Predictors Of Pathological And Risky Internet Use Among Adolescents In Nairobi, Kenya: Case Of Mixed Sub-County Secondary Schools In Nairobi, Kenya

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Abstract
Pathological Internet usage (PIU) is recognized as a significant behavioural concern among teenagers and young people around the world. As a behavioural disorder, it is still an emerging idea that hasn't been thoroughly refined. To understand the high-risk psychosocial predictors of pathological Internet use, particularly among students, it is critical to investigate PIU predictors. The purpose of this study was to assess PIU predictor (degree of impairment or distress) among at-risk adolescents in Nairobi, Kenya. The data was obtained using PRIUSS, PIU-a, Internet Disorder Scale, and Readiness Check Ruler to analyze predictors of PIU in a sample of 270 adolescents aged 14-22; for the treatment group (n= 135) and the control group (n= 135). Age (p=.000) was found to be a predictor of pathological Internet use in this study. In terms of PIU symptoms, respondents aged 17-19 years scored higher than those aged 14-16 years and those aged 21 to 22 years. These data also revealed that individuals with a Pentecostal religious affiliation were significantly more likely to use the Internet in a pathological way (p=.016). PIU was predicted for adolescents in the selected schools by their parents' occupation, particularly for those whose fathers were self-employed (p=.050) or had professional office positions (p=.008). In addition, respondents whose mother worked as a self-employed person had a higher PIU (p=.035). Furthermore, respondents with above-average academic competence statistically predicted PIU among adolescents (p= 043). Being a respondent who grew up in a family with a single parent was a predictor of such an adolescent's pathological Internet use (p=.019). Furthermore, differences in independent predictors were observed in various age groupings. In addition, changes in independent predictors were discovered in different age subgroups. The findings of this study appear to show that the respondents' parents' work predisposes them to the risk of PIU. Adolescents are more prone to PIU, according to this study. Furthermore, PIU was predicted by maladaptive coping stratagems, indicating that PIU is not an efficacious coping strategy but may be regarded as maladaptive behavior such as escapism, elucidates PIU as a distinct pathology. In conclusion, this study discovered specific predictors for adolescents that will support the development of PIU management programs.
Key words: *Adolescents, pathological internet use, internet addiction, predictors*

I.   Introduction and Background!

The Internet has revolutionized modern living by transforming the world into a fast-paced information network village. The internet's extraordinary accessibility and ease of use has enormously enriched human experience, making it an essential and critical element of modern life. However, the internet's impending negative impacts on adolescents in schools and on human health in general appeared to be an unavoidable global concern (Singh, et al. 2022).

In China, where the 4G network covers 95% of administrative villages and 95% of the population (Guo, et al. 2020), internet usage trends on gaming and social media, as well as the link between pathological internet use (PIU) and adversarial mental concerns among youth, have caught a lot of attention (Dubois, 2017). In 2017, parents in England were warned against buying cellphones for their children, comparing it to giving them "a gram of cocaine." Because of the potential for addiction and negative mental effects on students who are exposed to internet activities such excessive talking, online gambling, pornography, and cyberbullying. Due to the susceptibility of the young people as a target group, the French government restricted students from carrying or using cellphones in schools in 2017 (Willsher, 2017). In Kenya, educational institutions, governments, and other stakeholders have worked to raise awareness of PIU prevention and treatment. Furthermore, negative events such as a drop in school grades and self-harm among students linked to PIU have dramatically increased in recent years. Because of the rising number of negative events linked to PIU, such as suicide and accidental death, some Kenyan

parents and teachers have dubbed pathological internet usage "electronic opium/heroin" (Phillips, 2017). As a result, in July 2020, Kenya's Cabinet Secretary for Education issued a press release with an urgent notification restricting school students' access to the internet (Kimuge, 2021).

Since its beginning in 1996 by Dr. Kimberly Young [Young & Abreu, 2011, Vigna-Taglianti, et al (2017). PIU appears to have phenomenology that is comparable to that of addiction disorders (Toozandehjani et al., 2021), with studies revealing potential biomarkers for this illness (Meng et al., 2015). PIU has long been a strong predictor in several teenage subpopulations, and it continues to rise. Despite the fact that this predictor varies by location around the world (Lukacs, 2021), research has indicated that PIU can be associated to serious functional and psychological problems. These flaws could be a contributing role in issues such as a dysfunctional family, marital conflict, recent stressful experiences, and low self-esteem.

Some related kinds of PIU have been classified as formal mental illnesses as a result of recent modifications to worldwide disease categorization and diagnostic equipment. This came after a lengthy debate over whether PIU primarily displays the hostile impacts of internet content, such as gaming and social media, rather than the usage of information technology (Aarseth et al., 2017, Przybylski et al., 2017, Schou Andreassen et al., 2016). In the appendix of the Diagnostic and Statistical Manual of Mental Disorders (DSM)-5, internet gaming disorder (IGD) was identified as an illness that needed more research (Segal, 2013). Gaming disorder is classified as "predominantly online and offline" by the International Classification of Diseases (ICD)-11 (ICD-11 MMS, 2018). Several scholars, on the other hand, believe that classifying IGD as primarily an online condition is premature. According to several cross-sectional research, the escalation of the PIU (or internet addiction) phenomena is linked to poor implementation of preventive, diagnostic, and treatment techniques (Kopp, Ramseier, Ratka-Krugger & Woelber, 2017). Miller and Rollnick (2013) presented an approach called motivational enhancement treatment to address this issue (MET). MET is a clinical intervention that helps youths explore and resolve ambivalence in order to increase desire for behavior change. The MET strategy is collaborative in nature, and it aids in the formation of a strong therapeutic partnership (Wagner & Ingersoll, 2013). MET has been found to be an effective intervention for lowering both pathological and dangerous Internet use concerns (Maheshwari & Sharma Preksha, 2018; Wagner & Ingersoll, 2013). In previous confrontational addiction treatments, this method was frequently overlooked. Traditional (albeit combative) stratagems are favoured in this situation.

Previous research into the predictors of PIU found that a variety of psychosocial difficulties among students, independent of heterogeneity, are clearly linked to PIU, with markers such as social and emotional impairment, as well as risky/impulsive Internet use (Aghamolaei & Tavafian, 2013). Ninety percent of high school students spend the most of their day at school, which is an important location for establishing good interpersonal skills. As a result, schools are able to provide a relaxing environment in which to educate adolescents about leading a healthy lifestyle (National Institute of Mental Health, 2016).

Only a few research on pathological Internet use have been conducted in Kenya, and those that have been conducted have primarily focused on adults and university students. In addition, contrast to the available studies in adult samples, the researcher was unable to locate any research targeted to children.

II.   Methodology

Study Design and Ethics!

The current study was conducted using quasi-experimental design to assess PIU predictor among adolescents in the selected secondary schools, in Dagoretti Subcounty, Nairobi. The area has a large cosmopolitan population, and it has the greatest number of public secondary schools in Nairobi County (MoEST & UNICEF, 2014). Two schools were purposively selected as they were mixed-day secondary schools with students with similar socio-demography. Moreover, respondents had comparable socio-economic backgrounds. For the current study to conform to the set ethical principles, the researcher sought approval from the Daystar University Ethics Review Board (DU-ERB) and National Commission for Science, Technology and Innovation (NACOSTI). Consultation with the Ministry of Education, Science and Technology and Dagoretti Sub-County Directorate of Education was considered. Informed consent was acquired from significant school authorities representing parents whereas informed assent was endorsed by respondents. Confidentiality and anonymity of respondents was guaranteed in data management, analysis and publication of study results.

Survey Development

This research was conducted in two secondary schools in Dagoretti Subcounty, Nairobi. It used a quasi-experimental research methodology, with the experimental and control groups being critical in determining the link between MET as a therapeutic treatment and a reduction in PIU symptoms. Intervention (MET) was solely given to responders in the experimental group in the current investigation. This group included students who have been diagnosed with PIU symptoms utilizing the PRIUSS screening instrument. The researchers verbally told the participants at the survey's baseline meeting about the study's goal, methodology, and a synopsis of sessions that were critical to the treatment's efficacy.

Participants and Survey Administration!

At 80 percent power and 30 percent effective size, a sample size of 270 was chosen for both the treatment (n= 135) and control groups (n= 135). The respondents ranged in age from 14 to 22 years old (mean age = 17.5), with 155 men and 115 women. The intervention method comprised of eight MET-focus group sessions. Each session lasted an hour and was held once a week. A three-month follow-up period followed the intervention. Despite the fact that they were group sessions, the attention was on the client, as per the motivational interviewing philosophy (Miller & Rollnick, 2013). Each therapeutic group session's participants would agree on and reflect on specific goals to be achieved at the next meeting. These goals primarily aimed to increase motivation (motivation=importance + confidence + ready to change) in order to reduce PIU symptoms.

Theories: The entire psychotherapy setup was planned around two theories: motivational interviewing (Miller & Rollnick, 2013) and the Transtheoretical model (Prochaska & Norcross, 2018). Data was collected in three phases: baseline, midline, and endline survey assessment interventions involving students in grades one, two, and three. The concepts of MI were emphasized and observed with the goal of determining the level of motivation for each responder to change their behavior (Kopp, Ramseier, Ratka-Krugger & Woelber, 2017). For this study, the treatment group had eight session titles based on the core motivational group model. These are: the introduction to the group and the establishment of rapport; the review of confidentiality and the exploration of habits; and the review of confidentiality and the investigation of habits. Application of the readiness ruler: to assess respondents' willingness to modify target behavior and to use MI to signal the change.

Measurements!

The predictors of pathological Internet use among the respondents were identified using a variety of techniques. The Problematic and Risky Internet Use Screening Scale (PRIUSS) came with a socio-demographic survey form that was utilized in the initial meeting with the respondents prior to the intervention. Problematic Internet Use in Adolescents (PIU-a), Internet Disorder Scale-Short Form (IDS9-SF), and Readiness Check Ruler were among the other psychometric tools used. The PRIUSS, PIU-a, and IDS9-SF each feature three subscales with a 5-point Likert scale: I Social Impairment, ii) Emotional Impairment, and iii) Risky/Impulsive Internet Use. The scale on the readiness check ruler ranges from 1 to 10. Throughout treatment, the ruler was used to track changes in motivation (motivation=importance + confidence + readiness to change).

Statistical Analysis!

Data analysis: The Statistical Package for Social Science (SPSS) version 25.0 statistical software was used to examine the data obtained over the three phases. To analyze statistical data and create tables and graphs, Microsoft Excel was used. Descriptive statistics, independent t-tests, and analysis of variance were used to analyze the data. A multivariate logistic regression analysis was also utilized to find a link between sociodemographic characteristics and a proclivity for pathological Internet use. All statistical tests were two-sided, and a p-value of less than 0.05 was considered statistically significant.

III.   Results

Demographics

The goal of the research was to find predictors of pathological Internet use among secondary school students in Nairobi's Dagoretti Sub-County. The total number of students in the sampled schools was 1597. Ruthimitu Mixed Secondary School is a mixed secondary school with 822 students. 775 students attend Dagoretti Mixed Secondary School (MoEST, 2014). The study comprised students aged 14 to 22, in Form 2 and Form 3 classrooms, who were present and granted their consent. 360 people (experimental and control groups) were screened for PIU symptoms, with 212 (59.1%) males and 147 (40.9%) females making up the sample population.

The descriptive analysis (as captured in Table 2) revealed that the respondents who were pathological Internet users had a higher prevalence (95.6%) as opposed to those who were moderate Internet users (4.4%). The mean score for the respondents' problematic Internet use was $2.9556 \pm$ (SD: .20646).

The respondents problematic Internet use scores at baseline was as captured in Table 1.

Table 1: Respondents' Pathological Internet Use Score at Baseline

Variables	Frequency (%)	Mean and Std. Deviation
15-27 = Moderate Internet Users 28-56 = Pathological Internet Users Total	12(4.4) 258(95.6) 270(100.0)	$2.9556 \pm$ (SD: .20646)

The bivariate analysis of the distributions of respondents' problematic Internet use scores and demographic characteristics at baseline are depicted in Table 2.

The distribution of predictors on the PIU among the respondents was as demonstrated in Table 2.

Table 2: Bivariate Analysis of Distribution of Respondents Problematic Internet Use Scores and Demographic Characteristics at Baseline

Variable	Total (%)	Problematic Internet Use Scores		Chi-Square Test		
		Moderate users	Pathological users	X^2	df	Sig.
Respondents Gender						
Male	154 (57.2)	7(2.6)	147(54.6)	.006	1	.938
Female	115(42.8)	5(1.9)	110(40.9)			
Respondents Age						
14-16	115(42.8)	6(2.2)	109(40.5)	.454	2	.797
17-19	149(55.4)	6(2.2)	143(53.2)			
20-22	5(1.9)	0(0.0)	5(1.9)			
Respondents Level of Education						
Form 2	132(48.9)	4(1.5)	128(47.4)	1.216	1	.270
Form 3	138(51.1)	8(3.0)	130(48.1)			
Respondents Religious Affiliation						
Catholics	86(31.9)	5(1.9)	81(30.0)	2.468	5	.781
Anglican	39(14.4)	1(0.4)	38(14.1)			
Pentecostal	77(28.5)	2(0.7)	75(27.8)			
Adventist	18(6.7)	1(0.4)	17(6.3)			
Muslim	8(3.0)	1(0.4)	8(3.0)			
Others	42(15.6)	3(1.1)	39(14.4)			
Fathers' occupation						
Not employed	78(28.9)	2(0.7)	76(28.1)	5.225	4	.265
Casuals or menial jobs	40(14.8)	0(0.0)	40(14.8)			
Farmer or Agricultural	9(3.3)	0(0.0)	9(3.3)			
Self-employed or Business	80 29.6)	6(2.2)	74(27.4)			
Professionals (office) employed	63(23.3)	4(1.5)	59(21.9)			

Table 2: Bivariate Analysis of Distribution of Respondents Problematic Internet Use Scores and Demographic Characteristics at Baseline (Cont'd)

Variable	Total (%)	Problematic Internet Use Scores		Chi-Square Test		
		Moderate users	Pathological users	X^2	df	Sig.
Mothers' occupation						
Not employed	79 (29.3)	1 (0.4)	78(28.9)	3.707	4	.447
Casuals or menial jobs	44 (16.3)	2 (0.7)	42(15.6)			
Farmer or Agricultural	7 (2.6)	0 (0.0)	7(2.6)			
Self-employed or Business	101 (37.4)	6 (2.2)	95(35.2)			
Professionals (office) employed	39 (14.4)	3 (1.1)	36(13.3)			
Whom respondent is living with						

Both biological Parents	147(54.4) 2(0.7)	10(3.7) 0(0.0)	137(50.7) 2(0.7)	4.721	5	.451
Adopted Parents	84(31.1)	1(0.4)	83(30.7)			
Single Parents	11(4.1)	0(0.0)	11(4.1)			
Guardian/Foster Parents	2(0.7)	0(0.0)	2(0.7)			
Grandparents	24(8.9)	1(0.4)	2(8.5)			
Other relatives						

The data captured in Table 2 indicates that significant numbers of respondents scored higher as pathological users compared to moderate users. The distribution of the problematic Internet use scores among the 270 respondents was higher at (57.2%) for the male gender than for the female gender (42.8%). In examining the association between pathological Internet use and gender, the proportion of the male respondents among the pathological users was 54.6% while that of the female was 40.9%. The data for moderate users also showed that the male respondents' frequency was higher at 2.6% while that of the female respondents was at 1.9%. However, there was no significant association between the pathological Internet use and gender (*p= .938*). In other words, the male adolescents using Internet moderately appeared to exhibit less pathological Internet use condition compared to their female peers.

Using the Chi-square test to investigate whether there was any association between dependent variable and independent variable, in terms of statistical significance, the test revealed no statistically significant relationship between pathological Internet use and age (*p=.938*). Similarly, the prevalence of the pathological users was higher among the respondents aged 17-19 years old at 53.2% than respondents aged 14-16 years old (40.5%) and those aged 20-22 years old (1.9%). As for the moderate users, the prevalence was equal among the respondents aged 14-16 and 17-19 years old (2.2%). This implies that more secondary school adolescents were pathological users of Internet, given that it was more pronounced among respondents aged 17-19 years than those aged 14-16 years and 20-22 years. The relationship between pathological Internet use and the level of education as well as religious affiliation were examined; the findings of this study did not reveal any statistically significant association between these two variables at *p= .270* and *p= .781* respectively.

As for the relationship between pathological Internet use and the occupation of the parents, the proportion of the Internet pathological users was apparently higher among adolescents whose mothers and fathers were self-employed/business with 37.4% and 29.6% respectively. Moreover, the proportion of the pathological users was higher (28.1%) among adolescents whose fathers were not employed while the proportion of those whose mothers were self-employed was higher (35.2%). The relationship between pathological Internet use and whom the respondents were living with while at home seemed to be higher (54.4%) among those living with both biological parents compared to adolescents who lived with single parents (31.1%). Likewise, the occurrence of the pathological users was higher at 50.7% among those living with both biological parents as opposed to the adolescents who were living with single parents.

The data above apparently proposes that there was no any particular socio-demographic characteristic that was statistically significant. The study also tested the association between pathological Internet use and other socio-demographic characteristics. Chi-square test revealed no statistically significant association pathological Internet use and place of residence as well as academic performance.

Table 3 presents the multinomial regression statistics indicating how socio-demographic features work as predictive independent variables of pathological Internet use among the respondents.

Table 4.7: Multinomial Regression Analyzing the Predictors of PIU among the Respondents

Respondent's Problematic Internet Use Classification		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B)	
								Lower Bound	Upper Bound
28-56 Pathol-ogical Users	=Intercept	18.647	2.302	65.593	1	.000			
	[Gen Male	.068	.695	.010	1	.922	1.071	.274	4.181
	Age: 14-16	-16.192	.799	410.566	1	.000	9.287E-8	1.939E-8	4.447E-7
	Age: 17-19	-16.702	.000		1	.	5.575E-8	5.575E-8	5.575E-8
	Form 3	1.214	.796	2.325	1	.127	3.366	.707	16.013
	Catholic	.326	.865	.142	1	.706	1.385	.254	7.538
	Anglican	1.590	1.255	1.606	1	.205	4.906	.419	57.418
	Pentecostal	1.411	1.042	1.834	1	**.016**	4.098	.532	31.574
	Adventist	.161	1.453	.012	1	.912	1.174	.068	20.263
	Muslim	15.648	3838.581	.000	1	.997	6246897.771	.000	^{c}
	Not employed-F	-.235	1.237	.036	1	.850	.791	.070	8.939

Farmer/ agri – F	16.227	4131.673	.000	1	.997	11154354.004	.000	c
S-employed/Bs- F	-.141	.746	.036	1	.050	.868	.201	3.744
Prof/office job -F	17.018	1732.905	.000.	1	.008	24602885.602	.000	c
Not employed-M	1.538	1.318	1.362	1	.243	4.656	.352	61.644
Casual/menial -M	-.989	1.205	.673	1	.412	.372	.035	3.950
Farmer/ agri -M	14.719	4216.969	.000	1	.997	2468466.357	.000	c
S-employed/Bs -F	.174	.839	.043	1	.035	1.190	.230	6.168
Above Average	-1.130	1.471	.590	1	.043	.323	.018	5.775
Average	-.936	1.196	.613	1	.434	.392	.038	4.085
Below Average	0[b]	.	.	0	.	.	.	.
Both biological parents	-.448	1.370	.107	1	.744	.639	.044	9.372
Adopted parents	16.023	9044.772	.000	1	.999	9089770.702	.000	c
Single parents	2.078	1.617	1.652	1	.019	7.992	.336	190.096
Guar/foster parent	15.739	3055.917	.000	1	.996	6843367.656	.000	c
Grandparents	16.594	9673.997	.000	1	.999	16101744.554	.000	c

a. The reference category is: 15-27 = Moderate Users.
b. This parameter is set to zero because it is redundant.
c. Floating point overflow occurred while computing this statistic. Its value is thus set to system missing.

Multinomial logistic regression is used to predict a nominal dependent variable given one or more independent variables. It is sometimes considered an extension of binomial logistic regression to allow for a dependent variable with more than two categories. As with other types of regression, multinomial logistic regression can have nominal and/or continuous independent variables and can have interactions between independent variables (socio-demographic characteristics) to predict the dependent variable (PIU), which put the respondents at risk of exhibiting PIU symptoms.

The PIU-a scale categorized pathological Internet use into three; those who scored 0-14 were minimal users, 15-27 moderate users and 28-56 pathological users. Multinomial regression output (Table 4.7) indicated that respondents aged 14-16 years at β = -16.192 ± (SE: .799) seems a significant predictor of PIU ($p = 0.000$). This implies that being an adolescent male aged 14-16 and in secondary school makes the individual susceptible or at risk to pathological Internet use. Likewise, belonging to Anglican denomination as a religious affiliation, was a predictor of PIU symptoms β=1.411 ± (SE: 1.042) and is a significant predictor of PIU (p= .016) among the adolescents. Hence, the respondents' religious affiliation particularly being Pentecostal is a predictor to pathological Internet use.

Occupation of the parents predicted symptoms of pathological Internet use among the adolescents whose fathers were self-employed/business and professional (office) jobs at β=-.141 ± (SE: .746) (p= .050) and β= 17.018 (SE: 1732.905) (p= .008) respectively. Similarly, occupation of the parents predicted symptoms of pathological Internet use among the adolescents whose mothers were self-employed/business at β=.174 (SE: .839) and is a significant predictor of PIU (p= .035). Respondents who were above average in their academic performance were a predictor of pathological Internet use at β= -1.130 (SE: 1.471) (p= .043). Finally, the family setting predicted symptoms of pathological Internet use among the adolescents living with single parents at β= 2.078 (SE: 1.617) and is a significant predictor of PIU (p= .019).

IV. Discussion

Predictors of Pathological Internet Use among Adolescents

The second objective of this study sought to examine the predictors of pathological Internet behaviors among secondary school adolescents. This was conducted to determine whether there was association between socio-demographic attributes and PIU. There are diverse views describing why adolescents are susceptible to disordered Internet use. These include sociodemographic variables essentially comprising age, gender, education level, academic performance, religious denomination, parent's employment status, and family setting. When the descriptive analysis of the socio-demographic characteristics in this study was conducted, the respondents who were pathological users of the Internet had a higher frequency (95.6%), compared to those who were moderate Internet users (4.4%).

In regard to the gender, there was no association between respondents' gender and PIU prediction among adolescents (p=0.938). This study compares with another one which determined that gender does not statistically predict excessive Internet use (Starcevic, 2010). Conversely, these findings disagree with a recent study which reported gender as a significant predictor to PIU among Chinese adolescents (Nargess, 2013, Xu et al., 2014).

Pathological use of Internet can be an invisible health hazard in schools because not many researchers or mental health practitioners are identifying it as an area of concern (Pontes & Griffiths, 2017). Research has indicated significant challenges to numerous facets of life and substantial risks for individuals who pathologically use the Internet. Some areas of concern include avoiding social activities, avoiding real-time interactions,

neglecting one's well-being, neglecting school-related duties, and modifying sleep and eating routines in a harmful way (Singh et al., 2022).

In this study, the proportion of male respondents was higher (54.6%) than female respondents (40.9%) in the pathological users' category. This finding contradicts a similar research conducted in Kenya where female pathological users of Internet were found to be higher than the male ones (Micheni & Muketha, 2019). On the other hand, the frequency of moderate users of the Internet was higher among male respondents (2.6%) than the female respondents (1.9%), which was in line with a study conducted by (Pontes, Kuss et al., 2015).

The bivariate analysis of the socio-demographic characteristics indicated that there was no association between respondents' age and PIU among the secondary school students (p= .797). This finding is supported by another study that showed that age does not statistically predict PIU (Adiele & Olatokun, 2014). In contrast, the finding of this study contradicts a recent study which stated age as a significant predictor of PIU behaviors among adolescents (Mamun & Griffiths, 2019b). The proportion of respondents between the ages of 17-19 was higher (53.2%) than respondents aged 14-16 and 21-22 years which is also similar to the study that disordered use of Internet behaviors are predominant among adolescents aged 17-19 (Mak et al., 2014). This finding upheld global Internet dependence rates among adolescents in the 17-19 age group. Studies have shown that rates of problematic and risky Internet use related behaviors among adolescents in school rise with age (International Telecommunication Union, n.d.; Stavropoulos et al., 2013).

In attempt to explicate reasons that apparently make the prevalence of PIU higher among older adolescents compared to younger ones, Durkee et al. (2016) established that for the adolescents, Internet use as a mode of interaction seemingly offers a perceived sense of security and a subtle arena for users to express their subjective views without any perceived fear of consequences (Durkee et al., 2016). Besides, pathological and addictive use of Internet differs from other forms of addictive behaviors since there are no strict legal restraints in Internet use. Other reasons that are often cited for making the adolescents find Internet use comfortable and habitual, include the easy accessibility and availability, cost-effectiveness, relative anonymity, and lack of embarrassment (Singh et al., 2022).

Further, the bivariate statistics indicated that there was no significant difference in education level of the respondents (p= .270) and PIU. This implies that education level was a predictor of PIU among the respondents. The percentage was slightly higher (48.1%) among form three students than their form two counterparts in the pathological users' category. This result is similar to that of an analysis of pathological use of Internet among adolescents in Kenyan Schools, which indicated that prevalence of PIU was 16.8% and a prevalence of 23.6% on academic performance (Micheni & Muketha, 2019). With regard to classes, among the moderate users of Internet, the form three respondents also had a higher (3.0%) proportion as opposed to form two students.

For the high school students, PIU can be a way to relieve tediousness and stress in life, academic work stress, and everyday routine for the students (Starcevic & Aboujaoude, 2016). In such a case, tediousness and stress is replaced with enjoyment and elation, a false sense of connectedness, and ultimately pleasure which immerses the brain in chemicals that have been equated to the effects of substance of abuse (M'hiri et al., 2015; Pontes, Kuss et al., 2015). Despite the fact that adolescents cherish the instant access and anonymity in Internet use, the researchers asserted that not all secondary school students are affected by PIU. They also added that, not all adolescents who pathologically use Internet end up being addicted. They were however quick to state that the number of adolescents who are hooked is rapidly rising (Zupan, 2017).

The researcher upheld the views; just like in other addictive behaviors PIU affects people differently. Having been a secondary school teacher in Dagoretti Subcounty for several years, the researcher's observation was that PIU particularly, online gaming and gambling among secondary school students increased with age. From this perception, the researcher would give several explanations as to why adolescents' age predicted their PIU behavior and why PIU seems to be higher among older adolescents than younger counterparts especially in the urban areas. Informed by the knowledge one has about adolescence as a transition phase one obvious reason would be cognitive development. However, there are other reasons including cheap access to Internet, availability of betting facilities near home, enticement from friends and relatives who have won colossal prizes in various betting platforms, family dysfunction, living out of the home, and history of drug abuse and sexual abuse that may have resulted to some of them become parents while still in school. Other explanations from psychotherapist point of view would include psychosocial problems and stresses of becoming responsible with life stressors, conflicts with parents (as adolescents strive for independence), breakup of a premarital relationship, social isolation and legal difficulties for those adolescents in substance abuse or have been linked to some gangs in the city (Personal interaction with students).

This study also did not find any association between PIU and religious affiliations. Respondents who were from the Catholic faith had the highest (30.0%) proportion closely followed by Pentecostals at 27% in the pathological users' category. This suggests that adolescents from these two denominations were more likely to have higher risk of using Internet in a pathological manner compared to those from other religious affiliations. A similar research to identify the independent psychosocial and risk behavior correlates of compulsive use of Internet

indicated that there existed a significant link between pathological use of the Internet and other risk behaviors, such as pessimism/skepticism (Pontes & Griffiths, 2017; Zupan, 2017).

The researcher of the current study seems to agree with contention that adherents of the Catholic denomination have higher risk of using Internet in a pathological manner than their counterparts in other denominations. The catholic church being one of the oldest denomination has been greatly influenced by technological advancement from Europe; thus embracing virtual broadcasting as a medium of communication. It is not surprising to find individuals particularly the adolescents who attend church services more frequently using their smartphones to follow the readings while seated right in front of the pulpit/the altar. Some of the clerics too use the Internet enabled gadgets such as pads and tablets while delivering their homilies. Therefore, the researcher is of the view that sequel to the potential predisposing impact of religious affiliation and obligation to combating PIU risk, it is vital to include an assessment of religiosity and spirituality in any psychosocial assessment, particularly with pathological users of Internet. Appropriate empathetic towards a client's religious faith could help to identify potential feature with regard to treatment for the those at risk of PIU.

Regarding the parents' socio-economic status, this study found out that there was no statistical association between occupation of the respondents' father ($p= .265$), occupation of respondents' mother ($p= .447$), and PIU. However, the frequency of pathological Internet users was higher (35.2%) among the respondents whose fathers were not employed (28.1%) and whose occupation of the mother was farming (35.2%). The respondents with higher frequency of PIU score had a higher probability of getting addicted to the Internet.

Several other researchers have reported the same results (Toozandehjani et al., 2021, Pontes & Griffiths, 2017; Shek & Yu, 2013). Meanwhile, this research found out that respondents who are moderate users of the Internet and whose fathers' and mothers' occupation was farming were unlikely to become pathological users of the Internet. This suggests that the more frequent the respondents are moderate users, the higher the likelihood of graduating to PIU. A similar research among Chinese adolescents indicated a significant relationship between higher rate of PIU and the likelihood of being addicted (Tang, Zhang, et al., 2014; Zupan, 2017).

Furthermore, this study found that the respondents who lived with biological parents (50.7%) were more pathological users of the Internet than their peers from the other family settings. Living with biological parents seems to predict pathological use of Internet. The result of this study disagrees with several studies which have indicated that living with caregivers other than their biological parents for adolescents was one of the strongest predictors of getting to pathological use of internet (Toozandehjani et al., 2021). The observation by Shek and Yu (2013) among adolescents in Hong Kong showed that the family setting from which the adolescents came from was a predictor of PIU. The finding of this study is also consistent with another research which reported PIU rates of 15% for most adolescents (Yeun & Han, 2016). These researchers also reported that insistent use of the Internet among adolescents living with biological parents predicts impending PIU (Yeun & Han, 2016).

V.   Conclusion

The study provided understanding of PIU predictors among adolescents, as well as how individuals who are at risk or who are already in PIU can collaboratively be helped with psychotherapy intervention. PIU was found to be high among male students in form three who were 17-19 years old, had average academic achievement, had self-employed parents, and lived with their biological parents. Since some adolescents demonstrated this maladaptive behavior before the age of 14, early diagnosis and treatment of PIU is inevitable. The male respondents aged 17-19 years were shown to have a higher predictor of PIU than those aged 14-16 years and 20-22 years, according to the study. Furthermore, the study found that students in form three were more likely to have PIU predispositions than other students. Pathological and risky Internet use was also found to be more prevalent among Catholics and Pentecostals than among other religious groups. Similarly, among secondary school students, this study discovered a significant association between respondents' gender, age, education level, parents' occupation, and household setting as indicators of PIU. Furthermore, there was an association between PIU behaviors and motivation to change (Motivation = Importance + Confidence + Readiness to Change). The importance of and willingness to change were revealed to be major predictors of a complete reversal of PIU. Respondents in the experimental group who received treatment had a significant decrease in the PIU predictor. Further research need to be conducted to better elucidate formal diagnosis and treatment of PIU.

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