

Relationship Between WhatsApp Use and WhatsApp Use Anxiety Among Students in Mixed Day Secondary Schools – Kamenu Ward Thika, Kenya

Pauline W. Njeri, Jacinta Ondeng, Henry Tucholski

Abstract

WhatsApp is a platform where interactions take place among people, information is conveyed and socialization occurs with the help of the WhatsApp application. This study investigated the relationship between WhatsApp use and WhatsApp use anxiety among student in Mixed Day Secondary Schools in Kamenu ward Thika, Kenya. The study utilized three objectives which were; to examine what extent are WhatsApp use levels among students, to measure the levels of WhatsApp use anxiety among students, and to establish the relationship between WhatsApp use and WhatsApp use anxiety among students in Mixed Day Secondary Schools in Kamenu ward Thika, Kenya. The study was informed by Cognitive Behaviour Theory and Use and Gratification Theory. A correlation survey design was employed. The sample size was 328 calculated using the Krejcie and Morgan formula. The students were ages between 14-20 years. Data was collected using WhatsApp Use Scale and WhatsApp Use Anxiety Scale. The Statistical Packages for the Social Sciences version 26 was used to conduct the analysis. Data was analysed using descriptive (frequency and percentages) and inferential statistics (the Pearson's product moment). Findings revealed that 83.2% of the students scored high level of WhatsApp use, while 0.3 % in Mixed Day Secondary Schools in Kamenu ward Thika Kenya, had low level of WhatsApp Usage. It was also found that 80.8% of students reported severe WhatsApp Use anxiety and 2.1% had moderate level of WhatsApp Use anxiety. The study established that there was a significant relationship between WhatsApp Use and WhatsApp Use Anxiety among students in mixed day secondary schools in Kamenu ward Thika, Kenya ($r = .369^{**}$; $P = .000, \leq 0.05$). The study recommended that the school administration in mixed day secondary schools to place stringent strategies to stop use of phones in schools and educate students on positive use of WhatsApp. There is need to engage psychological counselling to help curb the excessive use of WhatsApp on phones. This will facilitate more effective strategy in helping the students on the use of WhatsApp that may not be pathological.

Keywords: WhatsApp Use, WhatsApp Use Anxiety, Mixed secondary Schools Students.

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I. Introduction

WhatsApp use (WU) among students (Woodcock, et al. 2012), facilitates knowledge such that it helps students to have access to various knowledge documents and also provides opportunities for distance learning. The students who may excessively engage on WA may get disrupted, distracted, negative feelings as a result of consequence of bullying and negative comments from group chats. This may lead to lack of focus on their learning hence contributing to downgrading in their education performance due to possible interference on their emotions. Wang et al. (2012) found that students who overuse WA exhibited higher levels of sadness, trait anxiety, and state anxiety, and are unhappy in life. As students exchange messages in several group chats their emotions may be influenced by happy or sad news received or sent. In Finland, a study conducted by Rattenbury, et al. (2010) on habits make smart phone use more pervasive among 235 youths. The study's findings revealed that when young people fail to respond quickly to messages received, they tend to violate the sender's expectations, which can lead to relationship problems. This pressure could explain why people, particularly teens (53.7%), often check their phones for fresh messages and updates. This study found that some degrees of pressure emanate within an individual when interacting on the social group forums. This therefore pointed out that anxiety that comes from the use of WA among teenagers was a matter of concern. Hence, this study hopes to find out students WhatsApp use anxiety levels whether is in anyway associated to interaction in the WA use. In Cameroon, Bruno and Lawyer (2020) did a study among 180 students, on the impact of WhatsApp use on kids' social-emotional development and performance in school. Results from the study showed that the use of WA was significantly affecting students' social-emotional developments. Also, 82.22% of the students were on WhatsApp video use, 17.88% disagree to be affected on social-emotional development.

With regards to online chatting, 79.43% agreed to be affected on social-emotional development, while 21.57% disagree. The study concluded that use of WA significantly affected student’s social-emotional developments. This further pointed out that social-emotional could be associated with excessive fears of missing out (FOMO) in chat and catching up with the group interactions, and this may likely cause students to be restless in class and inattentive. The assumption of feeling of being left out on WA while offline could get students agitated. This is due to the desire to stay connected (Bruno & Lawyer, 2020). Ogachi, (2011) conducted a study on the connection between pathological internet use and depression among 400 Kenyan university students. According to the report, 1.3% of the respondents had severe pathological WU, compared to 61.3%) who had mild pathological WU. Among the responders, the frequency of pathological WA usage was 16.8%. The finding in this study shows that in general internet use results to severe pathological anxiety. Therefore, this current study wants to investigate the connection between WhatsApp use levels and WhatsApp use anxiety levels among students in mixed day secondary schools in Kamenu ward, Thika west sub-County, Kenya. WhatsApp is a social digital platform where students easily interact, exchange ideas, share real time information, catch up with one another, and get academic information in an easy and efficient ways (Bruno, 2020). However, uncontrolled use of this App may create WhatsApp use behaviour such as chatting in class, checking on messages during class time, watching videos, and fear of missing out (FOMO) among friends who are online. The fears of being out of communication usually generate anxiety among some students, and this was reported to interfere with student’s life as well as academic activities (Waweru, 2018). In mixed day secondary school in Kamenu ward, there is a worrying concern of WU among students, cases of mobile phones usage in class among students while a class is ongoing has been reported in multiple occasions. It has been noted that majority of the mixed day secondary school students in Thika town were seen engaging on their mobile phones on their way from home and on their way to school either trying to create messages or responding to their friends’ chats. Reports from the schools’ counsellors (2019) pointed out that “there have been growing concerns of small groupings among students surrounding one phone in school compound, drop in academic performance, cases of stealing of phones, late submission of assignments, students fight over phones, anger outbursts and reports of cyber bullying. The purpose of the study was to establish relationship between the students who use WhatsApp and their WhatsApp use anxiety levels in mixed day secondary schools in Kamenu Ward, Thika west sub-county, Kenya.

II. Methodology

This study followed a correlation research strategy, in this case the correlations between WhatsApp use and WhatsApp use anxiety among the students in mixed secondary school –Kamenu ward Thika, Kenya was identified. The study was conducted in Thika constituency. A sample of 335 students from the two schools namely: Kimuchu mixed Day school and Broad way Mixed Day School by the use of both proportional and simple random sampling techniques. This study used two standardized Likert scale instruments of measurement: 1) WhatsApp use scale (WUS) and 2) Beck’s Anxiety Inventory (BAI). The researcher got ethical clearance from Tangaza University before proceeding for data collection. It will further obtain permission from National Commission for Science, Technology, and Innovation (NACOSTI). The researcher also obtained clearance from the sub-county administrations where data was collected. The researcher included an opening letter in the questionnaire for self-identification. The participants were informed of the voluntary nature of the study, and also were informed of no monetary rewards due to ethical issues, they were free to withdraw any time they wanted to. Participants were assured of confidentiality and that their names would not be mentioned neither used in publication of the final report. The researcher adhered to academic etiquette concerning citations or references.

III. Results

This study aimed to examine the relationship between WhatsApp use and WhatsApp use anxiety and their levels among students in mixed day secondary schools in Kamenu Ward, Thika west sub-county, Kenya. The distribution of the demographic variables was analyzed before presenting the findings of the study. The analysis was done on the five demographic variables: age, education level, and gender, time spent on WhatsApp and access to WhatsApp.

Social Demographic Characteristics of Participants

Descriptive statistical analysis on unpaired grouped data was conducted to find out the demographic information of the research participants. Data was gathered under the following demographics; age, gender, educational level, time spent on WhatsApp and access to WhatsApp.

Table 1: Demographic Characteristics of Age, Gender and Education level

Age	Frequency	Percent
14- 15 years	116	35.4

16- 17 years	149	45.4
18- 19 years	60	18.3
20-21 years	3	0.9
Total	328	100
Gender	Frequency	Percent
Female	154	47
Male	174	53
Total	328	100
Education level	Frequency	Percent
Form 1	88	26.8
Form 2	93	28.4
Form 3	79	24.1
Form 4	68	20.7
Total	328	100

Table 2: Demographic Characteristics of access to WhatsApp, time spent,

Access to WhatsApp	Frequency	Percent
Phone	257	78.4
Laptop	26	7.9
Computer	9	2.7
Tablet	36	11
Total	328	100
Time spent	Frequency	Percent
30 min – 1hr	87	26.5
1hr – 2hrs	101	30.8
2hrs -3hrs	59	18
3hrs and above	81	24.7
Total	328	100

In order to understand how the data was distributed with respect to access to WhatsApp and how much time is spent on WhatsApp, as suggested by other researchers on the device use frequently it is necessary to widen the range of the access point gadgets to eliminate likeliness bias, thereby the researcher provided additional access points to WhatsApp on top of mobile phone.

Findings in Table 1 and Table 2 shows a frequency distribution tables of demographics, less than 1% of our respondents are between ages 20-21 years. Male students constituted 53% of the total students who reported in my study. The classes response was normally distributed in my study with each class constituting more than 20% and less than 30% and thus making the data unbiased towards a particular class. Computers are less popular among students in these specific day schools with regard to WhatsApp access point with less than 3% usability. Students tend to spend between 1 to 2 hours and 30 minutes to 1 hour on WhatsApp, this is show by close percentages dominance with this those two intervals reporting 30.8% and 26.5% respectively of the respondents in Mixed Day Secondary Schools in Kamenu ward Thika, Kenya. This study stretched further to examine the levels of WhatsApp use thereby giving some in insights on how much WhatsApp is used which will later influence the WhatsApp use anxiety.

Levels of WhatsApp Use Extent among Students in Mixed Day Secondary Schools

This study examined the levels of WhatsApp use extent among students in Mixed Day Secondary Schools in Kamenu Ward, Thika Kenya. The levels of WhatsApp use calculated are presented in Table 3.

Table 3: Levels of WhatsApp Use among Students

Levels	Ranges	Frequency	Percentage
High	48 +	273	83.2%
Moderate	25 - 47	54	16.5%
Low	1-24	1	0.3%
Total		328	100%

According to Table3, findings revealed that 83% of the students score high level of WhatsApp, while less than 1% of the students in Mixed Day Secondary Schools in Kamenu ward Thika Kenya, had low level of WhatsApp Use, after determining the levels of WhatsApp use among these students, it’s important to access how different demographic factors affected the WhatsApp use levels.

Distribution of Demographic Characteristics in Levels of WhatsApp Use

This study stretched further to examine the relationship between levels of WhatsApp use and demographic characteristics (age, class, gender, access to WhatsApp, time spent) by carrying out a chi-square

test for categorical unpaired data, the researcher was able to pin-point how demographic factors affected WhatsApp use. The yielded results from tests were summarized and presented in Table 4.

Table 4: Distribution of Levels of WhatsApp Use among Demographics Features

		WHATS APP USE LEVEL		
		Low	Moderate	High
		Count	Count	Count
AGE	14-15Years	1	24	91
	16-17Years	0	20	129
	18-19Years	0	9	51
	20-21Years	0	1	2
		WHATS APP USE LEVEL		
		Low	Moderate	High
		Count	Count	Count
GENDER	Female	0	29	125
	Male	1	25	148
		WHATS APP USE LEVEL		
		Low	Moderate	High
		Count	Count	Count
CLASS	Form 1	0	16	72
	Form 2	1	16	76
	Form 3	0	11	68
	Form 4	0	11	57
		WHATS APP USE LEVEL		
		Low	Moderate	High
		Count	Count	Count
ACCESS TO WHATSAPP	Phone	1	47	209
	Laptop	0	5	21
	Computer	0	1	8
	Tablet	0	1	35
		WHATS APP USE LEVEL		
		Low	Moderate	High
		Count	Count	Count
TIME SPENT ¹	30-1hr	1	14	72
	1hr-2hrs	0	27	74
	2hrs-3hrs	0	6	53
	3Hrs and above	0	7	74

The above Table 4 shows that close to 40% (39.33%) of the students aged between 16 to 17years reported high levels of what app use. Male students reported high usage at 45%. Form Two's and form One's students significantly showed high levels of WhatsApp usage which stood at 23.1% and 21.9% respectively. Mobile phone is significantly the access point of WhatsApp as it stood at distinctively 63.7%, Students tend to spend between 1 to 2 hours and more than three hours on WhatsApp, this is shown by the equal percentage dominance with this those two intervals each reporting 23% of the response.

Levels of WhatsApp Use Anxiety among Students in Mixed Day Secondary Schools

The researcher was interested on how WhatsApp use anxiety is distributed among students in Mixed Day Secondary Schools in Kamenu Ward, Thika Kenya. The levels of WhatsApp use calculated are presented in Table 5.

Table 5: Levels of WhatsApp Use Anxiety

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Levels	Ranges	Frequency	Percentage
Low	1-21	0	0.0
Moderate	22-41	7	2.1
High	42-60	56	17.1
Severe anxiety	61-80	265	80.8
Total		328	100%

According to Table 5, the results revealed that close to 81% (80.8%) of respondent’s experienced severe anxiety. This study stretched further to examine the relationship between levels of WhatsApp use anxiety and demographic characteristics (age, class, gender, access to WhatsApp, time spent) by carrying out a chi-square test for categorical unpaired data, thereby getting a glimpse of how different demographic factors affected the distribution of WhatsApp use anxiety. This would enable the researcher narrow down to the particular group of students who are most affected thereby verifying if the study supports previous studies that were carried before. The yielded results from tests were summarized and presented in Table 6.

Table 6: Distribution of Levels of WhatsApp Use Anxiety among Demographics Features

		WHATS USE ANXIETY SCORE (Binned)			
		Low	Moderate	High	Severe
		Count	Count	Count	Count
AGE	14-15Years	0	2	32	82
	16-17Years	0	3	16	130
	18-19Years	0	2	8	50
	20-21Years	0	0	0	3
		WHATS USE ANXIETY SCORE (Binned)			
		Low	Moderate	High	Severe
		Count	Count	Count	Count
GENDER	Female	0	2	28	124
	Male	0	5	28	141
		WHATS USE ANXIETY SCORE (Binned)			
		Low	Moderate	High	Severe
		Count	Count	Count	Count
CLASS	Form 1	0	1	18	69
	Form 2	0	1	20	72
	Form 3	0	2	10	67
	Form 4	0	3	8	57
		WHATS USE ANXIETY SCORE (Binned)			
		Low	Moderate	High	Severe
		Count	Count	Count	Count
ACCESS TO WHATSAPP	Phone	0	7	43	207
	Laptop	0	0	9	17
	Computer	0	0	1	8
	Tablet	0	0	3	33
		WHATS USE ANXIETY SCORE (Binned)			
		Low	Moderate	High	Severe
		Count	Count	Count	Count
TIME SPENT	30-1hr	0	2	23	62
	1hr-2hrs	0	1	19	81
	2hrs-3hrs	0	0	7	52
	3Hrs and above	0	4	7	70

WhatsApp use anxiety in comparison to demographics is going to be ideal as it will give the blueprints of the exact affect the group in terms of age, gender, class, time they spend on WhatsApp² as well as the access point for this app, this will be very important in giving tailored measures towards intervening the

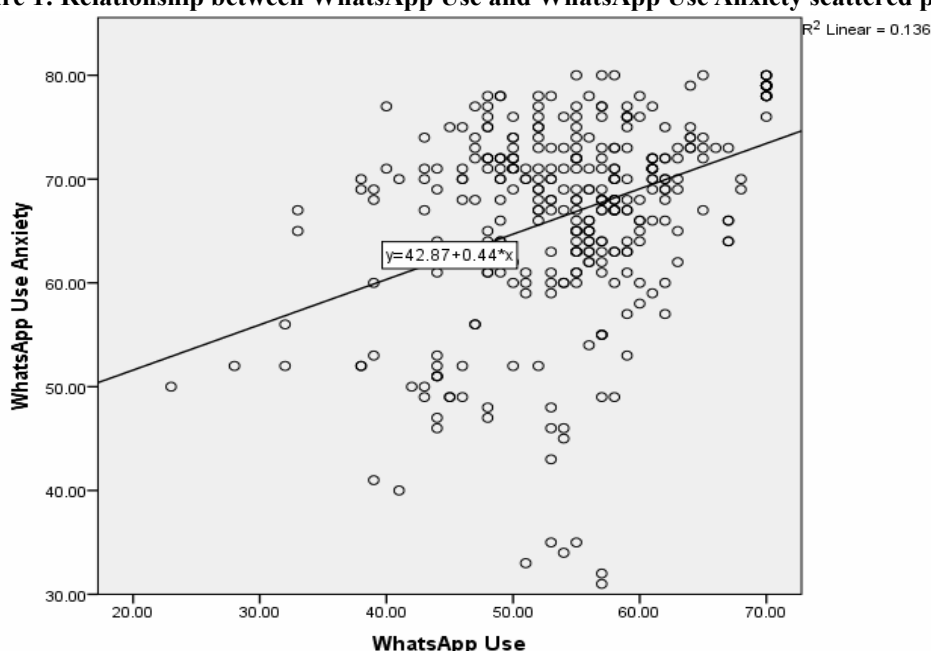
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WhatsApp use anxiety among these students. The findings in Table 6 indicate that close to 40% (39.63%) of the students aged between 16 to 17 years reported severe levels of WhatsApp use anxiety. Male students reported severe WhatsApp usage anxiety at 43% (42.99%). Form 2 and form 1 students significantly showed severe levels of WhatsApp usage anxiety which stood at 22% and 21% respectively. Mobile phone is significantly the access point of WhatsApp use anxiety as it stood at distinctively 63.1%, Students tend to spend between 1 to 2 hours and more than three hours on WhatsApp, this is show by close percentages dominance with this those two intervals reporting 25% and 22% respectively on WhatsApp use anxiety of the respondents in Mixed Day Secondary Schools in Kamenu ward Thika, Kenya.

Relationship between WhatsApp use and WhatsApp use anxiety among students

To establish the relationship between WhatsApp use and WhatsApp use anxiety, Pearson’s correlation was employed to investigate the relationship between WhatsApp Use and WhatsApp Use Anxiety among Students in mixed day secondary schools in Kamenu ward Thika, Kenya the outcome of Pearson’s correlation coefficients was summarized and presented in a Scatter plotting Figure 1 and Table 7 respectively.

Figure 1: Relationship between WhatsApp Use and WhatsApp Use Anxiety scattered plot



It is necessary to visualize any potential relationship between WhatsApp use and WhatsApp use anxiety before advancing in the analysis, the distribution pattern will influence the next cause of action. From the scatter plot, there is positive correlation between WhatsApp use and WhatsApp use anxiety as most of the scatter pints are concentrated towards the upper right-side of the scatter plot diagram.

Table 7: Relationship between WhatsApp Use and Anxiety among Students

In order to quantify statistically how the two variables are correlated, the researcher run down Pearson correlation on a contingency table, thereby giving a value estimate on how a magnitude of one variable would affect the other and by what value.

		WhatsApp Use	WhatsApp Use Anxiety
WhatsApp Use	Pearson Correlation	1	.369**
	Sig. (2-tailed)		.000
	N	328	328
WhatsApp Use Anxiety	Pearson Correlation	.369**	1
	Sig. (2-tailed)	.000	
	N	328	328

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

The table above revealed findings of Pearson product-moment correlation analysis. The results indicated that there was a moderate positive relationship between WhatsApp Use and WhatsApp Use Anxiety among students in mixed day secondary schools in Kamenu ward Thika, Kenya (r = .369**, P = .000)

IV. Discussion

Less than 1% of the respondents are between ages 20-21 years. Male students constituted 53% of the total students who reported in this study in great contrast in the findings from Meenakshi, Anitha, Lakshmi (2019) in India who reported high usage of WhatsApp among female students. The classes response was normally distributed in the study with each class constituting more than 20% and less than 30% and thus making the data unbiased towards a particular class. Computers are less popular among students in these specific mixed day schools with regard to WhatsApp access point with less than 3% usability while mobile phones remain the ultimate access point of WhatsApp at 78.4%. This study agrees with the findings of Meenakshi et al. (2019) who reported that majority of students (208) reported to use WhatsApp on their phones while 22 of them used WhatsApp on their tablets. This shows that students mainly use the phones to access WhatsApp, followed by tablet, laptop and then computer. Students tend to spend between 1 to 2 hours and 30 min to 1 hour on WhatsApp, this is show by close percentages dominance with this those two intervals reporting 30.8% and 26.5% respectively of the respondents in Mixed Day Secondary Schools in Kamenu ward Thika, Kenya.

From the analysis, findings revealed that 83% of the students score high level of WhatsApp, while less than 1% of the students in Mixed Day Secondary Schools in Kamenu ward Thika Kenya, had low level of WhatsApp Use. Based on this finding, it is evident that the students in Mixed Day Secondary Schools in Kamenu ward Thika strongly make use of WhatsApp for different reasons. This high use of WhatsApp among the students is a matter of concern, as this may distract students from learning both in school and at home. WhatsApp use among students in secondary school possibly facilitates knowledge such that it helps students to have access to various knowledge documents and as well providing opportunities for distance learning (Lantaro³ n, et al.2022). These findings of the High use of WA (83%) in the current study consistent with those of Mwangi (2017) in Kenya, and reported that 98.5% from 167 participants were at high level WhatsApp use. Close to 81% (80.8%) of respondents experienced severe anxiety, this may lead to lack of full concentration in their learning therefore contribute to poor academic performance due to possible interference of negative messages on their emotions and feelings (Froese et al., 2012). Kuss and Griffiths (2011) affirm that students who overuse WhatsApp are likely to slack in studies consequence of too much engaging in an online social interaction. This means that the use of WhatsApp has shown to develop anxiety among the users. This outcome calls for an urgent concern on the severity and high levels of WhatsApp use anxiety among the students. Possibly, students are prone to experiencing anxiety from the use of WhatsApp when messages do not favour them, and when no one is available to engage them on WhatsApp, anxiety also creeps in. Waweru (2018) amplifies this by asserting that the fears of being out of WhatsApp communication usually paves ways for anxiety among some students, and this interfere with student's life as well as academic activities. The results showed that there is positive relationship between WhatsApp Use and WhatsApp Use Anxiety among students in mixed day secondary schools in Kamenu ward Thika, Kenya ($r = .369^{**}$; $P = .000$), since the P value ($.000$) ≤ 0.05 , which means that as WhatsApp use among student's increases, WhatsApp use anxiety also increases among the students. The findings of this study confirm the findings by Wood and Scott (2016) in the UK. Although they study focused on social media use and anxiety. They established that higher social media usage was positively and significantly correlated with anxiety ($r = .24$, $p.001$). It was also found that an increased anxiety levels were linked to more general uses of social media ($r=.21$, $p.001$). The study found that kids who spend a lot of time on social media are more likely to acquire anxiety, which, if left untreated, can lead to serious mental health and academic problems. The findings of this current study are likewise similar to those of Ooko (2021) in Kenya, who investigated the association between problematic smartphone use and social anxiety among USIU students. There was a significant positive connection ($r=0.222$, $P=0.02$) between WhatsApp use and high social anxiety. It is clear that students' excessive usage of WhatsApp causes psychological issues such as anxiety.

V. Conclusions

On examining the WhatsApp use levels among students in this area of study the findings from the Likert scale shows that 83.2% of the respondents were recorded as high-level users of this particular application from the finding it is true to say that almost 90% of the students in Mixed day school in Kamenu ward had a high levels of WhatsApp use. Researcher used the Likert scale to measure the levels of WhatsApp use anxiety, 81% of the respondents indicated that their WhatsApp use anxiety levels were rated as severe, from the finding it is true to say that almost 90% of the students in Mixed day school in Kamenu ward had a severe levels of WhatsApp use anxiety. There is a positive correlation between the WhatsApp use levels and WhatsApp Use anxiety levels, with a correlation coefficient of 0.136, from the scatter plot the concentration points is evident in levels between 50 to 70 on use level corresponding to the Use anxiety levels which was between 60 to 80, it is true to conclude that WhatsApp use level is positively and linearly contributing to WhatsApp use anxiety levels.

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VI. Recommendations

Based on the conclusion in the foregoing, the study made the following recommendations: 1). *Students in mixed day secondary schools*. This study recommends that the students in mixed day secondary schools in Kamenu ward Thika, Kenya, who are at high level of WhatsApp Use and severe level of WhatsApp Use Anxiety who majority are categorised in form one and two be helped in counselling and psychological assessments so as to possibly identify issues that could be responsible for the high use. 2). *The School Administration*. The school administrations of mixed day secondary schools in Kamenu ward Thika could intensify their ban on mobile phone usage in school. This may facilitate more effective strategy in helping the students on the use of WhatsApp that may not be pathological. 3). *Counselling Psychology Practitioners*. Counselling psychology practitioners may be called upon to give effective counselling services to the students who may be experiencing WhatsApp use anxiety especially on the male students who are the most likely victim of WhatsApp use anxiety. The counselling psychologists could organize seminars on psychological themes so as to widen the students' understanding about mental health issues that may emanate from extreme WhatsApp use. They could be educated on the relationship between WhatsApp use and WhatsApp use anxiety. 4). *Parents*. parents should regulate the amount of time the students are spending on their mobile phones at home and provide alternative to mobile phones that may boost the child's overall development.

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