SMARTPHONE USAGE AMONG STUDENTS AT POLITEKNIK UNGKU OMAR

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Abstract: This study was carried out to investigate the smartphone usage among students in Politeknik Ungku Omar, Ipoh. This paper aims to examine how the smartphone usage affects the respondents' academic performance, health and lifestyle. Questionnaires were sent out to a total of 300 respondents from different courses and semesters in Politeknik Ungku Omar. Results of the frequency analysis in this study showed that most respondents agreed that smartphone usage affects their health the most while the Pearson Correlation analysis concluded that there is a relationship between smartphone usage and users' lifestyle that causes changes in student's attitude and behavior. For efficient learning and teaching processes, this study recommends that lecturers could collect smartphones from the students before the lesson starts. Moreover, students should delete underused mobile apps with the attempt to reduce their time spent on exploring such mobile apps.

Keywords: Smartphone usage, health, lifestyle, academic performance

1. Introduction

The usage of smartphones has increased rapidly in recent years, and this has brought about to smartphone addiction. Along with mobile internet subscriptions, smartphones are popular devices capable of providing access to new information and processes to users. A typical smartphone comprises of many features such as mobile games, internet browsers and social networks, instant messaging, videos, multimedia and navigation in addition to their conventional usage for communication. As smartphone technology expands, accessing to the internet has become the most frequent activity among smartphone users as a result of convenience (S. Saraswathy, 2017).

Smartphones were attractive tool for communication and interaction which had been lead to problematic use. At one-point smartphone became an unhealthy obsession. The destructive behaviour of Malaysians who continued use smartphones while driving was more prevalent today. Khairil Anuar (2011) found that students who drive and using mobile phones become a common sight these days. Activities involving mobile phone such as messaging and communication without a proper device could lead to a very serious distract to the driver. Nowadays, when we leave our homes without smartphones, it suddenly felt as though we are missing a limb or we have been disconnected from everything.

Lemola et al. (2014) found that electronic media use at night was associated with depressive symptoms. According to are previous study by Boumosleh & Jaalouk (2017) investigated whether anxiety and depression independently contributed to smartphone addiction. Boumosleh & Jaalouk (2017) investigated whether anxiety and depression independently contributed to smartphone addiction. Their cross-sectional study proposed that depression and anxiety were also a positive predictor of smartphone addiction. They also revealed that with depression scores were a more powerful predictor as compared to anxiety.

Mobile phone use prior to bedtime or even after lights-out is a common habit among many young adults. Mobile phones make our lives easier, but on the other hand, it ties us. Mobile addiction not only has physical effects but also psychological and academics effect at the same time. Sleep deficit, anxiety, stress, and depression which are all associated with internet abuse, have been related to mobile phone usage too. Hafidha (2015), it is reported that students normally spent their time using smartphones to make calls at late nights, which this will end up with less sleep and will impact the other problematic issue that may affect their performance in their studies. The most common disruptive smartphone related activities among students are chatting and texting when students should be studying. Jon D. Elhai (2016) stated that addiction to smartphone usage has led to the decline in social activities involvement among students, which is one of the factors contributing to depression. This indicates that smartphone addiction does affect users' lifestyle, including students. Finally, a study by Javid, Malik and Gujjar (2011) found that the increase use of cell phone among students may negatively impact academic performance, mental health and well –being or happiness.

Study conducted by Suliman, (2016), smartphone addiction makes adolescents and especially single people to neglect work, study, as well as to separate themselves from family and friends to the extent of being emotionally upset when they do not receive replies from their messages and texts. This show that high dependence on smartphone usage not only impact lifestyle of a student, but also their emotional being. Based on a research by Garcia-Montes (2006), changes in the self-resulting from use of mobile phones proves that smartphones have caused changes in users' behavior based on new space and time according to cultural practices. This shows that smartphones an impact on lifestyle.

The popularity of cell phones among teenagers is tremendous. Texting is a way teens communicate via cell phone with friends quickly and conveniently. In fact, teens comprise the large group of drivers distracted by dialing and text messaging. Although the cell phone is likely to be on hand while college students are in class and studying, research investigating its relationship to academic performance is limited. In an early study of the phenomenon, Sanchez-Martinez (2009) used a combination of self-reported monthly cell phone expenses and frequency of use data to identify intensive cell phone users in a large sample of Spanish high school students. More recent studies operationalize cell phone use as calling and texting while utilizing a variety of measures for academic performance. Jacobsen and Forste (2011) identified a negative relationship between calling, texting, and self-reported grade point average (GPA) among university students in the United States. Similarly, Hong Chiu and Hong (2012) found that calling and texting were positively correlated with a self-reported measure of academic difficulty among a sample of female, Taiwanese university students. While these studies provide a starting point for understanding the relationship between cell phone use and academic performance, they neither use objective measures of academic performance nor do they take into account the cell phone's expanding capabilities beyond calling and texting.

According to Ludsekelo Kibona (2015), most students are engaged in smartphone usage for social networking sites like Facebook, twitter, Instagram rather than using their phones for academic purposes. The study further discussed that not many students reported to utilize the smartphone for academic purposes such as sharing of teaching materials or notes provided by lecturers. Most of students in higher learning institutions tends to use smartphones for social related purposes than academic purpose which causing them to lose concentration in class during tutorials and lectures, a possibility for the decline of academic performance. Overall, the results have revealed that the smartphone usage brings negative results or progression on students' academic performance. This is an indicator that smartphone usage has an impact on students' academic performance.

According to Muhammad Sarwar (2013), smartphone is also responsible for significantly altering our brain perception for the device, whilst several research across the world have been reasserting how smartphone dependency is going to be a real danger in future. This indicates that smartphone usage has an impact on the health of students. As previous studies have been reporting negative impact of smartphone usage among students, there is a need to further investigate whether the usage of smartphone gives consistent impact in terms of negative or positive relationship between smartphone usage and academic performance, health and lifestyle among students at Politeknik Ungku Omar.

Thus, in light of this background, this has prompted the researchers to identify the smartphone usage among students. The specific objectives are as follows:

i. To identify the smartphone usage among students at Politeknik Ungku Omar in terms of academic performance.
ii. To determine health toward the smartphone usage among students at Politeknik Ungku Omar.
iii. To determine the lifestyle toward smartphone usage among students at Politeknik Ungku Omar.

2. Methodology

The sample population of this study was a group of students at Politeknik Ungku Omar. The tool of the investigation utilized in the study was a structured questionnaire which was meticulously prepared to gather the information on various parameters. A self-administered questionnaire was employed to gauge the understanding of smartphone usage. The questionnaires were sent out to a total of 360 students in the Politeknik Ungku Omar, however only 300 responded classified as valid. The questionnaires were distributed to Semester 1, Semester 2, Semester 3, Semester 4 and Semester 5 students. The data collected through questionnaires which emphasized by studying accurate profile and general information of a person were interpreted through frequency, percentage, charts, mean and cross tabulation. Overall mean, charts, and analysis by item and Pearson correlation coefficient to see the relationship between the dependent and independent variable to determine the significance of the relationship was also analyzed.

3. Analysis and findings

For questions related to the smartphone usage, the respondents will be asked to rate the statements with the objective. Likert-scale ranging from 'Strongly Disagree' to 'Strongly Agree'

was used to indicate the level of agreement with several statements that reflected these factors. A Likert scale measures the extent to which a person agrees or disagrees with the statement where; SD= Strongly Disagree, D=Disagree, A=Agree and SA=Strongly Agree. The four-point Likert-scale being asked in the question for Section B divided into three different issues given to the respondent.

3.1 Identifying the usage of smartphone among students

Table 1 shows the analysis by item for the smartphone usage. There was a high agreement on item SU4 and SU1. A total of 82.4% of respondents stated that mobile phone interrupts leisure time and privacy. The results showed that majority of consumers (77.3%) indicated that I am in different world while using smartphone. The results of the study also show that 71.7% of the respondents make/ answer call when driving or riding a bike. Moreover, majority of the respondents (80.7%) were feel disconnected when do not have mobile phone. Around 68% stated that it difficult to switch off/ switch to silent mobile phone.

Table 1. Analysis by item on Smartphone Usage

Item No	**Item**	**Frequency (%)**				**Mean**
		SD	D	A	SA	
SU1	Mobile phone interrupts my leisure time and my privacy	4 (1.3%)	49 (16.3%)	146 (48.7%)	101 (33.7%)	3.15
SU2	I am in different world while using smartphone	9 (3.0%)	59 (19.7%)	138 (46.0%)	94 (31.3%)	3.06
SU3	I make/answer call when I am driving or riding a bike	13 (4.3%)	72 (24.0%)	108 (36.0%)	107 (35.7%)	3.03
SU4	I feel disconnected when I don’t have my mobile phone	6 (2.0%)	52 (17.3%)	159 (53.0%)	83 (27.7%)	3.06
SU5	I find it difficult to switch off/switch to silent my mobile phone	11 (3.7%)	85 (28.3%)	121 (40.3%)	83 (27.7%)	2.92

The table 1 shows the dependent variable which is usage of smartphone at moderate level and total mean is between 2.92 and 3.15. It indicated that the respondents generally agreed that the smartphone usage is an important factor. Hence, it influences the respondents towards the usage of smartphone. This view is consistent with the findings by Hejab Ma'azer Al Fawareh (2017) which concluded that mobile technology has drastically changed the cultural norms and behavior of individuals.

A study of college student in-class smartphone use found that the vast majority (95%) of students reported that they always bring their phone to class, and that while in class their phones are set to vibrate (91%). Almost all of the students (97%) admitted to sending or receiving text

messages while waiting for class to begin. About 92% admitted that they have sent or received a text message during class (Tindell & Bohlander, 2012)

3.2 Identifying the academic performance on smartphone usage

Table 2 illustrates the analysis by item for the academic performance on smartphone usage. There is a high agreement on item AP5 and AP4. The result show that the majority of respondents (72%) indicated that can't concentrate in class because of mobile phone usage. Most of the respondents (74.6%) do not enough time to study and upgrade technology skills on mobile phones. Around 82.32% stated that mobile phone usage can lead to drop of GPA. Nearly 79% of respondents indicated that usage of mobile phone distract during lecturers. The results of the study also show that majority of respondents (85.5%) disagreed that grades/ schoolwork suffer because of the amount of time spend on smartphone. The mean value for academic performance will influence the smartphone usage has moderate level and total mean is between 2.84 and 3.16.

Table 2. Analysis by Item on Academic Performance

Item No	**Item**	**Frequency (%)**				**Mean**
		SA	A	D	SD	
AP1	I can't concentrate in class because of mobile phone usage.	90 (30%)	126 (42%)	65 (21.7%)	19 (6.3%)	2.96
AP2	I do not find enough time to study and upgrade my technology skills on mobile phones.	100 (33.3%)	124 (41.3%)	68 (22.7%)	8 (2.7%)	3.05
AP3	Mobile phones usage can lead to the drop of GPA	111 (37%)	136 (45.3%)	43 (14.3%)	10 (3.3%)	3.16
AP4	Usage of mobile phone distract me during lecturers.	100 (33.3%)	137 (45.7%)	52 (17.3%)	11 (3.7%)	3.09
AP5	Your grades/schoolwork suffer because of the amount of time you spend on smartphone.	71 (23.7%)	141 (47%)	58 (19.3%)	30 (10%)	2.84

The results of the variable (academic performance) has an overall mean of 3.0187, which indicated that respondents agreed that academic performance can be negatively affected by excessive smartphone usage. Many of them use their Smartphone while studying. They always pay less attention during class session. Hence, they cannot understand the lessons given by their lecturers. This support the finding of previous studies Emad Abu-Shanab (2015), cell phone use has also been found to reduce students' thinking abilities and shortening the attention span of students so dramatically that students struggle to read anything longer than a typical social network posting. This shows that smartphone usage has a negative impact on students' academic performance. Based on a study by Ludsekelo Kibona (2015), students mostly use their smartphones mainly for social networking such as Facebook, twitter, Instagram rather than using their phones for academic purposes. The results have revealed that the smartphones bring negative results or progression on students' academic performance.

3.3 Identifying the health on smartphones usage

Table 3 illustrates the analysis by item for the impact of smartphone usage on students' health. There is a high agreement on item HLT3 and HLT2. The results show that majority of the respondents indicated that smartphone usage affect health. Moreover, 78% of respondents believed that loss sleep due the time spend on mobile phones. Most of the respondents (79%) indicated that have ache and pains that are associated with mobile phones. Around 86% of respondents agreed that they feel anxious if do not check for massages or switched on mobile. A total of 75.6% feel constantly under strain when using smartphone. Most of the respondents (73.3%) believed that always suffer from stress without smartphone. For the health on smartphones usage has the moderate level of total mean value which is between 3.10 and 3.35.

Table 3: Analysis by item on Health

Item No	Item	Frequency (%)				Mean
		SD	D	A	SA	
HLT1	I lose sleep due the time I spend on mobile phones	7 (2.3%)	59 (19.7%)	109 (36.3%)	125 (41.7%)	3.17
HLT2	I have ache and pains that are associated with my mobile phones	6 (2.0%)	57 (19.0%)	94 (31.3%)	143 (47.7%)	3.25
HLT3	I feel anxious if I have not check for messages or switched on my mobile phone for some time	1 (0.3%)	40 (13.3%)	113 (37.7%)	146 (48.7%)	3.35
HLT4	I feel constantly under strain when using smartphone	4 (1.3%)	69 (23.0%)	91 (30.3%)	136 (45.3%)	3.20
HLT5	I always suffer from stress without smartphone	15 (5.0%)	65 (21.7%)	96 (32.0%)	124 (41.3%)	3.10

The results of the variable (health) has an overall mean of 3.2120, which indicated that the usage of smartphone has an impact on the respondents' health. Some of them experienced neck and finger pain since they had used their Smartphone playing games, chatting, and surfing internet for long hours. This view is consistent with the findings by Leonid Miakotko (2012), which concluded that smartphone usage affects human health and life. Similarly, this result is also supported by the findings of a research conducted by Napassphol Sinsomsack & Waiphot Kulachai (2018). Several studies have shown that addictive behavior and lack of sleep are detrimental to one's psychological health and functioning, as part of the impact of smartphone usage on human health. In addition, mobile addiction is also associated with high depression, social extroversion, anxiety, insomnia and psychological distress to students (Emad Abu-Shanab., 2015).

3.4 Identifying the lifestyle on smartphones usage

Table 4 shows the analysis by item pertaining respondents' lifestyle on smartphone usage. A total of 75% were agreed that friends and family complaint about my use of smartphone. Most of the respondents (86%) agreed that their using on smartphone for longer period of time than intended. Moreover, 77.7% get angry if someone interrupts during their mobile phone use. The results of the study also show that majority of the respondents (79.3%) use mobile phone even when talking or eating with other. Around 77.7% obsessed with smartphone.

Table 4: Analysis by Item on Lifestyle

Item No	Item	Frequency (%)				
		SA	A	D	SD	
LFS1	My friends and family complaint about my use of smartphone.	106 (35.3%)	119 (39.7%)	68 (22.7%)	7 (2.3%)	3.08
LFS2	I find myself using on my smartphone for longer period of time than intended.	92 (30.7%)	166 (55.3%)	41 (13.7%)	1 (0.3%)	3.16
LFS3	I often get angry if someone interrupts me during my mobile phone use.	129 (43.0%)	104 (34.7%)	61 (20.3%)	6 (2.0%)	3.19
LFS4	I use my mobile phone even when talking or eating with other.	108 (36.0%)	130 (43.3%)	53 (17.7%)	9 (3.0%)	3.12
LFS5	I am obsessed with my smartphone.	119 (39.7%)	114 (38.0%)	56 (18.7%)	11 (3.7%)	3.14

The results of the variable (lifestyle) has an overall mean of 3.1380, which indicated that the respondents (students) agreed that their lifestyle is affected by smartphone usage. According to Alexander (2015), social stress positively influences addictive smartphone behavior which means people do not communicate, socialize or present themselves in real life but rather spend more time online communicating with strangers. This view is consistent with our findings. In addition, the results of this study are also supported by Roy Rillera Marzo (2016) which posited that the usage of smartphones among students not only affect them individually, but also the people around. This again, shows that smartphones usage impact users' lifestyle.

4. Correlation analysis

Based on the Pearson Correlation analysis of this study, it is revealed that there is a weak positive significant correlation between smartphone usage and lifestyle, r = 0.342, n = 300, p = 0.000 < 0.05. In addition, there is a weak positive significant relationship between smartphone usage and respondents' academic performance, r = 0.208, n = 300 and p = 0.000 < 0.05. Lastly, there is a weak significant relationship between smartphone usage and respondents' health which is r = 0.133, n = 300 and p = 0.21. Therefore, it can be concluded that the relationships between smartphone usage and students' academic, health and lifestyle are not strongly correlated.

Table 5: Pearson correlation between smartphone usage and academic, health and lifestyle

		Usage	Academic	Health	Lifestyle
Usage	Pearson Correlation	1	.208**	.133*	.342**
	Sig. (2-tailed)		.000	.021	.000
	N	300	300	300	300
Academic	Pearson Correlation	.208**	1	.174**	.205**
	Sig. (2-tailed)	.000		.003	.000
	N	300	300	300	300
Health	Pearson Correlation	.133*	.174**	1	.243**
	Sig. (2-tailed)	.021	.003		.000
	N	300	300	300	300
Lifestyle	Pearson Correlation	.342**	.205**	.243**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	300	300	300	300

**. Correlation is significant at the 0.01 level (2-tailed).

5. Discussion

Our study finding resonates with findings of previous research studies that made similar attempts. In a study done on a sample of 300 Polytechnics Ungku Omar students, smartphone addiction risk predicts academic performance, after controlling for the effects of multitasking, Facebook addiction and number of hours of studying outside the classroom. Also, though academic stress level showed significant positive correlation with smartphone addiction. In addition, there was direct link between learning self-efficacy and smartphone addiction.

The result of the variable (Smartphone usage) had an overall mean of 3.0433. It indicated that the respondents had an agreement that the smartphone usage was an important factor. Hence, it influences the respondents towards the usage of smartphone. This view was parallel to the findings of Muhammad Sarwar (2013) that Mobile technology has drastically changed the

cultural norms and behavior of individuals. At one end, smartphone are enabling people to create their own micro-cultures and engage into activities considered dangerous of society and on the other end smartphone enabling people to remain connected all the time. The result also supported by S.Gowthami (2016) found that the impacts are both at the positive side and also at the negative side. The subsequent sub-sections of this study provide detailed account on positive and negative impacts of smartphone usage on society.

The results of the variable (academic performance) had an overall mean of 3.0187, indicated that consumer had an agreement that academic performance was an important part on smartphone usage. The cultural background can also impact the way the technology is perceived. Smart phones disrupt teaching and reducing the attention of students in class which results in negative educational outcomes as reported by school and educational settings. This view was parallel to the findings by on Chen & Lever (2004) that university students view the smartphone as entertainment and with time use becomes habitual. This show that smartphone usage impacts academic performance of student. Based on Fahad D.Alosaimi (2016) finding, found that a highly statistically significant positive correlation between a negative lifestyle and poor academic achievement that could attributed to the use of smartphones.

The results of the variable (health) had an overall mean of 3.2120 indicated that the respondent had an agreement that health was an important part on the smartphones usage. Smart phones share some general or common health effects caused by using of them continuously and for a long period of time. The excessive use of mobile phones will cause some anxiety to users because of the flow of news that they receive, which will eventually cause an eye strain, loss of hearing in continuous calls other problems like neck pain, limb pains, lack of sleep, being disposed and addition for smart phone. This view was parallel with the findings by Leonid Miakotko (2012) which triggered the author to start research on effects of smartphones on human health and life which mean there are an impact of smartphones usage toward human health. However, mobile addiction is also associated with high depression, social extroversion, anxiety, insomnia and psychological distress to students (Lu et al., 2011). The study conducted by Kamibeppu and Sugiura (2005) that students tend to get engaged in text messaging and feel anxious when not receiving replies from their friends even during the night when they are supposed to be sleeping.

The results of the variable (lifestyle) had an overall mean of 3.1380, indicated that the respondents (students) had an agreement that lifestyle was an important part on smartphone usage. Overuse of technology has completely transformed how we communicate and interact with other people. This view was parallel with the findings by Muhamads Sarwar (2013) shows that students access smartphone and lead them to a new lifestyle. The results were also supported by Roy Rillera Marzo (2016) that the usage of smartphones among students not only affect individually, but it affects the people surround them. This shows that smartphones usage impacts the lifestyle.

6. Conclusion

This study concluded that smartphone usage has impacted almost all walk of human life. The level of impact of smartphone usage is considered high as overall respondents agreed that smartphone usage has an impact on their academic performance, health and lifestyle. The study concluded that there is a positive relationship between respondents' academic performance, health and lifestyle with their smartphone usage; although they are not strongly correlated.

Based on this study, it is recommended that the future research increase the sample size of respondents to include all the polytechnics students in Malaysia by using cluster sampling. It is also good if future research could consider a cross-countries study by involving Brunei, Malaysia, Indonesia and Singapore in similar study areas of smartphones usage and its impact on the users.

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