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Role of Problematic Internet Usage in the Risk of Addiction to Online Drug and Substance Abuse among Undergraduate Students in Universities in Kenya

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Abstract

The purpose of the study was to investigate the role of problematic internet usage in the risk of addiction to online drug and substance abuse among undergraduate students in universities in Kenya. The study utilized Behaviourist Theory and Social Learning Theory. *Ex-post facto* research design was used for this study. The target population for the study was 97284 comprising all the undergraduate students in four universities and the accessible population was 2nd and 3rd year students comprising of 18911. The sample size comprised of 391 undergraduate students, 16 peer counsellors and four (4) student counsellors making a total of 411 participants. Data was collected by use of a questionnaire, an in-depth interview schedule and focus group discussion. The questionnaire was administered to undergraduate students, in-depth interview schedule was used on the student counsellors and focus group discussion was conducted among peer counsellors. Each focus group discussion comprised of four participants. Purposive sampling was used to select the universities of study. Purposive and simple random sampling was used to select the respondents. One university with similar characteristics with the sampled universities was purposively selected for piloting to ensure reliability of the research instruments. The pre-test was administered to and the instruments were modified accordingly. The reliability coefficient was online drug and substance abuse was 0.750. Descriptive statistics of frequencies, percentages and means were used to analyse data. Chi square was used to test the null hypotheses while t-test was used to compare the study variables. Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) Version 23. Qualitative data was coded and thematically analysed.

Introduction

Internet usage has grown from the research area to the user community and has seen an increase in commercial and social activities. Use of smartphones has also made access of information easy and deepened penetration of internet usage. Internet usage has risen globally; currently, it is used in numerous communications such as e-mails, WhatsApp, web browsing, movies and social media communications. Secondly, internet usage is being incorporated in learning organizations towards enhancement of research and educational work (Deusen, et al., 2015). Internet technology is greatly used in Africa and Kenya and is adopted by most universities as a means of enhancing learning (Waithaka, 2013*)*. Like other countries, in Kenya, a great number of institutions of higher learning provide free and limitless internet to students and staff.

Mountaney et al. (2016) posited that advancement in technological development allows easy access to online drugs and other substances through the internet, unlike in the past when illicit drug markets operated physically. The supply and provision of such drugs and other substances on the internet are made easy for the university students to buy from any location ensuring anonymity and physical safety. The researchers continued to explain that drugs and other substances can be accessed through dark net markets or crypto markets – a software enabling anonymity for buyers and sellers, delivered through the post and avoiding direct contact between the parties involved. The findings of a research to investigate internet addiction in patients with substance use disorder by Pass et al. (2017) indicated how problematic internet usage could predispose individuals to the risk of addiction to drug and substance abuse. Problematic internet usage by undergraduate university students could predispose them to abuse of drugs and other substances as they discover sites that market drugs and substances and connect with friends and peers who are already addicted. John and Bryan (2014) posited that the curiosity to know about the activities and experiences of peers and friends could lead drug and substance abuse as a discovery.

Addiction risks could be manifested by behaviour responses (Harper & Hodgins 2016). The researchers affirmed that individuals who engaged in online pornography also abused drugs and other substances. A research study done in Kenya by Sounter and Keretts (2012) found out that young people engaged in online activities for academic purposes socializing. According to the researchers, it was difficult to distinguish the behavioural changes that resulted from problematic internet usage or other influences such as peer pressure. Furthermore, individuals could become addicted to specific online behaviours, which included drug and substance abuse. Moreover, the researchers concluded that, internet provides an environment for such activities, which may influence the behaviour of users negatively and lead to risk of addictions. The conflicting information required affirmation through research, hence the importance of a study to ascertain whether problematic internet usage lead to the risk of addiction to online drug and substance abuse among undergraduate students in universities in the counties of Meru and Nairobi,

Literature Review

Drug and substance abuse may be referred to as elements that are consumed for purposes other than for the medical use and affect the way one feels and thinks (Collins, 2014). Some of the drugs are legal and can be acquired from chemists, shops and online platforms while others are illegal and may be acquired through the same process or through the dark/crypto markets (Mountaney et al., 2016). According to the researchers, young people use drugs and other substances in order to conform to a group; or when they lack social skills to fit in a group. Due to the long hours spent on the internet, the young people made friends online some of who introduced them to drug and substance abuse as they were availed and acquired by maintaining the anonymity of the individual. Moreover, ease

of accessibility, availability, supply and anonymity predisposes the young people to become addicted to drugs and other substances. A study done by Alsulimani (2018) to investigate social media and drug smuggling in Saudi Arabia showed that persons who engaged in social media for longer durations were at a greater risk of drug and substance abuse. Usage of social media also facilitated invitations to parties with friends and peers where the drugs were abused. Further, marketing and advertisement of drugs and other substances was done online which made it easy for the buyers to do transactions online and with anonymity. However, even legal drugs are acquired through the same process. Moreover, the young people were found to be the majority of the users of media platforms where drugs and other substances were acquired. Those who engaged in problematic internet usage had a likelihood of developing an addiction to drug and substance abuse. This indicated that problematic internet usage was a significant factor in the risk of addiction to online drug and substance abuse. It implied that problematic internet usage could lead to online drug and substance abuse.

Although social media has several advantages, it could also have negative consequences for the users (Collins, 2014). According to the researcher, young people engaged in online activities to access important information, to connect with friends and share personal information about their activities, lifestyles and interests. Further, an individual's drug and substance abuse could be linked to friends' abuse. The current study was in the view that due to problematic internet usage, undergraduate university students could be able to connect with friends who used drugs and other substances and could be able to access all the information concerning these drugs online. Ease of accessibility, availability and anonymity involved online in the supply of such drugs and substances may interest the students who may want to discover and try the drugs and substances of abuse, which may lead to risk of an addiction. Some illegal drugs such as psychoactive drugs are advertised and marketed through the internet as legal drugs and may bring confusion to an individual who lacks experience in them and may acquire them innocently (David et al., 2014). This research sought to ascertain the view of the researcher that university undergraduate students could be predisposed to addiction to drugs and substances of abuse because they have free and limitless internet and therefore could spend several hours online disposing them to the addiction. The university undergraduate students could fall victims of online sellers looking for people to buy their drugs or through their peers and friends who may encourage them to try the drugs.

The findings of a study done by Kurt (2015) to examine the effect of internet addiction and drug use found out that drug use and problematic internet usage were two increasing risk behaviours among youth. However, there was an indication that little information was available on the association between problematic internet usage and drug use. The research was conducted among university and high school students, which established that the prevalence rate of problematic internet usage and drug use was 5% and 4%, respectively. In a similar study, Whitman (2015) carried out a relative investigation among adolescents on substance abuse and problematic internet usage and found out that substance abuse was compulsive disorder which involved abusive internet behaviours with several aspects of an individuals' life. The offensive behaviours included too much time spent playing online games, gambling, in chat rooms, engaging in cybersex or web surfing. The researcher concluded that current research was in adequate besides various prevailing descriptive indicators, valuation assessments, as well as treatment researches had weaknesses in studies, analysis, in addition to long-standing monitoring. The study, however, failed to indicate whether problematic internet usage contributed to drug abuse. Hence, it was important to determine whether problematic internet usage lead to risk of addiction to online drug and substance abuse among undergraduate students in Kenyan universities.

Sajeev et. al. (2015) carried out a research on internet usage and substance abuse disorders in adolescent students and indicated that behavioural usage besides the usage of substances, other drugs of abuse were on a rise among adolescents throughout the world, and presiding psychological illnesses was a hindrance to diagnosis and looking for help. Further, the research established that 13.4% of the respondents used the internet excessively and reported a substantial link amongst substance usage ailments and problematic internet usage. A research finding by Griffiths and France (2019) to investigate the difference between men and women in drug use disorders indicated that both genders abused drugs. However, the researchers affirmed that there was a difference4 in drug and substance use disorders in the two genders. Although, men had an advanced level of drug and substance usage, women experienced enjoyable responses, which predisposed them to the addiction risks because of repeating episodes. Occurrence of substance and drug usage ailments and problematic internet usage was an emergent unit amongst youngsters besides having stern consequences happening to the evolving mind (Pass et al., 2017). The long lasting outcome for problematic internet usage on the mind remains a subject of study in other future researches.

The National Agency for Campaign against Drug and Abuse (NACADA) and other researchers consider drugs of abuse as psychoactive substances due to their psychological, social and physical effect on an individual (NACADA, 2009; Pass et al., 2017). Drug and substance abuse could lead to addiction, which could cause adverse psychological, social and physical effects. Jacobs (1986) when proposing his Theory of General Addictions concluded that addiction to drug and substances of abuse could affect negatively on the psychological, social and physical welfare of the addict. The physical effect could be reflected by poor health while one being stressed, depressed, failure to use cognition properly, change in emotions and behaviour, could reveal the psychological effect. The theorist continued to acknowledge that after the addiction, an individual might become dependent on the drugs. The findings of a study to investigate incidence and extent of substance abuse among secondary school students in Kenya indicated how mass media helped in educating people positively, it was also used to highlight and glorify substance abuse (King'endo, 2010). Highlighting and glorification enables drug dealers and abusers to discover the available sources of the drug. For instance, Mombasa is highlighted as a major destination of drugs. The highlighting is done to discourage and indicate the situation at hand, however, because of the curiosity created, university students could fall victims, as they could want to discover more. Considering that university students spend great number of hours on the internet, they get a good opportunity for developing contacts, which could create an appropriate environment to share information online. The information shared could lead to more searches with a likelihood of disposing the students to addiction to drug and substance abuse. Therefore, the current study investigated whether problematic internet usage by undergraduate students in Kenyan universities leads to risk of addictions to online drug and substance abuse.

A number of organisations such as that deal with drug and substance abuse NACADA have social media platforms where they provide information to the youth concerning drugs and other substances of abuse (Mutai et al., 2020). The researchers carried out a study to investigate innovations and opportunities in social media for management of drug and substance abuse in selected informal settlements of Nairobi County, Kenya. The researchers further affirmed that if the discussions on the social media were not controlled, there was a possibility of promoting drugs and other substances. Moreover, the online discussions concerning drug and substance abuse acted as a facilitator for the peer and other network members to learn about the dynamics of these drugs and substances. In the view that the study was carried out with different group of people from the study group of this

research, this study sought to investigate problematic internet usage influence on the risk of addiction to online drug and substance abuse. According to Chege et. al. (2017), children and teenagers were lulled to using drugs and substances of abuse by the advertisements made online. The researchers further noted that young people received conflicting information online concerning drugs and substances of abuse. Furthermore, the information portrayed online contributed to the young people being predisposed to the risk of addiction to drug and substance abuse. Moreover, the young people learnt how to access the drugs and other substances of abuse by connecting with the sellers online.

Films and music broadcasted by Kenya's mass media promotes drug and substance abuse (Koech, 2021). The researcher further noted that Kenyan youth consume high amounts of online information including information on drug and substance abuse. The information relayed online also include information on sexuality, relationship, drugs and violence. Chege et. al. (2017) highlighted that advertisement of drugs and substances of abuse is intended to create the impression that consuming such substances is normal. Review of literature on problematic internet usage and the risk of addiction to online gambling is scarce, therefore, this research attempted to cover the gap by investigating the role of problematic internet usage in the risk of addiction to online drug and substance abuse among undergraduate students in Kenyan universities.

Discussions

This study sought to investigate the role of problematic internet usage in the risk of addiction to online drug and substance abuse among undergraduate students in universities in Kenya.

Table 1
Risk of addiction to Drug and Substance Abuse (n = 317)

	Mean	Sd.	Low Scores		High Scores	
			F	%	F	%
I have used drugs or substances abuse	2.98	1.36	184	58	133	42
Drugs or substances abuse have caused trouble at the institution	2.96	1.47	195	61.5	122	38.5
I have ever acquired drugs or substances abuse on the internet	2.87	1.32	217	68.5	100	31.5
I often experience problems trying to stop the use of drugs and substances abuse	2.80	1.47	200	63.1	117	36.9
I access information on drugs and substances abuse on the internet	2.64	1.37	231	72.9	86	27.1

The five items on risk of addiction to drug and substance abuse were measured using a Likert scale of 1-5 in which, 1 inferred the least and 5 highest. Thus, a mean of 2.5 to 5.0 signified high extent involvement while a mean less than 2.5 inferred involvement to a low extent. Risk of addiction to drug and substance abuse was measured using five items. I have used drugs or substances abuse, drugs or substances abuse have caused trouble at the institution, I have ever acquired drugs or substances abuse on the internet, I often experience problems trying to

stop the use of drugs and substances abuse and I access information on drugs and substances abuse on the internet. The five items enumerated means ranging from 2.64 to 2.98 as shown in Table 1 implying that the respondents had a considerable risk of addiction to drug and substance abuse. Specifically, item one; - I have used drugs or substances abuse scored a mean of 2.98 (SD = 1.36). Item two – Drugs or substances abuse have caused trouble at the institution posted a mean of 2.96 9SD = 1.47). Item three - I have ever acquired drugs or substances abuse on the internet registered a mean of 2.87 (SD = 1.32. Item four - I often experience problems trying to stop the use of drugs and substances abuse posted a mean of 2.80 (SD = 1.47) while item five - I access information on drugs and substances abuse on the internet had a mean of 2.64 (SD = 1.37). The results implied that largely, the respondents had used drugs or substances abuse, drugs or substances abuse had caused trouble at the institution. The respondents had acquired drugs or substances abuse on the internet at some point, often experienced problems trying to stop the use of drugs and substances abuse, and accessed information on drugs and substances abuse on the internet. Hence, the respondents had a high risk of addiction to drug and substance abuse.

The respondents were further categorized into two in respect to the responses availed on the item - risk of addiction to drug and substance abuse. In this respect, scores of either 4 or 5 were classified as high scores while scores of either 1, 2 or 3 were classified as low scores. It was revealed that 42.0% of the respondents attested that they had actively used drugs or substances abuse, 38.5% testified that drugs or substances abuse had caused trouble at the institution. 36.9% often experienced problems trying to stop the use of drugs and substances abuse, and 31.5% had ever acquired drugs or substances abuse on the internet, while 27.1% accessed information on drugs and substances abuse on the internet. The results indicated that the respondents had a high risk of addiction to drug and substance abuse since more than a third posted high scores in three of the five items.

Table 2
Risk of Addiction to Drug and Substance Abuse Cross Tabulation

		Risk of Addiction to Drug and Substance Abuse		Total
		Low Risk	High Risk	
Non Problematic Internet Use	F	93	44	137
	%	49.2%	34.4%	43.2%
Problematic Internet Use	F	96	84	180
	%	50.8%	65.6%	56.8%
Total	F	189	128	317
	%	100.0%	100.0%	100.0%

The study sought to investigate the role of problematic internet usage in risk of addiction to drug and substance abuse among undergraduate students in universities in the counties of Meru and Nairobi, Kenya. Results displayed in Table 2 illustrated that 65.6% of the respondents displaying high risk of addiction to drug and substance abuse had problematic internet use while 50.8% of respondents with low risk of addiction to drug and substance abuse had problematic internet usage. Hence, the proportion of the respondents displaying high risk of addiction to drug and substance abuse that had problematic internet usage was higher than the proportion of the respondents exhibiting low risk of addiction to drug and substance abuse that had problematic internet usage.

Table 3
Risk of Addiction to Drug and Substance Abuse Chi-Square Tests

	Value	df	P - Value
Pearson Chi-Square	6.841[a]	1	.009
Likelihood Ratio	6.909	1	.009
Linear-by-Linear Association	6.819	1	.009
N of Valid Cases	317		

Table 3 indicates a chi square test was performed to examine the relationship between problematic internet usage and risk of addiction to online drug and substance abuse. The relationship between problematic internet usage and risk of addiction to online drug and substance abuse was significant, χ^2 (1, N = 317) = 6.841, p = .009. Hence, the null hypothesis - problematic internet usage is not statistically significant in risk of addiction to online drug and substance abuse was rejected.

Table 4
Risk of Addiction to Drug and Substance abuse Comparison Analysis

Internet Use	N	Mean	Std. Deviation	Std. Error Mean
Non Problematic Internet Use	137	13.4	4.3	0.37
Problematic Internet Use	180	14.9	4.6	0.34

A T-test was performed to determine whether different results could be arrived at in regard to the relationship between problematic internet usage and risk of addiction to drug and substance abuse. Results illustrated in Table 4 showed that the mean risk of addiction to drug and substance abuse score for respondents exhibiting problematic internet usage was 14.9 (SD = 4.6) while the score for their counterparts with non-problematic internet usage was 13.4 (SD = 4.3). The results implied that the scores for risk of addiction to drug and substance abuse for respondents exhibiting problematic internet usage were higher than the risk of addiction to online drug and substance abuse scores for their counterparts with non-problematic internet usage.

Table 5
Risk of Addiction to Drug and Substance Abuse Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	P - Value
Equal variances assumed	.952	.330	-2.863	315	.004
Equal variances not assumed			-2.892	302.8	.004

Results displayed in Table 5 showed an independent-samples t-test indicated that the scores for risk of addiction to online drug and substance abuse were significantly higher for respondents displaying problematic internet usage (M = 14.9, SD = 4.6) than for their counterparts with non-problematic internet usage (M = 13.4, SD = 4.3), t (315) = 2.863, p = .004. Hence, the study established a significant relationship between problematic internet usage and risk of addiction to online drug and substance abuse. The null hypothesis - problematic internet usage is not statistically significant in risk of addiction to online drug and substance abuse was rejected.

As supported by Mountaney et al. (2016), that online drug and substances of abuse could be acquired through chemists, kiosks and online, the findings of this study showed that undergraduate students acquired substances through online and from kiosks neighboring the universities. Students reported having accessed

the drugs from other students who were intermediaries. However, internet usage was significant in the acquisition of drugs and substances of abuse. Students were able to interact online and access drugs and substances, which were marketed by use of synonyms best understood by the users. The results of this study disagree with the research done by Whisman (2015) that, problematic internet usage may not lead to the risk of addiction to online drug and substance abuse. The findings of the current study indicated that problematic internet usage predisposed students to the risk of addiction to online drug and substance abuse. A big number of students who were abusing drugs and other substances reported having acquired them through the internet by connecting with peers and friends. A small number reported having accessed online drugs and substances through curiosity as they browsed through the internet.

The findings of the study were in agreement with Chege et al. (2017), who posited that online advertisements lead to the development of the urge to explore more about drug and substances of abuse, which lead to the risk of an addiction. Furthermore, the youth learnt how to use the drugs and other substances of abuse online. The research findings from the in-depth interview schedule on the reasons why undergraduate students were involved in online drug and substance abuse indicated that students accessed information concerning drugs and other substances mostly online. One student counsellor said that;

> *'Most of the substances of abuse are today advertised and sold through online technology. Undergraduate students place orders for the types they would wish to purchase. Once they make online payments, the drugs and other substances are delivered to them by transporting agencies.'*

In response to the question of the nature of problematic internet usage in relation to online drug and substance abuse, the student peer counsellors indicated that undergraduate students mostly placed order through the internet. They affirmed that it was easy to access the information concerning drugs and other substances mainly; the location, price and means of delivery from the internet. The findings agrees with Mountaney et al. (2016) who indicated that technological development allows easy access of online drug and substances of abuse. Some students had started abusing drugs through curiosity while others used them as means of relaxing and another number used the drugs as a means of solving problems. Advertisements and glorifying of the drugs and substances by the peers and friends also encouraged the students the usage as supported by (Chege et. al., 20170. Focus group discussion acknowledged that the drugs and substances could be acquired online by paying using either the mobile money or visa card. Furthermore, the anonymity involved in the process of acquiring the drugs encouraged usage. Moreover, some drugs were given pseudonyms to conceal their actual brand. The study findings implied that problematic internet usage could lead to risk of addiction to online drug and substance abuse.

Conclusion

The results of the study indicated that problematic internet usage led to online drug and substance abuse. Undergraduate students acquired drugs and other substances online by networking with peers, friends and even strangers. The findings of the study established that students engaged in online drug and substance abuse because of peer pressure, curiosity, anonymity involved in acquiring the drugs, to feel high and to escape from personal problems. It was indicated that undergraduate students in universities in Kenya acquired drugs and substances of abuse through the internet. The information concerning drugs and substances of abuse was also available online, which make it easy for the students to acquire for them using synonyms. The study also showed that advertising, glorifying and the anonymity involved when acquiring the drugs encouraged more searches leading to problematic internet

usage and hence, risk of addiction to online drug and substance abuse.

Recommendation

The study recommends that the university management and student counsellors create information campaigns concerning problematic internet usage and the risk of addiction to online drug and substance abuse. The campaigns will ensure responsible internet usage and help in recognizing and avoiding online drug dealers. The university management can also enforce codes of conduct to ensure that undergraduate students stop engagement in problematic internet usage, which can lead to the risk of addiction to online drug and substance abuse.

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