# Mobile Phones Dependency and Psychological Wellbeing of Students in Selected Secondary Schools in Nairobi County- Kenya

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*Abstract:* **The use of mobile phones among secondary school students is of concern when looking at the increase of violent behaviors in schools. The mobile phone use and the psychological wellbeing of secondary school students has become an issue of interest for research. The aim of this study was to assess the relationship between the time spent on mobile phone use and the psychological wellbeing of secondary school students in Nairobi County, Kenya. The study used an embedded mixed method research design. A Multistage sampling method was employed in selecting the 7 schools, and the sample size of 357 respondents. Data was collected using a questionnaire and analyzed using descriptive and inferential statistics. Pearson's Product Moment Correlation Coefficients was used for data analysis. The main findings of this study showed a strong positive correlation between time spent on the use of mobile phones and the psychological wellbeing of secondary school students (0.885). The study also found out that there was a strong positive correlation between time spent on the mobile phones and the aspect of personal growth (0.985) and the self-acceptance (0.980). There was a moderate positive correlation between time spent on the use of mobile phones and the environmental mastery (0.60), the purpose in life (0.528) and the positive relations with others (0.457). There was a weak positive correlation between time spent on the use of mobile phones and the autonomy (0.004). The study recommends that the school administration should establish counselling facilities which can address the issues related to mobile phones use among secondary school students.**

## I. INTRODUCTION

Mobile phones have brought a lot of improvement and easiness in the way human beings are communicating across the world. It offers enormous opportunities in terms of communication. It also provides quick accessibility to many applications while connected to the internet. Smartphones are defined as devices with advanced features that goes beyond the traditional functions of phones such as making calls and sending text messages but have higher capabilities of playing videos, surfing the web, sending and receiving emails, taking photos and editing them with embellishment, social interactions through chat groups and also enabling business transactions (Ogushi et al., 2019).

The mobile phone penetration has increased in many countries across the globe. Studies are reporting that the number of youngsters using the mobile phones has equally increased. The use of mobile phones among adolescents is becoming a rampant phenomenon which is experienced in many countries across the globe. Mobile phone gadgets are time consumers. In the United States of America, an analysis was carried out on three cases of adolescent social media users with an average social media usage of 7-10 hours per day (Egan, 2016). Vaidya, Pathak & Vaidya, 2016) noted that the provision of the additional features like internet, music, radio among others may be resulting in excessive use of mobile phones. Their study was conducted in India and considered a sample of 500 students and out of this sample, 41.03 % of the students said that they spend between four to six hours on mobile phones. In Nigeria, a similar study involving 249 respondents revealed that majority of the students spend above 6 hours on the net daily. 39 of the respondents said they spend the average of 5 hours daily on the internet; 84 of the respondents agreed that they spend between 2 and 4 hours daily on the internet; 64 of the respondents revealed that they give the internet their one hour daily; while 29 of the respondents spend less than one-hour daily browsing (Ajike & Nwakoby, 2016). In Kenya, with a sample size of 600 students selected from 40 secondary schools across the county, the study findings revealed that majority of students spend more time of less than 30 minutes in a typical day using social media platforms of their liking. This was followed by the time span of between 30 minutes and one hour. They spend less time of between two and three hours using various social media available to them. (Nyangosa, Kiprop & Chumba, 2019).

It is evident that the adolescents are spending quite a good amount of time in the use of their mobile phones for accessing mainly the social media platforms. This was the reason for the quest of finding out the social media platforms which are frequently accessed by adolescents. The results vary according the locations. In USA, until recently, facebook had dominated the social media landscape among American youth, but it is no longer the most popular online platform among teens, this is according to a new Pew Research Center Survey. Today, roughly half (51%) of U.S. teens aged 13 to 17 use Facebook, notably lower compared to the use of You Tube, Instagram or Snapchat (Anderson & Jiang, 2018).

In India, a study was conducted by Raj, Bhattacherjee and Mukherjee (2018) with the primary objective being to determine the pattern of school students' SNS usage and its influence on their academic performance.

The study revealed that the proportion of the use of online SNS among the study population is 87.1% (338 out of 388). Among the 388 users, the most common sites visited were WhatsApp used by 277 (82 %) of the sample, followed by Facebook used by 254 (75.1 %) and Instagram used by 114 respondents representing 33.7 percent of the study sample. The study reveals the various social media platforms that teenagers make use of such as Facebook, Instagram, WhatsApp and Twitter. This however indicates that Facebook is the most preferred social media channel (Akintola, 2021). According to a study conducted in Zambia while considering secondary school students in Lusaka town, the findings showed that the most popular social media platform of choice was WhatsApp followed by Facebook (Bukowa, 2019). In Kenya, Muigai and Mantz (2019) conducted a survey research targeting 1,000 respondents across the country. According to that survey, WhatsApp and Facebook dominated, but Instagram was more popular with younger users. WhatsApp, however, was the most popular messaging platform across all age groups in the country.

It is evident that young people are spending a lot of time in the use of the mobile phones and are fond of social media platforms. At the same time many countries are concerned with this trend in the use of mobile phones by adolescents. Some countries have come up with laws regulating or prohibiting the use of mobile phones by young people and in some places such as schools. In Japan, in 2014, children were not allowed to use phones after 9 pm, not long after Belgium banned the sales and advertising of phones to children under the age of seven. Bans on student use of phones inside and outside schools were considered in Indonesia (Trucano, 2015). A mobile phone seems to be a harmless gadget, but some recent research findings are highlighting the risk which comes with the continuous use of a mobile phone. Its usage posits a threat to academic performance as well as to mental health, such as poor sleeping, depression, social problems among others (Yavich & Davidovitch, 2021). The above reasons informed the quest for this current research study. The aim of this study was to assess the relationship between the use of mobile phones and the psychological wellbeing of students in selected secondary schools in Nairobi County, Kenya.

## II. RESEARCH METHODS

### Research Design

The study used an embedded mixed method research design. According to Creswell (2011) this method allows the researcher to employ both quantitative and qualitative research designs in a single study. A single data set is not sufficient to obtain results for the research questions thus the qualitative aspect is brought forth (Abadali, Asatsa & Ntaragwe, 2021).

The correlational research design was used with the aim of assessing any influential relationship between the two variables under study. The correlational research design is recommended in measuring the relationship between two variables in a given research as described by Schober, Boer and Schwarte (2018). Correlation in the broadest sense is a measure of an association between variables. In correlated data, the change in the magnitude of one variable is associated with a change in the magnitude of another variable, either in the same (positive correlation) or in the opposite (negative correlation) direction. In this study, the variables were the time spent in the use of mobile phones and the psychological wellbeing.

It took one month as the sampling period. It was the sufficient time needed in identifying and selecting secondary schools to be part on the study.

### Location of the Study

The study area for this research was Nairobi County (See Appendix 1). Nairobi County has a total area of 696.1 Km2 and is located between longitudes 36º 45' East and latitudes 1º 18' South. The County is divided into 17 sub-counties namely Westlands, Dagoretti North, Dagoretti South, Langata, Kibra, Roysambu, Kasarani, Ruaraka, Embakasi North, Embakasi Central, Embakasi South, Embakasi East, Embakasi West, Makadara, Kamkunji, Starehe and Mathare (Nairobi City County, 2018).

### The Target Population

In this research, the target population was inclusive of all secondary school students who were attending schools located in Nairobi County. According to a report from the Ministry of Education (2019), there were 386 secondary schools in Nairobi County comprising of 103 public schools and 283 private schools with 99,746 students. But the accessible population was 3,324 students enrolled in the 7 selected schools. The exclusion criteria was applied to the students in boarding schools. The same exclusion criteria was applied to those who did not have a mobile phone as well as those below the age of 10 years.

### Sample Size and Sampling Procedures

The 17 Sub Counties belonging to Nairobi city were divided into 3 clusters based on the economic index. Cluster A was for high income sub counties and it had 2 sub counties. Cluster B was for middle income and had 7 sub counties while cluster C was for low income with 8 sub counties. Mugenda and Mugenda formula (Mugenda & Mugenda, 2003) was used by applying 10 percent to each cluster and 1 sub county was selected from each cluster. In cluster A, Langata sub county was selected with 39 schools. In cluster B, Dagoretti North was selected with 20 schools and in cluster C, Kibra sub county with 7 schools was selected for the study. When considering 10 percent according to Mugenda and Mugenda (2012) as cited by Abadali et al. (2021), 4 schools, 2 schools and 1 school were respectively selected from cluster A, B and C.

In order to select the schools for the research, a simple random sampling was applied in each cluster. In Langata sub county 4 schools were selected with a total population of 1520 students. In Dagoretti North sub county 2 schools were selected hosting a total population of 1304 students. In Kibra sub county 1 school was selected having a population of 500 students. The total population for this study was 3324 students. This was the study population from which the sample size was drawn. The researcher used the Yamane formula (1973) as cited by Anokye (2020) with a confidence interval of 95 % and a margin of error of 5 % for drawing the sample size to be used for the study.

$$n = \frac{N}{1+N(e)2}$$ In this formula: n = sample size; N = the population; e = margin of error.

$$\frac{3324}{1+3324\,(0.005)2} = 357$$

The sample size used in this study, consisted of 357 respondents. A stratified sampling method was employed in order to determine proportionately the number of respondents for each cluster and for each school involved in the study. Considering the 357 respondents in the sample, 163 respondents were allocated to cluster A, while 140 to cluster B and 54 respondents to cluster C.

*Research Instruments*

Data were collected using two sets of questionnaires. The first set of the questionnaire used self- developed instruments. This helped the researcher to collect the socio-demographic information of respondents as well as the time spent in the use of the mobile phones and their preferred social media platforms. The self-developed instruments had 11 items. The second set of the questionnaire was the standardised instruments as developed by Ryff and Keyes (1995). This is a set of 18 item 7 point Likert scale that measures the psychological wellbeing in general and its 6 dimensions namely the autonomy, the environmental mastery, the personal growth, the positive relations with others, the purpose in life and the self-acceptance. The instruments reported high internal consistency of 0.80. These instruments were formulated in an accessible language for secondary school level and above. The scoring of the scale was obtained by computing the results of the questionnaire on the time spent on the mobile phones and the psychological wellbeing scale. The Mean and the Standard Deviation values were the key elements in scoring. Ryff and Keyes (1995) suggested

another alternative in scoring the results. High well-being is defined as scores that are 1.5 standard deviations above the mean, whereas low well-being is defined as scores that are 1.5 standard deviations below the mean.

## III. THE FINDINGS OF THE STUDY

The study sought to assess the amount of time spent by secondary school students in Nairobi County while using their mobile phones as well as the most liked social media platform. The breakdown of the time spent by secondary school students is presented in the first table. It is followed by tables showing the preference on some suggested social media applications and the inferential statistics of the Pearson correlation coefficient.

*Time Spent in the Use of Mobile Phones*

Table 1: Time Spent in the Use of Mobile Phone

| Time Spent in the Use of Mobile Phone | n | % |
|---|---|---|
| 0-1 hour | 95 | 27.7 |
| 2-3 hours | 28 | 8.2 |
| 4-5 hours | 119 | 34.7 |
| 6-7 hours | 89 | 25.9 |
| 8 hours and above | 1 | 0.1 |
| **Total** | **343** | **100.0** |

Table 1 shows the possible time spent by the adolescents on mobile phone gadgets. The findings of this study revealed that majority of the respondents 119 (34.7%) were spending between 4- 5 hours daily on mobile phone, a good number of the respondents 89 (25.9%) spent between 6 to 7 hours daily on their mobile phones. This implies majority of the respondents 208 (60.6%) who participated in this study spent between 4 to 7 hours on their mobile phones. These findings in line with Egan (2016) who conducted a study in the United States of America. Egan's study revealed that adolescents' social media usage ranged between 7-10 hours per day. The findings further agree with Vaidya, Pathak & Vaidya, 2016) who conducted a study in India assessing the effect of the time spent by adolescents on mobile phones on their academic performance. Their study considered a sample of 500 students and out of this sample, 41.03 % of the students said that they spend between four to six hours on mobile phones.

*The Results for the Use of Social Media*

Table 2: The Result for the Use of Social Media

| Types of Social Media | | Liked | Much liked | Very much liked | Neutral | Not liked | |
|---|---|---|---|---|---|---|---|
| Facebook | n | 81 | 39 | 49 | 36 | 138 | 343 |
| | % | 23.6 | 11.4 | 14.3 | 10.5 | 40.2 | 100 |
| WhatsApp | n | 45 | 87 | 129 | 40 | 42 | 343 |
| | % | 13.1 | 25.4 | 37.6 | 11.7 | 12.2 | 100 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Instagram | n | 56 | 71 | 140 | 21 | 55 | 343 |
| | % | 16.3 | 20.7 | 40.8 | 6.1 | 16 | 100 |
| TikTok | n | 58 | 54 | 142 | 29 | 60 | 343 |
| | % | 16.9 | 15.7 | 41.4 | 8.5 | 17.5 | 100 |
| You Tube | n | 58 | 70 | 128 | 49 | 38 | 343 |
| | % | 16.9 | 20.4 | 37.3 | 14.3 | 11.1 | 100 |
| Google | n | 70 | 69 | 101 | 57 | 46 | 343 |
| | % | 20.4 | 20.1 | 29.4 | 16.6 | 13.4 | 100 |

The presentation of data in table 2 provides a picture concerning the access of social media platforms by secondary school students. The results in table 2 shows that 142 respondents liked Tiktok so much. The second preferred social media was the Instagram followed by WhatsApp respectively. These social media seem to offer new entertaining opportunities such as shooting short video, following online life of role models among others. These platforms are opportunities of increasing popularity of the youngsters. In a study conducted in India by Sharma, Sanghvi and Churi (2022) on the impact of the Instagram on mental health of young adults. The researchers commented on the rise in the use of social media such Instagram which had a rubber-stamped impact on daily life of a lot of the population. Instagram is often perceived as a reel of "perfect" highlights. People primarily use it to share images, videos and now it is also a source to consume and spread information faster than ever.

*Table 4.3 Descriptive Statistics for the Mobile Phone Applications used by Secondary School Students*

Table 3: Descriptive Statistics for the Mobile Phone Applications Used by Secondary School Students

| | | I use Facebook | I use WhatsApp | I use Instagram | I use TikTok | I use YouTube | I use Google |
|---|---|---|---|---|---|---|---|
| N | Valid | 343 | 343 | 343 | 343 | 343 | 343 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean | | 3.32 | 2.85 | 2.85 | 2.94 | 2.82 | 2.83 |
| Median | | 4.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Mode | | 5 | 3 | 3 | 3 | 3 | 3 |
| Std. Deviation | | 1.636 | 1.168 | 1.243 | 1.272 | 1.200 | 1.302 |
| Range | | 4 | 4 | 4 | 4 | 4 | 4 |
| Minimum | | 1 | 1 | 1 | 1 | 1 | 1 |
| Maximum | | 5 | 5 | 5 | 5 | 5 | 5 |

After establishing the time spent on mobile phones and the social media platforms consumed by the secondary school students in Nairobi County, the study proceeded in measuring the correlation. The study aimed at assessing the correlation between the time spent on mobile phone and the psychological wellbeing of secondary school students in Nairobi County. The study used a Pearson correlation coefficient for measuring the relationship between the two variables. Pearson correlation shows both magnitude and direction of the relationship between two measured variables. In regard to magnitude of relationship, correlation coefficient ranges from -1 to +1. A correlation coefficient of -1 implies a perfect negative correlation while a correlation coefficient of +1 implies a perfect positive correlation. A correlation coefficient in the range of $0 < 0.300$ implies that the strength of relationship is weak, a correlation coefficient in the range of $0.300 < 0.700$ implies that the strength of relationship is moderate, a correlation coefficient in the range of $0.700 < 1$ implies that the relationship is strong (Murithi, 2019).

*Result of the Pearson Correlation for Time Spent and the Psychological Wellbeing*

Table 4: Result of the Pearson Correlation for Time Spent and the Psychological Wellbeing

| | | Time I spend daily in the use of a mobile phone |
|---|---|---|
| Time I spend daily in the use of a mobile phone | Pearson Correlation | 1 |
| | Sig. (2-tailed) | |
| Wellbeing | Pearson Correlation | -.008 |
| | Sig. (2-tailed) | .885 |
| Autonomy | Pearson Correlation | .157** |
| | Sig. (2-tailed) | .004 |
| Mastery | Pearson Correlation | -.102 |
| | Sig. (2-tailed) | .060 |

| Growth | Pearson Correlation | .001 |
| | Sig. (2-tailed) | .985 |
| Relations | Pearson Correlation | -.040 |
| | Sig. (2-tailed) | .457 |
| Purpose | Pearson Correlation | -.034 |
| | Sig. (2-tailed) | .528 |
| Acceptance | Pearson Correlation | .001 |
| | Sig. (2-tailed) | .980 |

This study aimed at measuring the correlation between the time spent on the use of the mobile phone and the psychological wellbeing of secondary school students. The result obtained after running the statistical calculation of Pearson through the Statistical Package for Social Sciences (SPSS) was + 0.885. This result of 0.885 indicates that there is a strong positive correlation between the variables under study. In this case, there is a strong positive correlation between time spent in the use of mobile phone and the psychological wellbeing of secondary school students.

When talking of psychological wellbeing, it is important to understand that it is an umbrella term which accounts for various psychological dimensions. The wellbeing is comprised of 6 aspects which are the Autonomy, the Environmental Mastery, the Personal Growth, the Positive Relations with Others, the Purpose in Life, and the Self-Acceptance. The researcher equally applied the Pearson correlations to each of these 6 dimensions of wellbeing. The aim was to establish further the most affected dimension of the wellbeing.

The Pearson correlation result in row 6 of table 4, shows a value of + 0.985. This means that there is a strong positive correlation between the time spent on the mobile phones by secondary school students and their dimension of personal growth. In table 4, row 9, the result shows a Pearson correlation value of + 0.980 between time spent on the mobile phone and the self-acceptance. This value of + 0.980 is an indication of the existence of a strong correlation between the time spent in the use of mobile phones by secondary school students and their self-acceptance.

*Interpretation of the Psychological Wellbeing' Results*

Table 5: Interpretation of the Psychological Wellbeing' Result

| | Mean | Std. Deviation | N |
|---|---|---|---|
| Time I spend daily in the use of a mobile phone | 2.70 | 1.240 | 343 |
| Wellbeing | 4.5983 | .95319 | 338 |
| Autonomy | 4.6331 | 1.23721 | 338 |
| Environmental Mastery | 4.1953 | 1.36621 | 343 |
| Personal Growth | 5.0894 | 2.00934 | 343 |
| Positive Relations | 4.1293 | 1.36553 | 343 |
| Purpose in Life | 4.7250 | 1.42628 | 343 |
| Self- Acceptance | 4.9116 | 1.54622 | 343 |

The results in table 5 presents the mean and standard deviation scores for each of the dimension of psychological wellbeing in general as well as for the 6 other dimensions. The results indicate that the 3 higher mean scores were associated with the dimension of personal growth (5.0894) followed by the self-acceptance (4.9116) and the purpose in life (4.7250). On the other hand, the 3 lowest mean scores were found in wellbeing (0.95319), followed by autonomy (1.23721) and environmental mastery (1.36621). The Mean and the Standard Deviation are key elements in interpreting the level of psychological wellbeing. High well-being is defined as scores that are 1.5 standard deviations above the mean, whereas low well-being is defined as scores that are 1.5 standard deviations below the mean (Ryff & Keyes, 1995).

## IV. DISCUSSION

This study's finding shows that students in secondary schools in Nairobi County spend good amount of time varying from 2 to 5 hours daily in the use of mobile phones. The study provides valuable information in terms of time consumed in the use of mobile phone. A study conducted in Kiambu county (Kenya) by Nganga and Bundi (2018) arrived at similar results. The findings have established that social media have become very popular with most of respondents 51.9 % (from a sample of 357 respondents) indicating that they spend 4 to 5 hours daily. The results of this study was different from the results of a study done in Benin Metropolis of Edo state involving 575 respondents which sought to unveil the impact of social media on the academic performance of students. The finding shows the number of hours' students spend daily on social media. It further shows that 56.0 % agreed that they spend between 5 and 8 hours daily using the social media network (Kennedy, 2020). A study conducted in Delhi, India, arrived at a different result showing a higher amount of time spent by secondary school students. According to Jena and Shekhar (2020), in Delhi, more than 65 % (from a sample of 190 respondents) of the students are used smartphone accessing internet on an average of 5 hours to 8 hours a day.

When considering the results of table 2, it appeared that students in secondary schools are mostly in preference of TikTok followed by Instagram and WhatsApp. This is an important information. The result of this research found an echo in another study which was conducted in China. Both studies arrived at a similar result. Tiktok was the most popular mobile application in Nairobi and in China. According to Adnan, Syahirah and Noornisa (2021) with more than 45 million downloads globally during the three-month period, the application launched by Beijing-based digital unicorn Bytedance has surpassed Facebook and WhatsApp as the most popular app. As the most downloaded application in July 2020, TikTok is one of the most famous social networking sites which targeted youngsters to share their 3 to 60-second-long videos. As of 2021, TikTok was one of the world's most popular applications (at least among those under a certain age). The findings of this study concerning the mobile phone applications used by secondary school students was indicating

a new trend in the social media consumption. The study findings put Tiktok as the most visited application, followed by Instagram, WhatsApp, You Tube, Google and Facebook. It was quite interesting to observe the shift in interest from Facebook to other applications such as Tiktok and Instagram. These findings greatly contrast with other studies such as the one conducted in Turkey by Gedik and Cosar (2020) on the perception of social media by secondary school students. The study employed 211 respondents. This result also contrasted with the finding of a research done in Kajiado County. The most preferred social media site among adolescents in selected Kajiado secondary schools emerged to be Facebook. Facebook is a platform that enables the users to interact through post and share emotions on specific ideas (Abadali et al., 2021).

The most popular reason stated for the use of Facebook is to communicate with families and beloved ones. Particularly those who have split families feel stronger need to communicate. The other reasons stated include finding and communicating with old friends, making new friends and flirting. The participants using Facebook the most frequently are the fifth graders. Participants generally use Instagram for entertainment purposes. The reasons for the use of You Tube by participants are entertainment and homework study. They also use of Messenger for the communication purposes. Participants use of WhatsApp to communicate, Snapchat for entertainment, Twitter to track events and individuals, Wattpad to read books and buy books. According to Nyangesa et al. (2019), it seems that the youth in Kenya are beginning to abandon Facebook in favour of Snapchat, TikTok, and Instagram. The Snapchat, TikTok, and Pinterest are much more likely to be used by users who are 14-20 years old.

The Pearson correlation inferential statistics produced a value of 0.885 as shown in table 4. It was an evidence of the existing correlation between the time spent in the use of mobile phone and the psychological wellbeing of secondary school students. Ali et al. (2021) arrived at a similar finding while conducting a study in Peshawar (Pakistan). There were 214 participants in total, 50 % were girls and 50% were boys, ranging in age from 12 to 20. In this study, simple linear regression and a t test for differences were used for further analysis. Simple linear regression analysis showing the role of mobile phone usage in predicting mental health problems among secondary school students (N = 214). The table analysis results showed that mobile phone usage was significantly positive in predicting mental health problems among secondary school students and accounts 15 % (R=.15).

Psychological well-being is a multi-faceted concept composed of six different intra-personal characteristics that describe the fully functional individual. These factors are: positive relationships with others, self-acceptance, environmental mastery, autonomy, purpose in life, and personal growth (Garcia et al., 2014). The statistical analysis was run across these six components of wellbeing and found a correlation from strongly to moderate between the measured variables. The findings of this study about the psychological wellbeing in terms of self-acceptance (table 4) concurred with the findings from other studies such as the one conducted by Gallagher (2017) as cited by Abadali et al. (2021). A research on the satisfaction rates of adolescent girls after being exposed to ultra-thin models and average sized models came to the conclusion that viewing these images negatively correlated with self-esteem and body satisfaction.

The findings of a study conducted in Chiang Mai in Thailand by Tangmunkongvorakul et al. (2019) were describing the similar effects of the excessive use of mobile phone on the psychological wellbeing. The study included several items on different aspects of social relationships: having supportive and rewarding relationships; contributing to other's happiness; and being respected by others. It also included items which cover sense of purpose and meaning in one's life; being engaged and interested in one's daily activities; competence; optimism and self-respect. Based on already existing research, it is possible that smartphone use could interfere with some of these facets of human functioning. It was demonstrated that smartphone use tends to reduce the quality of face-to-face interaction. They found out that the positive association between "Time spent with friends" and "Satisfaction with friends" was significantly less strong among individuals who use smartphones. Therefore, individuals who use smartphones excessively, because of their reduced amounts of face-to-face interaction are likely to have less feelings that their social relationships are supportive and rewarding. According to Munderia and Singh (2018), the results may suggest that a dependence on mobile phone for various purposes may cause a detrimental impact on managing daily life activities, which further may lead to other psycho-social problems of depression, anxiety and social isolation in real life setting.

## V. CONCLUSION

The study has sharpened our understanding about the relationship between the variables time spent on the mobile phone and the psychological wellbeing of secondary school students. The adolescents who were the target population in this study are at their turning point in their human development process. It is therefore important that they be provided with enough accompaniment and support in connection to the use of the mobile phones. It is understood that some institutions have banned the use of mobile phones for secondary school students. But it is recommendable that secondary school students are allowed to make use of mobile phones under the guidance of parents, guardians and significant others.

The use of the mobile phones by secondary school students is affecting their psychological wellbeing. It is becoming paramount that school administration put in place strategies of raising awareness among secondary school students on the effect of continuous mobile phone use. School

administrations will have to establish efficient counselling structures in schools in order to provide preventive, protective and coping mechanisms in mitigating the psychological wellbeing issues caused by the use of mobile phones. The researcher recommends that the Government should introduce measures in controlling the use of mobile phones by secondary school students in Kenya. This monitoring can be in terms of reducing the time in the use of the mobile phones and in limiting the access to some social media platforms by secondary school students in Kenya.

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APPENDICES

**APPENDIX 1: STUDENTS' QUESTIONNAIRE**

**Section A: Background Information**

**Instruction: Tick or cross in the appropriate box according to you**

1. Gender: Male [   ]          Female [   ]

2. Cluster:   A [ ]     B [ ]     C [ ]

3. Age        10 – 13 [ ]        14- 16 [ ]        17- 19 [ ]      19 and above [ ]

4. Form       F1 [ ]          F2 [ ]         F3 [ ]          F4 [ ]

**Section B**: **Duration in the use of the Mobile Phone**

**Instruction: Cross the box near the appropriate answer according to you.**

1. For how many hours do you use your mobile phone every day?

   0- 1 hour □     2- 3 hour        4- 5 hours □     6—7 hours □   8> hours

**Section C**: **Mobile phone applications that secondary school students dependent on and the influence on their psychological wellbeing**

**Instruction:** Circle the number for the appropriate answer according to you.

Liked=1; much liked=2; very much liked=3; neutral= 4; not liked=5

**Kindly, rate the way you appreciate the following social media**

   1.   Facebook                          1     2     3     4     5

   2.   WhatsApp                         1     2     3     4     5

   3.   Instagram                        1     2     3     4     5

   4.   Tik Tok                     1     2     3     4     5

   5.   You Tube                         1     2     3     4     5

   6.   Google                      1     2     3     4     5


**Section D: Psychological Wellbeing Measurement (Ryff's Model-1995)**

Strongly agree=    1;          Somewhat agree= 2;       A little agree= 3;    Never agree or disagree= 4;   A little disagree= 5;   Somewhat disagree= 6;    Strongly disagree= 7

**Instruction: Circle the number corresponding to your answer according to your experience**

1. "I like most parts of my personality."                    1   2   3   4   5   6   7

2. "When I look at the story of my life, I am pleased with how

   things have turned out so far."                           1   2   3   4   5   6   7

3. "Some people wander aimlessly through life, but I am not one

   of them."                                                 1   2   3   4   5   6   7

4. "The demands of everyday life often get me down."         1   2   3   4   5   6   7

5. "In many ways I feel disappointed about

   my achievements in life."                                 1   2   3   4   5   6   7

6. "Maintaining close relationships has been difficult and frustrating

   for me."                                                  1   2   3   4   5   6   7

7. "I live life one day at a time and don't really think about

the future."                                              1    2    3    4    5    6    7

8. "In general, I feel I am in charge of the situation

in which I live."                                         1    2    3    4    5    6    7

9. "I am good at managing the responsibilities of daily life."     1    2    3    4    5    6    7

10. "I sometimes feel as if I've done all there is to do in life."   1    2    3    4    5    6    7

11. "For me, life has been a continuous process of learning,

changing, and growth."                                    1    2    3    4    5    6    7

12. "I think it is important to have new experiences that challenge

how I think about                                         1    2    3    4    5    6    7

13. "People would describe me as a giving person, willing to share

my time with others."                                     1    2    3    4    5    6    7

14. "I gave up trying to make big improvements or changes in my life

a long time ago"                                          1    2    3    4    5    6    7

15. "I tend to be influenced by people with strong opinions"        1    2    3    4    5    6    7

16. "I have not experienced many warm and trusting relationships

with others."                                             1    2    3    4    5    6    7

17. "I have confidence in my own opinions, even if they are

different from the way most other people think."          1    2    3    4    5    6    7

18. "I judge myself by what I think is important, not by the values

of what others think is important."                       1    2    3    4    5    6    7

**APPENDIX 1I: Map of Nairobi County**