asia, a study in China found that students with mastery-approach and performance-avoidance goals experience boredom while students with mastery-avoidance and performance approach goals did not experience boredom (Liu, 2015). In other words, people who wanted to mastery the task but did not want to look bad in front of others were more likely to be bored. However, people who were not as worried about mastering the task but did not care what others thought of them experienced less boredom.

2. Research Objectives

Based on this review of literature, the following research objectives have been developed.

2.1 To determine the perceptions of cellphone abuse and academic boredom among university students in the sample population.

2.2 To ascertain the bivariate relationship among between cellphone abuse, academic boredom, and number of credits studied.

2.3 To assess the relationship between cellphone abuse and academic boredom when controlling for the effect of gender, class level, major, club status, academic status, and number of credits studied.

3. Research Methodology

The setting of this study was at one university located in MuakLek, Saraburi, Thailand. The sample was drawn using stratified sampling based on gender. The sample size of this study was 176. Within the sample 41% were male 59% female. By major 47% of the participants English majors, 18% were business majors, 16% education majors, 7% were computer science majors, 7% were science majors, and 5% were religion majors . Among the participants 64% belonged to at least one on-campus club and 26% claimed to have a GPA above 3.5. The average number of credits a participant was taking was 15.3 (SD = 2.21, 95%CI[14.96, 15.62]).

3.1 Research Design & Instruments

This study employed a cross-sectional survey design with a correlational analysis. The researcher collected data at the university. The survey instrument had two sections. Section 1 addressed the demographic variables of the study which included gender, class level, academic status, club participation, major, and number of credits enrolled. Section 2 consisted of 48 Likert-type statements that measured students' perception of cellphone abuse and academic boredom. A five-point scale was used with 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

3.1.1 Cellphone Abuse

The cellphone abuse scale was adopted from Merlo, Stone, and Bibbey (2013). This scale assessed a participant's attitude toward their cellphone use. Sub constructs measured in this scale included tolerance, cravings, withdrawals, psychological and interpersonal problems, and loss of time. Sample items from this scale are “The amount of time I spend using my cell phone keeps me from doing other important work.” and “People tell me I spend too much time using my cell phone." The Cronbach Alpha for this 20-item scale was 0.86.

3.1.2 Academic Boredom

The academic boredom scale was adopted from Sharp et al., (2017). This scale assessed a participant's attitude toward their experience with academic boredom. Sub constructs measured in this scale included tedium, time, challenge, concentration, and patience. Sample items from this scale are “At university, I find myself just sitting around doing nothing.” and “Unless I am doing something exciting at university I feel half dead and dull." The Cronbach Alpha for this 28-item scale was 0.74 .

3.2 Data Analysis

Descriptive statistics were analyzed in this study. The means, standard deviations and 95% confidence interval for the observed variables as well as for individual survey items was calculated. Person correlation was used to assess the bivariate relationship between cellphone abuse, academic boredom and number of credits studied. Lastly, multiple regression was used to determine the association between cellphone abuse and academic boredom with the inclusion of gender, class level, club participation, academic status, and number of credits enrolled.

4. Results

For cellphone abuse, the participants of this study indicated that they are primarily neutral in terms of their perception of their use of their cellphone (*M* = 2.83, *SD* = 0.53, 95%CI [2.75, 2.91]).

For example, respondents disagreed that they "felt anxious if [they] had not received a call or message in some time" (see Table 1 item 1). In addition, respondents indicated that they also disagreed that "When [they] stop using their cellphone, they get moody and irritable" (see Table 1 item 2). However, participants were neutral towards the statement that "[they] use [their] cellphone when [they] knew [they] should be doing work/schoolwork" (see Table 1 item 3) and with the statement "[they] might be spending too much time using [their] cellphone" (see Table 1 item 4).Table one contains the means, standard deviations, and 95% confidence intervals of items from cellphone abuse.

Table 1 Means, standard deviations, and confidence intervals of Cellphone Abuse Items

Item	Statement	Mean	S.D.	95%CI
1	I feel anxious if I have not received a call or message in some time	2.46	0.97	2.32 – 2.61
2	When I stop using my cellphone, I get moody and irritable	2.53	1.03	2.38 – 2.68
3	I use my cellphone when I knew I should be doing work/schoolwork	3.36	1.01	3.21 – 3.51
4	I might be spending too much time using my cellphone	3.23	1.01	3.08 – 3.39

For academic boredom, the participants mildly disagreed with the statements pertaining to boredom in an academic setting (*M* = 2.98, *SD* = 0.33, 95%CI [2.93, 3.03]). For example, respondents stated that "At university, [they] often find [themselves] just sitting around and doing nothing" (see Table 2 item 1) and that "time seems to pass by slowly for [them] at university" (see Table 2 item 2). However, the participants were neutral towards the statements "At university, many things are repetitive and monotonous" (see Table 2 item 3) and that they "would like more challenging things to do at university" (see Table 2 item 4). Table two contains the means, standard deviations, and 95% confidence intervals of items from academic boredom.

Table 2 Means, standard deviations, and confidence intervals of Academic Boredom Items

Item	Statement	Mean	SD	95%CI
1	At university, I often find myself just sitting around and doing nothing	2.55	1.02	2.40 – 2.70
2	Time seems to pass by slowly for me at university	2.69	1.04	2.54 – 2.85
3	At university, many things are repetitive and monotonous	3.34	0.95	3.22 – 3.45
4	I would like more challenging things to do at university	3.36	0.98	3.21 – 3.51

The Pearson Product Correlation was calculated for cellphone abuse, academic boredom, and number of credits studying to assess the bivariate relationship among these three variables. There was no significant relationship found between cellphone abuse and academic boredom. However, significant moderately positive relationships were found between cellphone abuse and number of credits studying

and a weak positive relationship was found between academic boredom and number of credits of studying. Table 3 provides the results of the correlational matrix.

Table 3 Means, standard deviations, and correlations with confidence intervals

Variable	M	S.D.	1	2
1. Cellphone Abuse	2.83	0.53		
2. Academic Boredom	2.93	0.33	.20* [.05, .34]	
3. Credits Studying	15.29	2.21	.01 [-.14, .16]	.04 [-.11, .19]

Note M and SD are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates p< .05.

Multiple regression analysis was used to determine the relationship between cellphone abuse and academic boredom with the independent variables of academic boredom, gender, major, club participation, number of credits studying, GPA above 3.5, and class level serving as controls. The results of the regression indicated the seven independent variables explained 17% of the variance (r^2=.17, $F(13,145) = 2.24$, $p< .05$). Academic boredom ($\beta = .34$, $p< .01$), science majors ($\beta = -.41$, $p< .05$), and senior students ($\beta = -.40$, $p< .05$). The results in brackets are the 95% confidence intervals for the intercepts, independent variables, and r^2. Table 4contains the results of the regression analysis.

Table 4 Regression Coefficient Results

	Estimate (*b*)	Std. Error	*t*	*p*-value
(Intercept)	1.77 [0.86, 2.67]	0.45	3.86	< 0.01
Academic Boredom	0.34 [0.11, 0.58]	0.12	2.89	< 0.05
Credits Studying	0.01 [-0.03, 0.05]	0.01	0.46	0.64
GPA: Yes	-0.05 [-0.23, 0.14]	0.02	-0.50	0.62
Gender: Male	-0.09 [-0.27, 0.08]	0.09	-1.07	0.29
Major: Education	0.01 [-0.27, 0.27]	0.09	0.02	0.99
Major: English	0.09 [-0.16, 0.33]	0.14	0.69	0.49

Table 4 (continue)

	Estimate (*b*)	Std. Error	*t*	*p*-value
Major: Religion	0.14 [-0.27, 0.55]	0.21	0.66	0.51
Major: Science	-0.41 [-0.75, -0.06]	0.18	-2.32	< 0.05
Club: Yes	0.04 [-0.12, 0.21]	0.08	0.49	0.62
Year: Junior	-0.15 [-0.41, 0.11]	0.13	-1.17	0.25
Year: Senior	-0.40 [-0.68, -0.13]	0.14	-2.94	< 0.01
Year: Sophomore	0.09 [-0.18, 0.35]	0.13	0.65	0.52
				R^2 = 0.17 [0.11, 0.23]

5. Discussion

The significant findings of this study are as follows. First, there was a weak relationship between cellphone abuse and academic boredom both in terms of the univariate relationship and the multivariate relationship. This finding is in contrast to several other studies that have linked emotions with cellphone use (Cao, el al., 2018; Cutino & Nees, 2017) However, these other studies examined primarily how cellphones are linked with academic performance with emotions as a moderator while the current study has looked at how academic boredom, an emotion, is linked with cellphone abuse. Therefore, the link between cellphone abuse and academic boredom can primarily be identified when academic performance is taken into account.

A second finding was that senior students disagreed more with the statements regarding cellphone abuse than other class levels. This means that as they agreed more with statements about academic boredom they also agree less with statements about cellphone abuse. This may be due to the fact that senior students are often busier and thus have less time to experience boredom and abuse their use of their cellphone which is consistent with Sharp et al., (2017). In addition, graduating seniors are generally taking the most challenging courses of their studies which has also been found to decreased boredom (Krannich et al., 2018).

A third finding was the lack of an influence in terms of gender in the relationship between cellphone abuse and academic boredom. Gender has been found to be significant factor when considering cellphone abuse (Thomas, 2016). However, when considering gender in along with academic boredom this relationship disappears. This may be because both genders experience academic boredom (Sharp, et al., 2018).

6. Suggestions

Several recommendations can be derived from this study. First, providing productive academic activities may help to keep students away from being distracted constantly by their cellphones. Examples of positive academic activities include active learning, discussion, project-based learning, and indirect

rather than lecture teaching (Borich, 2013). Furthermore, educators may want to avoid encouraging the use of social media through the cellphone even for learning purposes as the temptation for cellphone abuse and academic boredom is possible.

Second, teachers may need to consider the difficulty of the courses they teach. Engagement happens when courses are within the zone of proximal development for the students. When this area is reached learning takes places with boredom or stress. It is the teachers' responsibility to find this area through experimentation with the students.

For further study it would be beneficial to study not just the role of emotions but also to include academic performance in the model as this would blend the current work with several other studies (Cao et al., 2018; Cutinoet al., 2017; Krannich et al., 2018). This study looked at emotions in isolation with cellphone abuse. Rather, it would be better to have cellphone abuse and academic boredom as explanatory variables of academic performance.

The correlational nature of this study means that provide any evidence of cause and effect between the independent and dependent variables in the model. In addition, the results were obtained from one university. Therefore, the ability to generalize is limited to a similar context.

7. Conclusion

This study attempted to explain the relationship between cellphone abuse and academic boredom while controlling for other variables. The relationship between cellphone abuse and academic boredom was positive and weak. The primary contribution of this study is that academic boredom is not a primary explanatory variable of cellphone abuse. With this explanation, educators at tertiary institutions can know that that the abuse of cellphones by students is not linked strongly with boredom with academics.

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