

# Analysis of the Problem Internet Use (PIU) Among Adolescents in Kenyan Schools

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## Abstract

There has been a rapid growth in internet use in Kenya. Adolescents are the highest users of internet in the country. This puts adolescents at risk of becoming addictive internet users. Adolescent internet use has also been found to have negative consequences which include problematic social relationships, poor academic performance and psychological disturbance. Studies in other countries have associated increased levels of addictive internet use among individuals who are depressed. However, in Kenya, problem internet use and its relationship with depression and academic performance among adolescents has not been established. The current study sought to establish the relationship between problem of internet use and poor academic performance among adolescents in Kenya schools. The study used correlation design to establish the relationship between the variables. The target population was all adolescents in Form 1 - 4 and their class teachers. Random sampling was used to sample students from both public and private secondary schools. A total of 100 respondents participated in the study. Questionnaires were administered to students to gauge their addiction levels and interviews were conducted with their class teachers to gauge the performance levels of their students. Percentages and measures of central tendency were used to describe the data. The findings revealed a prevalence of 16.8% of problem internet use and a prevalence of 23.6% of performance. Independent samples T-test was used to test for differences in problem internet use between male and female students. The findings revealed that female students were likely to be problem internet users compared to male adolescents. Pearson's product moment correlation was used to establish the relationship between poor academic performance and problem internet use and it was found that a weak positive relationship existed between poor academic performance and problem internet use. The study also identified various measures that could be used to mitigate the problem of problem internet use among adolescents. Based on the findings, it was concluded that there was need to identify and help the affected students exercise moderation and self control when using the internet in order for them to achieve their lifetime goals. The findings of the study also provide empirical evidence on the gender differences in performance and problem internet use which may be useful in improving counseling interventions for adolescent students/pupils.

**Keywords:** poor academic performance, internet user, problem internet use, adolescents.

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## 1. INTRODUCTION

The internet has changed the way people communicate and changed the lives of people in the 21st century. It provides many benefits to the user which includes communication, searching for information, downloading content, transacting business and recreation. However, despite the numerous benefits of internet use, there are growing concerns about the risks involved and the negative effects on the users. According to Young (1998) some internet users may develop symptoms that are similar to addictive disorders. This means that some people who use the internet may develop Problem Internet Use (PIU). Problem Internet Use is the compulsive desire to continually use the internet which leads to negative consequences to the social, academic and family life of individuals. It is characterized by spending long amounts of time online, excessive mental involvement in internet, attempts to reduce internet use, anxiety when not using the internet, negative impact on academic and work performance and lying about time spent on the internet (Young, 2004).

There are different forms of problem internet use. These include pornography watching, internet gaming and online chatting. Individuals addicted to the internet are affected physically, socially and psychologically. Their academic and career performance is also affected (Akhter, 2013; Young, 2004). There is a growing concern about the problem of problem internet use across the globe. Countries such as China and South Korea have recognized this public mental health issue and have invested substantially in education, research and treatment of mental problems (Block, 2008; BBC news, 2005). There is still much debate as to whether Problem internet use should be officially classified as a psychological disorder. However, in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) Internet Gaming Disorder, a form of Problem Internet Use, is listed as a disorder that requires further research. (American Psychiatric Association, 2013). This underscores

the seriousness of the problem of Problem internet use. In Africa Longe., *et al* (2007) found that 27% of Nigerian teenagers who had access to the internet were addicted to pornography. While in South Africa, Thatcher & Goolam (2005) found prevalence rates of problem internet use to be 5% of the country's population. In Kenya, the availability of internet among adolescents has enabled them to socialize, access academic resources and enhanced communication (Kariuki, 2010). However, the down side of it is the likelihood of some adolescents developing internet addiction problem. According to Chak and Leung (2004) adolescent students/pupils are at a higher risk of getting addicted to the internet because they have free and unlimited access to the internet. Most adolescent in Kenya have access to the internet either through their mobile phones, laptops or school computer laboratories (Kariuki, 2010; Ndungu (2011). This means that they have access to the internet 24 hours a day. The availability and free access of internet in schools and the high rates of internet subscriptions through mobile phones makes the adolescents the highest users of internet in the country (CCK, 2014; Kariuki, 2010). Waithaka (2013) also found that all the adolescents were internet savvy and used the internet mostly for socialization and entertainment and not for academic work. This indicates that adolescents in Kenya are increasingly depending on the internet for their daily activities and are at risk of becoming addictive internet users.

Gender differences have also been reported among internet users. Some studies indicate that male adolescents tend to use the internet more than the females (Thatcher et al., 2005; Jalalijenad et al., 2012) while others indicate that more females use the internet more than the males (iHub Research, 2012). Studies by Kariuki (2010) and Ndungu (2011) indicate that more male adolescents in Kenya use the internet compared to female students/pupils. This could have an impact on the levels of abusing internet use among male and female students and needed to be established in this study.

Whether Problem internet use is a primary psychological disorder or a secondary manifestation of another psychological disorder still remains an issue of debate among mental health professionals. However, in the United States of America, Europe and Asia the prevalence of problem internet use has been found to be high among youth with manifestations of depression (Akhter, 2013; Jalalinejad *et al.*, 2012; Yen *et al.*, 2007; Young, 2004). According to Yen *et al.*, (2007) there is a similar incidence of depression among individuals who abuse internet. Depression manifests as, insomnia, deep sadness, loss of appetite, hopelessness, irritability, self-dislike, unpleasant mood, and suicidal tendencies (America Psychiatric Association, 2013). The low self-esteem, isolation, fear of rejection and the need for affirmation which are associated with problem internet use and may result in addiction and depression. According to Yang *et al.*, (2005) the interactive features of the internet may lead to problem internet use in individuals who are depressed.

Other scholars' emphasize that the depression occurs as a result of social isolation associated with internet addiction (Tsai & Lin, 2003). Orsal *et al.*, (2013) studied university students in Turkey and found a positive correlation between the level of internet addiction and level of depression among the students. Senormanc *et al.*, (2014) also studied patients admitted to an internet addiction treatment facility and found that they manifested with symptoms of depression, loneliness, anger and interpersonal relationship problems. This shows that there is a likelihood of depressed individuals becoming pathological users of the internet.

Apart from the high use of internet among adolescents in Kenyan schools, they are also at risk of suffering from depression. According to Othieno *et al.*, (2013), 35.7% of University of Nairobi students are moderately depressed while 5.6% were severely depressed. Atwoli *et al.*, (2011) indicated that Kenyan university students have psychosocial symptoms that could be related to depression and other addictive behaviors. Depression has been found to co-exist with other psychological conditions. Khasakhala *et al.*, (2012) emphasize that individuals with depression are likely to suffer for other co-existing disorders like substance abuse, anxiety disorders and conduct disorders. This implies that depressed adolescents students are likely to have other psychological problems like problem internet use. This depression levels among students need to be established using a wider sample of adolescent in Kenya.

Adolescents in schools within Nairobi County were sampled to represent the population of adolescents in counties in Kenya because they are ranked highest in terms of internet connection among primary and secondary schools in Kenya (CPS, 2012). Considering that Kenyan adolescents have higher internet access, there is a likelihood of them becoming addicted to the internet. It is appropriate to understand the existence of this problem amongst the Kenyan adolescent students' population. Also, the fact that adolescents are susceptible to internet addiction resulting to depression, poor academic performance warranted a study to establish the same in the Kenyan context.

There is an increase in internet access and usage among adolescent in Kenyan schools. Whereas the benefits of internet use cannot be underestimated, there is need to understand the risks involved in excessive internet use among adolescents in Kenyan urban schools. Easy access to the internet and the uncontrolled nature of internet use through mobile phones and internet hotspots makes the adolescent students vulnerable to problem internet use and addiction.

This study sought to establish this phenomenon in the Kenyan urban schools context since problem internet

use affects the adolescents' academic performance, social relationships and psychological wellbeing. Adolescents in Kenya schools are also at risk of suffering from depression which also affects them adversely. A number of studies done in western countries associate depression with problem internet use especially among the youth. However, little has been done to establish this problem among adolescents in the Kenyan schools context. The co-occurrence of problem internet use among the adolescents and posting poor academic results may become more complex hence there is need to establish the relationship between these two issues among adolescents in Kenyan urban schools. This study therefore sought to fill this gap.

## **2. LITERATURE REVIEW**

This section contains a review of literature on the relationship between poor academic performance and problem internet use among adolescents in Kenyan schools. The chapter begins with a theoretical framework that explains problem internet use as well as addiction. It also covers a review of past studies on internet use and addiction and a review of related studies on depression among the youth as well as its relationship to pathological internet use.

### **2.1 Problem Internet Use (PIU) among adolescents**

In Kenya, the use of internet has increased rapidly over the last decade. The official statistics from Communication Commission of Kenya (CCK) (2013) indicates that the number of internet users in Kenya has risen from 41 percent in 2012 to 52 percent of the country's total population by December 2013. This means that over half (20 million) of the Kenyan population is connected to the internet. This rapid growth is attributed to increased use of mobile phones and mobile data services mainly by adolescents on social media sites like Facebook and Twitter (CCK, 2013).

The use of internet can yield many benefits to the user. These include communication, searching for information, downloading content, transacting business and recreation. For university students the use of internet can also help them in their academic goals (Ndungu, 2011). However, despite the numerous benefits of internet, there are growing concerns about the negative consequences of excessive use of the internet. Several researchers have established that some internet users may develop pathological symptoms similar to addictive disorders.

### **2.2 Gender Differences in Problem Internet Use among adolescents**

Various studies show that boys and girls use the internet differently. These differences on internet use between men and women could also have an implication in how the two genders are affected with problem internet use and addiction. Cam & Isbulan (2012) conducted a study in a Turkish institution and found that more male students were addicted to the internet than their female counterparts while Sahin (2011) also found that males have significantly higher addiction of internet use tendencies compared to females. Similarly, Hamade (2009) conducted a study among university students and found that more than 50% of male students are addicted compared to less than 25% of females who are addicted to the internet. The study also found that 18% of males had severe addiction to the internet compared to only 6% of females. Another study by Frangos and Kiohos (2010) found that male students in public universities spend more time on the internet than female students. These differences in pathological internet use among male and female students was attributed to the fact that the men were generally allowed to experiment with online activities that women. This freedom therefore gave them more time to explore the internet and consequently becoming more vulnerable to addiction to internet use.

### **2.3 Depression among adolescents**

Depression is a mental disorder that disrupts an individual's occupational, psychological and social functioning (American Psychiatric Association, 2013). Kessler et al., (2003) estimates the prevalence of depression of the general population in the world to be 16%. University students are a group that is thought to be at risk of developing depression. According to Vazquez & Blanco, (2008) depression is one of the most common mental disorders affecting university students. A study of Canadian university students conducted by Price, McLeod, Gleich, & Hand, (2006) found that 7% of male students and 14% of female students met the criteria for depression. In the United States of America (USA) Vazquez and Blanco (2008) sampled 554 university students and found that 8.7% met criteria for a major depressive disorder. Eisenberg et al (2007) also reported similar findings that 11.3% of graduate students had clinically significant depression.

### **2.4 Relationship between Problem Internet Use and Depression**

There is much debate among researchers and mental health professionals as to whether problem internet use is a primary psychological condition or a secondary manifestation of another psychological disorder. However, many studies indicate that pathological internet use seems to co-occur with other psychological disorders. Jalalinejad *et al.* (2012) studied the relationship between pathological internet use, addiction and anxiety among university students in Iran and found that students who had high anxiety levels were also severely addicted to the internet

compared to those who were low on anxiety. According to the findings, the students with anxiety find it easier to communicate through the internet due to the anonymous nature of the internet and also that internet provides an escape to them due to its entertainment and amusements (Jalalinejad et al, 2012). In another study Ayas and Horzum (2010) studied the relationship between, depression, loneliness, self esteem and problem internet use among university students and found that depression and loneliness were significant predictors of problem internet use while self esteem was not. The study had sampled 292 students in one of the universities in Turkey. Similarly, Akin and Iskender (2011) found that depression, anxiety and stress were significant predictors of problem internet use among university students in Turkey. This shows a significant correlation between depression and pathological internet use.

### 2.5 Intervention Measures that Mitigate Problem Internet Use

Various intervention measures have been suggested to mitigate the problem of problem internet use. Senormanc *et al.* (2014) opine that there is need to regulate the hours of internet use for individuals suspected of pathological internet use. Other methods of treatment that are geared towards validation of feelings of individual are also helpful in treatment of individuals with problem internet use (Senormanc *et al.*, 2014). There is therefore a need to look at problem internet use from a multidimensional perspective. According to Orsal *et al* (2013) individuals who are suspected of having depression and internet addiction should be referred to experts so that accurate diagnosis and treatment interventions are made. There is also need to inform the adolescents about the need for controlled internet use (Orsal *et al*, 2013). Creating awareness and doing campaigns in schools would be a way of informing them of the need to control their internet use as it may lead to poor academic performance levels.

### 3. METHODOLOGY

This study adopted a correlation design to establish the relationship between the variables. Mugenda & Mugenda (2012) describes correlation research as a study that assesses the relationship between variables whereby the researcher obtains information on one variable to estimate the variation in a related variable. This design is appropriate as the study intended to establish the existence of problem internet use among adolescents in Kenyan schools and also its relationship with academic performance. The population that was targeted by this study is all adolescent students enrolled in both private and public schools in Nairobi County, Kenya. The urban adolescents have access to the internet and use it more often compared to the rest of the rural adolescent population (Kariuki, 2010).

This study used convenience sampling to select the sample for the study. In convenience sampling, the researcher samples a part of the population that is readily accessible (Hulley, 2007). Adolescents from Forms 3 and 4 including their class teachers respectively were selected from both public and private secondary schools in urban areas of Nairobi County were sampled to represent adolescent in Kenya. The schools selected included; Temple Secondary School, Pangani Girls, Ngara Girls, Jamuhuri High School, Lenana School, Nairobi School, Aga Khan High School, Buru Buru Girls Secondary School, Khalsa Girls Secondary School and Ruaraka High School. The study used questionnaire as a means of data collection. The instrument had three sections General questions on Problem Internet use and academic performance, Young's Internet Addiction Test (IAT) and internet addiction mitigation strategies for both teachers and adolescent in selected schools.

Data was collected in the schools over a period of two weeks. The questionnaires were administered to the adolescents that were within the school premises at the time of the study. The answering of the questionnaires took 10 - 15 minutes to complete. Descriptive and inferential statistics were used to analyze the data that was collected. Descriptive statistics such as percentages and measures of central tendency were used to describe the data. Pearson Product Moment Correlation,  $r$ , was used to establish the relationship between academic performance and problem internet use. The hypotheses testing was done at  $\alpha = .05$ . The analysis was aided by the use of Statistical Package for Social Sciences (SPSS). Independent samples t-test was used to establish the differences in occurrence of Problem Internet Use addiction between male and female students.

### 4. RESULTS AND DISCUSSION

The analysis of demographic data which sampled a total of 100 respondents (60% male and 40% female) revealed that most of the respondents were aged between 13 and 18 years. The results also revealed that most of the students (66.8%) live within schools. A majority (87%) of the respondents frequently used their phones to access the internet. The three internet activities that respondents frequently engaged in were chatting with friends (67.8%), entertainment and playing games (63.7%) and watching pornography (57.6%). A majority of the students (40.8%) spent between 1-3 hours on the internet per day while WhatsApp was the social media network frequently used by the respondents (76.8%).

The findings on problem internet use revealed that there was a prevalence of 16.8% of problem internet use among the respondents and significant differences between male and female students in terms of pathological

internet use ( $t=3.048$ ,  $df=292.891$ ,  $p\text{-value}=0.03$ ). The prevalence of depression was 23.6% from the findings while a weak positive relationship was found to exist between depression and problem internet use ( $r=0.312$ ,  $p\text{-value}<0.01$ ). A cross tabulation of depression and pathological internet use scores also established that there was little chance of problem internet use co-occurring with academic performance.

The study also asked the respondents to suggest measures that could be put in place to mitigate the problem of problem internet use. The respondents suggested various measures which include alternative activities (27.0%), psycho-education (20.2%), regulation (17.8%), self discipline (17.2%) and counseling (10.3%). Some respondents (3.0%) felt that there was no need for measures to mitigate problem internet use while 4.5% were not sure what measures could be taken to mitigate problem internet use.

### 4.3 Discussion of the Findings

#### 4.3.1 Demographic Characteristics of Respondents

The mean age of the adolescents indicates that most students/pupils were between the age of 13 and 18 years. This is not surprising since the study selected a block sample of Form three and four students. A majority of the adolescents frequently used phones to access the internet could mean that most of them accessed smart phones from their parents or friends for use of internet frequently and easily. Also the availability of affordable internet bundles through mobile phone networks makes it easy for the students to access the internet at any time through their phones. The small number of adolescents who frequently use computer labs could be as a result of the limited number of computers for use by all the adolescents at one time and the fact that they may not be accessible by the adolescents outside the stipulated working hours. Cyber cafes were least used to access the internet probably due to the financial cost of using them and the limited time of access during their studies.

Regarding the internet activity, the findings reveal that chatting with friends, playing games, and entertainment including surfing the Web were frequently engaged in by the adolescents. These findings are consistent with Waithaka (2013) who found that university students used the internet for academic work, communication and social interaction. The large number of respondent who engage in chatting with friends could be a reflection of the stage of development they are in. According to Erik Eriksons Psychosocial stages of development, individuals aged 13-18 seek to form loving/discovering relationships with others. Chatting therefore provides a good forum for adolescents to interact and form relationships with others. The many adolescents who use the internet for academic work and surfing the web could be an indicator that the schools are encouraging the use of online information for academic work.

On the number of hours spent on the internet, most of the adolescents interviewed spent more than an hour on the internet. This could mean that the internet had become an integral part of the school's students/pupils' life. Those who spent more than five hours on the internet per day could be at risk of becoming problem internet users especially if they spent time on non academic activities. According to Zhang *et al* (2008) individuals who spend longer hours in the internet per day are more likely to be addicted to the internet.

The findings also reveal that WhatsApp was the most frequently used social media network by the adolescents. WhatsApp is a mobile based social network and most of the students may be able to access it using their phones. The fact that most adolescents used their phones to access internet coupled with the findings that they mostly engaged in chatting with friends could be the reason why WhatsApp is popular among the adolescents.

#### 4.3.2 Prevalence of Problem Internet Use among adolescents.

Analysis of data revealed that the prevalence of problem internet use among the adolescents was 16.8%. This means that some adolescents were problem users of the internet and could be experiencing social and academic problems due to excessive use of the internet. The mean score was 33.67 indicates that most of the students were mild problem users of the internet. Several studies report different findings of prevalence of problem internet use among adolescent students depending on assessment tools and methodology used. The findings of this study are however consistent with most studies that use Young's Internet Addiction Test like VidyaMavila *et al*, (2013) and Akhter (2013) who found a prevalence of 18.88% and 13% among undergraduate India and Pakistani respectively. In Europe the prevalence of problem internet uses among university students was 11.6 % and 3.2% among university students in Greece and United Kingdom respectively (Frangos *et al*, 2010 and Kuss *et al*, 2013). The relatively higher prevalence of problem internet use in this study compared to studies in Europe could be as result of excitement with the internet among adolescent students in Kenya as it is still a relatively new phenomenon.

Gender differences in problem internet use were noted between male and female students. The findings revealed that female students had a higher mean score compared to male students. This means that female students were more likely to be problem internet users compared to male students. These findings contradict most findings on problem internet use among male and female students. According to Akhter (2013), Cam & Isbulan (2012) and Frangos, *et al*, (2010) male students/pupils were more likely to be addicted to the internet than female students/pupils. The results of this study can be explained by the fact the Kenyan culture is more

conservative about women interacting and expressing themselves physically. The female students may therefore tend to use the internet more to interact and express themselves through the social media networks which are easily accessible in their phones.

#### **4.3.3 Prevalence of Depression among students**

The findings revealed a prevalence of 23.6% of depression among the respondents. This means that there are some students in secondary schools who may be depressed. This results support the findings of Othieno *et al* (2013) who found that 35.7% and 5.6% of students in Kenya were moderately and severely depressed respectively. Findings in Africa put the prevalence of depression among university students at 8.3% in Nigeria (Adewuya *et al*, 2006) and 39.1% among Ghanaian University students (Asante & Andoh-Arthur, 2014). In Asia, Al-Busaidi *et al* (2011) found a prevalence of 27% of depression in Oman while Bostanci *et al* (2005) found a prevalence of 26.2% among Turkish university students.

The differences in prevalence of depression can be attributed to the different assessment tools that were used in the various studies. Nevertheless, the prevalence of depression among the Kenyan adolescents is an indication that some adolescents could be undergoing psychological difficulties that require to be addressed. Gender differences in depression were also noted among male and female students. From the findings female students were likely to be more depressed than male students. These findings contradicts the findings of Othieno *et al*, (2013) who did not find any differences in depression among male and female students in Kenya.

#### **4.3.4 Relationship between performance and Problem Internet Use among adolescent Students.**

The findings of the study revealed that there was a positive relationship between academic performance and problem internet use among the respondents. This implies that as levels of poor academic performance increase the levels of problem internet use also increase. In essence the results indicate that the adolescent students who perform poorly in academics use the internet excessively compared to those that are not. These results are consistent with the findings of Orsul *et al*. (2013), Young & Rogers (1998), Akin & Iskender (2011) who found a positive correlation between poor academic performance and problem internet use. The findings of this study could be explained that poor performing students spent more of their quality time on internet either chatting, browsing, entertainment and online interaction instead of studies.

#### **4.3.6 Measures to mitigate problem Internet Use among adolescent students/pupils.**

A majority of the respondents (27.0%) suggested that the adolescents should engage in alternative activities like sports and outdoor activities. The suggestion by the students that students be involved in alternative activities may not only directly mitigate problem internet use but also indirectly by helping those students who are depressed to relieve their stress through interactive activities. This could not only help them stay away from the internet for some time but also socialize with others in person. Interacting physically also enhances better social skills compared to interacting online through chatting.

Psycho-education was suggested by majority of respondents. This could be done through holding seminars and campaigns within schools to highlight the dangers of excessive internet use. By bringing to the attention of adolescents students and authorities on the dangers of excessive use, the students can be taught skills necessary to moderate and control the use of internet. This supports the suggestions of VidyaMavila *et al*. (2013) who opine that students should be made aware of the need for controlled use of the internet. Njoroge (2013) also suggests that students should be educated trained on better use of the internet to avoid unproductive and irrelevant use of the internet.

Some students also suggested that there should be regulation of internet use. This is to ensure that students have limited access to sites such pornography. Considering that 7.4% respondents indicated that they regularly used the internet to watch pornography, regulation could help in deterring access to such content. Regulation has been used in other countries to mitigate the problem of problem internet use. The Chinese government for example, has instituted laws that regulate the number of hours adolescents spend playing online games (BBC News, 2005). Senormanc *et al*. (2014) also opine that there is need for regulation of number of hours spent on the internet.

Another suggestion was self discipline. Through self discipline, the students can regulate their time and the content they access online. However, not all students are able to discipline and regulate themselves in their internet use. That is why some end up being problem internet users. Nevertheless, through counseling which was suggested by some of the respondents, the students may be helped to learn the skills and attitudes necessary for self discipline. Counseling may also help in addressing the underlying problem that may be precipitating excessive internet use. Counseling for pathological internet users has been used in other countries to mitigate pathological internet use. Some students felt that there was no need to put in place measures to mitigate Problem internet use while others were not sure what measures could be put in place to mitigate problem internet use. This could be an indicator that a number of students are unaware that excessive internet use could have negative consequences in one's life. This is understandable because, problem internet use is a non chemical addiction whose symptoms and effects may not be apparent in one's life compared to other addictions like substance abuse. In addition to that, the internet is basically a legitimate tool that is beneficial to the students in their academic

work and social lives. Unlike chemical addictions like substance abuse which have no direct benefits, the internet has legitimate direct benefits to the students. Some students may therefore be reluctant to suggest measures to mitigate problem internet use. However, the fact that most of the students (92.5%) suggested specific measures to mitigate problem internet use could mean that they were aware that the problem of problem internet use existed amongst them and there was need to find a solution to the problem. This assertion is consistent with the findings of Waithaka (2013) who found that 74% of university students thought that excessive use of the internet could be a problem.

Young (2007) opines that abstinence and banning the internet may not be practical in dealing with problem internet use but focus should be on moderated internet use. In the same vein therefore, to ensure moderated internet use among adolescents in Kenya, self discipline among adolescents can be enhanced through alternative activities to internet use, psycho-education on the dangers of excessive internet use, regulation of non beneficial internet content and counseling of adolescents who are problem internet users.

## 5. CONCLUSION

The study found that a majority of the adolescents frequently used phones to access internet perhaps because they are access affordable internet through mobile networks and conveniently so at any time of the day. Chatting with friends and playing games and entertainment including surfing the web were the three internet activities mostly engaged in by the adolescents most of whom spent more than an hour online per day. This is an indication that internet use is an integral part of adolescents' life. Adolescents therefore use the internet everyday for social and academic purposes.

The findings of the study also reveal that WhatsApp is the social media frequently used by most of the adolescents probably because it is mobile based and affordable. On problem internet use, the findings show a prevalence of 16.8% of problem internet use which indicates that a number of adolescents were problem internet users. This means that despite the many benefits that accrue from internet use for adolescents, some of them may be experiencing negative consequences due to excessive use. Counselors' and other stake holders should therefore be cognizant of the fact that some students may be experiencing difficulties in social relations and academic work due to problem internet use. Female adolescents were also found to be more at risk of becoming problem internet users compared to male adolescents. This means that gender could be a predictor of problem internet use. However, there is need to identify the reasons for the differences in problem internet use between male and female adolescents.

The prevalence of depression among adolescents was found to be 23.6%. This is an indication that some adolescents were depressed and there is need to pay specific attention to this population. Depression is a serious psychological condition that can impair the functioning of the students hence derailing them from achieving their academic goals. Gender differences in depression were also noted with female students more likely to be depressed than male adolescents. The study also found a positive relationship between poor academic performance and problem internet use among adolescents in Kenya. The internet offers interactive feature and content that can be exciting and entertaining that can disorient students academically.

The study also got suggestions from the teachers on measures that can be used to mitigate the problem of problem internet use and addiction among the adolescents. The suggestions include; alternative activities, psycho-education, regulation, self discipline and counseling. This implies that the adolescents recognized that promoting healthy psychological well being of the students could be a way of reducing problem internet use. This can be done by counseling departments and management working together to devise programs that are geared towards bringing awareness to the adolescents about the dangers of excessive internet use and offering support to those that are experiencing difficulties through problem internet use.

## 6. RECOMMENDATIONS

Based on the findings of this study, a number of recommendations are suggested for schools' administration, PTAs, counsellors and education policy makers. All these stakeholders are collectively and individually responsible in minimizing problem internet use which may undermine the academic goals of the secondary schools.

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