WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

SEVERITY OF INTERNET USAGE AND PATHOLOGICAL INTERNET USE TRENDS AMONG ADOLESCENTS IN NAIROBI: A CASE OFMIXED SUB-COUNTY SECONDARY SCHOOLS IN NAIROBI COUNTY, KENYA

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ABSTRACT

Pathological Internet use, also referred to as Internet addiction is an emerging concept that has not been fully refined. Yet, it is increasingly becoming an issue among adolescents. The objective of this study was to evaluate the severity (level of impairment or distress) of Internet usage and PIU trends among at-risk adolescents in selected secondary schools of Dagoretti Subcounty in Nairobi, Kenya. A pretest-posttest research designed was utilized. The two theories used were motivational interviewing and transtheoretical model. A sample size of 270 for both treatment group (n=135) and control group (n= 135) was selected at 80% power and 30% effective size. The respondents were assessed using standardized psychometric tools and researcher-generated socio-economic demographic questionnaire. The adolescents included in the study were only those who had engaged in excessive Internet use. Assessments were conducted at pre-treatment and post-treatment. Respondents in the experimental group were treated with Motivational Enhancement Therapy (MET), while those in the control group were not subjected to any treatment. The results revealed that the severity of pathological Internet use had the highest percentage at 95.6% compared to moderate users at 4.4%. Thus, the pathological users appeared to be more significantly severe as opposed to the moderate users among the study respondents. It was predominantly higher among students aged 17-19 years, in form three, male respondents, Catholics, respondents whose mothers were self-employed, those living with biological parents, and those whose academic performance was average. Age predicted PIU (p=.000); similarly, age was a determinant of severity. Moderate and severe PIU symptoms were strongly associated with the adolescents' level of awareness, and help-seeking attitudes of adolescents. MET was found to be efficacious in reducing PIU severe symptoms (p= 000). School-based intervention approach was used in this study; further research need to focus on potential predictors of PIU such as gender, age, readiness to change and employment status of caretakers in different settings; but, pursuing the same age group. Besides, to combat PIU a comprehensive policy was recommended, to facilitate precautionary measures and encompass interventional measures to adolescents' psychosocial needs.

KEYWORDS: Internet, addiction, pathological internet use, internet addiction, severity, motivational enhancement therapy.

INTRODUCTION AND BACKGROUND

Internet has ideally changed present-day life as the globe turns into a swift exchange of information network village. The unprecedented accessibility and easy availability of internet has greatly benefited human experience; making internet become integral necessity and crucial part of modern life. However, internet's imminent adverse effects on adolescents in schools and generally on human health seemed inevitable global issue (Saunders, et al. 2017).

In China, where 4G network covered 95% of its administrative villages and 99% of its population (Guo, et al. 2020), internet usage trends on gaming and social media and the association of pathological internet use (PIU) with adversarial mental concerns among youth has received prodigious public focus (Dubois, 2017). In England, parents were warned in 2017 against buying smartphones for their children, terming it as risky as gifting them "a gram of cocaine." For its potential addictive components and adverse mental concerns to

students susceptible to online activities such as excessive chatting, online gambling, pornography and cyber bullying. In France, the government prohibited students in 2017 from carrying or using cellphones in schools (Willsher, 2017) due to vulnerability with the young population as a target group. In Kenya, educational institutions, governments, and other stakeholders have endeavored to publicized preventive actions to combat or treat PIU. Besides, adverse events news such as decline in school grades; self-harm, related to PIU among students has radically risen in recent years. The increased adverse events including suicide and accidental death relatable to PIU, led some Kenyan parents and teachers described pathological use of internet as "electronic opium/heroin" (Phillips, 2017). Consequently, in July 2020, the Cabinet Secretary in the Ministry of Education of Kenya gave a press release with an urgent notice on restriction of school students from indulging in uncontrolled internet-enable devices usage (Kimuge, 2021).

Pathological internet use sometimes called internet addiction has progressively been conceptualized as a psychological disorder since its inception by Dr. Kimberly Young published in 1996 [Young & Abreu, 2011, Vigna-Taglianti, et al. (2017). Studies have shown that PIU seems to have similar phenomenology to that of addictive disorders (Niu et al., 2016) to an extent of detailing prospective biomarkers for this condition (Meng et al., 2015). The severity of PIU has been high in some adolescent sub-populations and it adamantly continue to increase. Even though this severity varies locally around the globe (Block, 2008), research has found that PIU could viably be linked to significant functional and psychological impairments. These impairments could be a causative factor to matters dysfunctional family, marital conflict, recent stressful events, low reward dependence and low self-esteem, all of which could further escalate susceptibility to PIU phenomenon (Ahn, 2007).

The recent amendments of international disease classification and diagnostic instruments have documented some related types of PIU as formal mental conditions. This was after extensive discussion on whether PIU principally reveals the adversarial effects of internet contents for instance gaming and social media as opposed to information technology use (Aarseth et al., 2017, Przybylski et al., 2017, Schou Andreassen et al., 2016). The Diagnostic and Statistical Manual of Mental Disorders (DSM)-5 recognized internet gaming disorder (IGD) in the appendix as a disorder requiring further study (Segal, 2013). The International Classification of Diseases (ICD)-11 clear and itemized gaming disorder as "predominantly online and offline" (ICD-11 MMS, 2018). Conversely, several researchers have maintained that classification of IGD or gaming disorder as predominantly online is untimely. This is founded on some problems, comprising low quality/extent of available research. The discord on the connection of PIU

or specific internet addiction patterns (including IGD) with other mental health outcomes (Schou Andreassen et al., 2016; Przybylski et al., 2017) have led to existing operationalization biased profoundly on substance use thus assuming an affirmative approach rather than an inquiry of theboundaries of normal vs pathological use of internet (Aarseth et al., 2017). Some cross-sectional studies found that escalation of PIU (or internet addiction) phenomenon was significantly correlated to poor enactment of preventive, diagnostic and treatment strategies (Kopp, Ramseier, Ratka-Krugger & Woelber, 2017). To address this concern, Miller and Rollnick (2002) proposed a technique called motivational enhancement therapy (MET). As a clinical intervention, MET seeks to enhance motivation for prompting behaviour change by assisting youths explore and resolve ambivalence. MET strategy has collaborative ploy and it facilitate a resilient therapeutic alliance (Wagner & Ingersoll, 2013). MET has shown to be an efficacious intervention for reducing both pathological Internet use and risky Internet use related problems (Maheshwari & Sharma Preksha, 2018; Wagner & Ingersoll, 2013). This technique was often snubbed in former confrontational addiction treatments.

The traditional stratagems (though confrontational), are preferred in treatment of PIU and are used in setting ratifications for appropriate Internet use though not as efficacious as MET. Recently, MET has been reported as the most preferred psychosocial therapy for the treatment of many psychiatric disorders, including Internet use disorder or PIU (Nkayama, Mihara & Higuchi, 2017). Even in many cases where various psychotherapies have been used together, MET still prevailed as a vital component of the treatment since it provided motivation to the clients to recover and learn new skills for using the Internet appropriately. In some countries, as Nkayama et al., (2017) have reported, MET has been utilized for preventive education (in lectures and group discussions) and for the treatment of pathological Internet use among adolescents in treatment camps. This is evidence that MET has been appreciated as an effective intervention in reducing PIU symptoms for adolescents in secondary schools in Kenya.

Results from previous studies that examined the severity of PIU showed that diverse psychosocial concerns among students are evidently associated to PIU, regardless of heterogeneity, with indicators such as social and emotional impairment, and risky/impulsive Internet use (Aghamolaei & Tavafian, 2013). Ninety percent of high school learners expend much of the day hours at school, which is a vital domicile for developing sound interaction with fellow adolescents. As a result, schools are adept to offer a tranquil setting for enlightening adolescent on healthy lifestyle (Non-Communicable Diseases Watch, 2015).

In Kenya, there are limited studies pursuing pathological Internet use, and those available chiefly focused on

adults and university student population. Equally, contrary to the accessible studies in adult samples, the researcher did not find any research dedicated to PIU severity amidst the adolescent subpopulation confined in secondary schools. Perhaps, this might be due to the challenges regarding the diagnostic criteria and the heterogeneous nature of the disorder. Although there are numerous studies reporting Internet use in adolescent and student samples across the continent and in Kenya, the researcher found no investigation that studied the severity of PIU among secondary school students.

Profoundly, PIU has severe concerns among young people in regard to biological and psychological wellbeing, understanding of PIU severity was found significant. Hence, the current study sought to assess PIU severity in the selected secondary schools in Dagoretti Subcounty, Nairobi County.

METHODOLOGY

Study Design and Ethics
The current study was conducted using quasi-experimental design to assess PIU severity 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 study was carried out in two selected secondary schools; Ruthimitu and Dagoretti mixed Nairobi County. It applied quasi-experimental research design, with requisite experimental group and control group crucial in determining the association between MET as a therapeutic treatment and the reduction of PIU symptoms. The current study, intervention (MET) was administered to the respondents in the experimental group only. This comprised of students who were diagnosed with PIU symptoms using PRIUSS; a conventional screening tool. On the baseline meeting for the survey, the researchers verbally informed the participants about the objective of the inquiry, the modus operandi and the synopsis of sessions essential for the success of the treatment.

Participants and Survey Administration
A sample size of 270 for both treatment group (n=135) and control group (n= 135) was selected at 80% power and 30% effective size. The respondents were between 14-22 years (mean age = 17.5); 155 males and 115 females. The intervention process consisted of 8-group sessions centered on MET. Session were once a week, each lasting for an hour. After the intervention there was a 3-month follow-up period.

Notwithstanding, these were group sessions, the emphasis was client-centered in conformity with the motivational interviewing theory (Miller & Rollnick, 2002). Respondents from each therapeutic group session, would agree and reflect on specific objectives to be accomplished in the following meeting.

These objectives primarily aimed at reducing PIU symptoms through increasing motivation (motivation= importance + confidence +readiness to change).

Theories: The whole psychotherapy configuration was premeditated on the grounds of two theories: Motivational interviewing (Miller & Rollnick, 2002) and Transtheoretical model (Prochaska & Norcross, 2018). There were three phase of data collection comprising baseline, midline and endline survey assessment intervention involving form one, two and three students. With the purpose of exploring level of motivation for behaviour changer for each respondent the principles of MI were accentuated and observed (Kopp, Ramseier, Ratka-Krugger & Woelber, 2017). There were eight session titles for the treatment group centered on core motivational group model for this study. These are: The introduction to the group and rapport building; Review of confidentially and exploration of habits; Administration of readiness ruler: to assess respondents' readiness to change target behavior and apply MI to mark the current stage of change; The phases of change and awareness:- involved enhancing self-confidence and self-awareness; Looking forward: Assisting respondents cultivate a sense of hope for their possible futures and improve discrepancy with current choices; Decisional balance: Pros and cons of changing and remaining the same; Supporting self-efficacy: Self talk, change success stories and exploring strengths; Planning for change and the role of importance, confidence, and desire for change (Hoffmann, Glasziou, Boutron, Milne, Perera & Moher 2014).

Follow-Up: Midline assessment marked the end of intervention phase session; next was a 3-month follow-up period. Subsequent phase was endline assessment, it was carried out to acquire additional post-treatment data that was useful in determining the intervention efficacy in reducing the severity of PIU symptoms.

Measurements
Several tools were used to identify the severity of pathological Internet use among the respondents. A

socio-demographic survey form was attached to Problematic and Risky Internet Use Screening Scale (PRIUSS) to be used in the initial meeting with the respondents prior to the intervention. Other psychometric tools applied were problematic Internet Use in adolescent (PIU-a); Internet Disorder Scale‑Short Form (IDS9-SF) and Readiness Check Ruler. The PRIUSS, PIU-a and IDS9-SF have varied number of items with a 5-point Likert scale; with 3 subscales each: i) Social Impairment ii) Emotional Impairment; iii) Risky/Impulsive Internet Use. Readiness check ruler has a scale of 1 to 10. The ruler was used to check motivation changes (motivation= importance + confidence +readiness to change) from time to time during treatment. To evaluate specific readiness of the respondents, they uttered a figure in verbatim or marked on the ruler.

Statistical Analysis
Data analysis: Data collected from the three phases were analyzed using Statistical Package for Social Science(SPSS) version 25.0 statistical software. Microsoft Excel was used to process statistical output and construction of tables and graphs. The data obtained were analyzed by descriptive statistics, independent t-test, and analysis of variance. In addition, multivariate logistic regression analysis was used to determine association between sociodemographic variables and predisposition to pathological Internet use. All statistical tests were two sided with a p-value <0.05 considered statistical significant.

RESULTS

Demographics
The study was to evaluate the severity of Internet usage and PIU trends in regard to pathological Internet use among secondary school adolescents in Dagoretti Sub-county, Nairobi. Overall, sampled schools had a total population of 1597 students. Ruthimitu Mixed Secondary School with 822 students Dagoretti Mixed Secondary School with 775 students (MoEST, 2014). Student aged 14-22, in form 2 and form 3 classes, who were present and gave their assent were included in the study. The sample population had 360 respondents (experimental and control groups) screened for PIU symptoms, including 212 (59.1%) males and 147 (40.9%) females.

Table 1 displays severity of pathological Internet use among the moderate users (4.4%) compared to pathological users (95.6%). In view of that, the pathological users of Internet seemed to be more significantly severe as opposed to the moderate users among respondents.

Table 1 Outlines the frequency of PIU specification at baseline.

Table 1: Frequency of PIU Severity at Baseline.

Variables	Frequency (%)	Mean	StandardDeviation
15-27 = Moderate Internet Users 28-56 = Pathological Internet UsersTotal	12 (4.4) 258 (95.6) 270 (100.0)	2.9556	.20646)

The frequency of respondents diagnosed with PIU had the highest percentage at 95.6% as opposed to moderate Internet users at 4.4% (see Table 1).

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

Table 2: Respondents' Mean Scores on PIU and Socio-Demographic Characteristics Distribution.

Variables	Frequency	Mean	Std. Deviation	Eta Squared
Respondent's Gender				
Male Female Grand Total	160(59.3) 110(40.7) 270(100)	2.9545 2.9565 2.9664	.20898 .20482 .20683	.000
Respondent's Age				
14-16 17-19 20-22 Grand Total	115(42.6) 150(55.6) 5(1.9) 270(100)	2.9478 2.9597 3.0000 2.9554	.22335 .19725 .00000 .20683	.002
Respondent's Level of Educ.				
Form 2 Form 3 Grand Total	132(48.9) 138(51.1) 270 (100)	2.9697 2.9420 2.9556	.17207 .23454 .20646	.005
Respondents' Family Setting				
Both biological ParentsAdopted Parents Single Parents Guardian/Foster Parents Grandparents	147(54.4) 2(0.7) 84(31.1) 11(4.1)	2.9545 3.0000 2.9419 3.0000	.20898 .00000 .23538 .00000	.015

Other relativesGrand Total	2(0.7)	3.0000	.00000	
	24(8.9)	3.0000	.00000	
	270 (100)	3.0000	.00000	

Table 4.9: Respondents' Mean Scores on PIU and Socio-Demographic Characteristics Distribution (Cont'd)

Variables	Frequency	Mean	Std. Deviation	Eta Squared
Respondents' Rel. Affiliation				
Catholic Anglican Pentecostal Adventists MuslimOthers	86(31.9)	2.9419	.23538	.009
	39(14.4)	2.9744	.16013	
	77(28.5)	2.9740	.16010	
	18(6.7)	2.9444	.23570	
	8(3.0)	3.0000	.00000	
	42(15.6)	2.9286	.26066	
Grand Total	270(100)	2.9556	.20646	
Fathers' occupation				
Not employed	78(28.9)	2.9744	.16908	.019
Casual or menial jobs	40(14.8)	3.0000	.00000	
Farmer or Agricultural activities	9(3.3)	3.0000	.00000	
Self-employed/Business	80(29.6)	2.9250	.26505	
Professionals	63(23.3)	2.9365	.24580	
Grand Totals	270(100)	2.9556	.20646	
Mothers' occupation				
Not employed	79(29.3)	2.9873	.11251	.014
Casual or menial jobs	44(16.3)	2.9545	.21071	
Farmer or Agricultural activities	7(2.6)	3.0000	.00000	
Self-employed/Business	101 (37.4)	2.9406	.23756	
Professionals	39(14.4)	2.9231	.26995	
Grand Totals	270(100)	2.9556	.20646	

The impression from the results (as shown in Table 4.9) show that the gender distribution mean PIU score for male respondents was 2.9545 + (.20898 SD) compared to female respondents mean PIU 29565 + (20482 SD). The grand mean for gender was 2.9664 + (.20683 SD) and the Eta square measure of association (.000). These findings seem to give the impression that the male respondents were insistent Internet users, perhaps this was a kind of substitution of real-time (offline) to virtual (online) social 138 interactions, hence turning out to be a vector of social reward.

Age distribution means PIU score for adolescents aged 14-16 was 2.9478 + (.22335 SD), 17-19 years at 2.9597 + (.19725 SD) and 20-22 years at 3.0000 + (.00000 SD). The age grand mean was 2.9554 + (.20683 SD) with (.002) Eta square measure of association. This implies that the respondents aged 14-16 years were inevitable problematic Internet users and may be due to the phase of life they are in where the need to explore new things is at its peak, coupled with modernity, increased individualism, reduced parental supervision, and poor social relationships; potentially responsible for the increased avoidance and substitution in the adolescent subgroup.

The education level distribution of the respondents mean score on PIU was 2.9697 + (.17207 SD) for the form two students as opposed to the PIU mean score for form three students at 2.9420 + (.23454 SD). The education level grand mean was 2.9556 + (.20646 SD) with eta square

measure association (.005). This suggests that the problematic Internet use was more predominant among the respondents from the form three class than for the students from the form two class.

With regard to respondents" religious affiliation, the mean PIU for the Catholics was mean PIU of 2.9419 + (.23538 SD) compared to Anglicans at 2.9744 (.16013 SD), Pentecostals at 2.9740 + (.16010), Adventists at 2.9444 + (.23570), Muslims at 3.0000 + (.00000 SD) and Others at 2.9286 + (.24580 SD). The grand mean for religious affiliations was 2.9556 +(.20646). The Eta square measure of association indicated (.009). This seems to imply that the use of Internet technology in churches have augmented the rate at which adolescents embraced Internet for use in diverse tasks whether they are connected totheir religiosity and spirituality or not.

The mean PIU score for the adolescents whose occupation of the father was 2.9744 + (.16908) for not employed or stay at home parents, 3.0000 + (.00000) for casual/menial jobs, 2.9744 + (.16013) for farmer/agricultural activities, 2.9250 + (.26505) for self-employed/ business and 2.9365 + (.24580) for professionals (office) employed. The grand mean for occupation of respondents" fathers was 2.9556 + (.20646) with Eta square measure of association of (.014). As for the occupation of respondents" mother, the mean PIU score was 2.9873 + (.11251) for not employed or stay at home parents, 2.9545 + (.21071) for casual/menial jobs, 3.0000 + (.00000) for farmer/

agricultural activities, 2.9406 + (.23756) for self-employed/business and 2.9231+ (.26995) for professionals (office) employed. The grand mean for occupation of respondents" mother was 2.9556 + (.20646) with Eta square measure of association of (.014).

DISCUSSION

Severity of Pathological Internet Use among the Adolescents

The study sought to establish the severity of PIU among the adolescent respondents. This was expedient in order to draw attention to the need for intervention and to assist the clinician, among other practitioners to make appropriate treatment plans. Severity of PIU was rated using PRIUSS. The PRIUSS measured social impairment, emotional impairment, and risky or impulsive Internet use, which proved to be significant prognosticators of future PIU use among adolescents.

The respondents" scores between 15-27 were categorized as moderate Internet users while the scores between 28-56 were considered pathological Internet users and were at high risk than the moderate users. In this study, the severity of pathological users among the respondents was significantly higher (95.6%) than the moderate users (4.4%) among the adolescents who participated in the study. The severity of PIU among adolescents from this study also agrees with a study by Dalbudak et al. (2013) according 181 to whose findings, a significant proportion of the respondents presented with PIU behaviors.

Results from a national survey in Taiwan showed that about two thirds (66.0%) of adolescents who have problematically or excessively used Internet reported having history of symptoms similar to disordered Internet use. This results also confirmed that almost half of the respondents aged 15-24 insistently used Internet for long hours, 79.6% of these used Internet daily, and 53.4% others experienced PIU conditions(Wu, Lee, Liao, & Ko, 2018). Findings from the current study also were in congruent with the recommendations delivered in another randomized controlled trial and follow up of behavioral therapy versus MI therapy (Simcharoen et al., 2018), where the researchers found out that 86% of pathological users of the Internet were also prone to substance abuse and other addiction disorders. They, hence recommended MET as a psychotherapeutic intervention appropriate for adolescent who have PIU and other severe conditions which are psychiatric (Pontes & Griffiths, 2017; Simcharoen et al., 2018).

In Simcharoen et al. (2018) study, the investigators also reported the subjective rating of pathological Internet severity as measured by PIU-a and the IDS9 tools; and stressed that other than obtaining a history of problematic and risky Internet use, clinicians could find it useful to be cognizant of severity ofPIU as specified by PRIUSS, in order to assess individuals" current level of social impairment, emotional impairment, and impulsive traits of Internet use (Simcharoen et al., 2018).

This current study also established that the severity of PIU was relatively higher (59.3%) for the males than for the females (40.7%). These results are also consistent with a comparable study conducted among Tunisian adolescents with a mean age of 21.8±2.2 182 years, where the results demonstrated that the prevalence of pathological users for males was found to be higher (at 51.8%) than moderate users for females (at 48.2%) (Mellouli et al., 2018). Conversely, in another study among adolescent students, 28.6% of male students and 56.3% female students were categorized as pathological Internetusers (Tang, Yu et al., 2014).

Additionally, this study found out that severity of PIU was higher among the male adolescents compared to female adolescents. Hence, it is appropriate to assert that male adolescents show more PIU behaviour than their female counterparts. However, going by findings on PIU severity from other studies, there is no conclusive consensus on gender differences in PIU, thus the need for further research on this phenomenon. The severity of PIU according to age was significantly higher (55.6%) for adolescents aged 17-19 years, compared to those aged 14-16 (at 42.6%), and those aged 20-22 (at 1.9%). Other than the variance in percentage, other researchers reported similar order of severity among students within similar age bracket (Kircaburun & Griffiths, 2018; Ko et al., 2010; Kuss et al., 2014). Likewise, the severity of problematic and risky Internet use was noted and frequently cited as a significant risk factor for PIU among adolescents and young adults (Kircaburun & Griffiths, 2018) within this age range. A research conducted in Nigeria among adolescents who use Internet in a pathological way compares with other studies which have globally linked PIU in general with other IA among adolescents (Nduanya, Okwaraji, Onyebueke, & Obiechina, 2018).

On the basis of PIU severity and education level, respondents who were in form three had a higher (51.1%) frequency of severity than their counterparts in form two (48.9%). This study aligns with another one carried out in China where severity of PIU 183 among the secondary students was significantly higher (70.4%) among students in lower classes compared to those who were in higher classes (29.6%). Another research determined that the severity of PIU among adolescents upsurgessignificantly as the respondents rise in education levels (Kuss et al., 2014).

Additionally, this study revealed that PIU among adolescents was slightly higher among Catholics at 31.9% compared to other religious affiliations such as Pentecostals at (28.5%). Proponents of IA research have found reputable statistical association between religious affiliation, adolescent Internet usage motives, and addiction in relationship with PIU behaviors (Charlton,

Soh, Ang, & Chew, 2013). Several studies have indicated that individuals become less certain that there is one true faith if they spend a great deal of time online. Typically, adolescents are more likely to seek satisfaction and comfort in virtual interactions through unrelenting use of Internet while individuals with higher moral and religious commitments recognize the need for real-time social interactions which have long-term gratification (Taymur et al., 2016). The results of this study also supports the finding by Charlton et al. (2013) among Malaysian adolescent school students, where the lowest suicide rates were found to be among Catholics and evangelical Baptists, with higher incidence occurring among Pentecostal faiths (Charlton et al., 2013; Kircaburun & Griffiths, 2018).

Another comparative study on PIU rates according to religious affiliations showed an incredible difference between Islamic believers and other religion adherents (AlFadhli, Abbas, Dashti, & Hamdi, 2014). The study revealed that PIU especially in regard to Internet pornography had drastically risen. Seventy percent of men aged 18 to 24 visit porn sites in a typical month.in Kuwait. Data from Google Trends (2011) showed that the 184 term "Sex" was mostly searched by adolescents in Islamic countries; that over 70% online files exchanged between Saudi adolescents" were pornographic materials; and up to 30% of all traffic from the country at any one time is directed to porn websites. Moreover, there are billion e-mails per day in Kuwait that are pornographic, and 35% of all Internet downloads are pornographic. In India, particularly among the Hindus, the PIU rate was 9.6% while in Christian dominant countries such as Italy, the PIU ratings were 11.2 per 100,000 populations (Taymur et al., 2016). Consequently, Taymur et al. (2016) study compares with the findings of this current study that PIU among Christians was apparently higher. Equally, another Christian researcher in an article titled "When Internet use shadows Eucharistic -body of Christ- celebration" decided to investigate why young people are browsing even when at church (Grubbs, Exline, Pargament, Hook, & Carlisle, 2015); individuals who are not devoted to their religious practices are more likely to use Internet in a pathological way, regardless of where one may be at any given time (Wilt, Cooper, Grubbs, Exline, & Pargament, 2016). This is an indication of the extent that this emerging PIU phenomenon among youthful Christians has escalated. In view of this, it could be vital to consider religiosity in any psychosocial intervention, particularly with Internet related disorders.

In relation to the occupation of respondents" parents, the result of this study revealed that respondents" mothers and fathers" employment status was a predictor of PIU among students. Self- employment of father or mother was found to be an indicator to PIU among the adolescents (37.4% and 29.6%) respectively. Consistent with this prediction, parents" economic status was positively related to IA. The result of this study was congruent with previous research which has indicated that adolescents whose parents 185 have no gainful employment were more likely to report having PIU than others (Shek& Lin, 2014).

Ak, Koruklu, and Yilmaz (2013) investigated possible predictive factors for severe PIU among Turkish secondary school adolescents and found out that that PIU behaviors were severe among adolescents who lived with their biological parents. However, the respondents" mothers" financial status predicted PIU, specifically among female adolescents (Shek & Lin, 2014). Further, Critselis et al. (2014) reported that though adolescents may have both biological parents, the conflicts in the family may affect the parenting aspects; leading to poor parental care. Hence, low family life satisfaction for the adolescents was found to be risk factors of PIU. Moreover, another study conducted in Europe indicated that respondents" family setting was a predictor of PIU behavior with its severity being higher among the respondents from families with both biological parents (Durkee et al., 2012). This result concurs with Shek and Yu (2013) who reported that adolescents living with their biological parents have a tendency of excessive Internet use, perhaps because Internet is readily available in their homes or are given extra money that enables them to access Internet easily (Shek & Yu, 2013).

Several explanations could be given in regard to family functioning being a predictor of PIU. There is a possibility that family functioning on PIU is time dependent, implying that although family functioning might affect adolescent risk behaviour during adolescence, its influence on individual behaviour might be relatively weaker later on as the adolescent rises in personal autonomy. On another perspective, family intactness could be expected to play some roles in adolescent PIU (Shek, Xie, & Lin, 2014). The reasoning here would be that adolescents from broken families generally exhibit more 186 risk behaviors in comparison to those from intact family settings. Generally, the effect of family intactness combined with parents" employment status remains significant and the risk of using Internet pathologically can be significantly higher for those from either extreme of the two factors (Leung &Shek, 2013).

From an empirical perspective, Shek and Yu (2013) asserted that adolescents from marital unstable families showed a higher level of PIU than did those from intact families. Equally: Xu, Shen, & Yan (2014) found that adolescents who experienced inappropriate parent-adolescent interaction presented with more symptoms of PIU including social impairment, emotional impairment, and impulsive Internet use. Health interaction between adolescent and other significant others in the family and family consolidation, that is living with both biological parents was positively related to the occurrence of PIU in adolescents, contrary to many existing findings that adolescents from families where parents separated or divorced tend to show more PIU symptoms. This implies

that respondents in the present study developed PIU behaviors, as a result of other factors, such as cheap Internet connectivity, and easy access and availability of Internet enabled gadgets in schools and homes.

CONCLUSION

The current study revealed that PIU strongly associated with adolescents' subpopulation, which strongly supports that the phenomenon among students might be critical than presumed. This study found out that severity of PIU was higher among the male adolescents compared to female adolescents. Hence, it is appropriate to assert that male adolescents show more PIU behaviour than their female counterparts. The severity of PIU was more among the male respondents aged 17-19 compared to those aged 14-16 years and 20-22 years. Additionally, the study indicated that form three students were more vulnerable of PIU trends than other students. This study is also reminiscent for the mental health providers and health policy makers; that early intervention and treatment of PIU and other mental health concerns related to internet usage is inevitable from the perspective of resolving overall adolescent health burden strongly associated to the current artificial intelligence and 'Internet Plus' epoch. Besides, a significant association was found between motivation to change (Motivation = Importance + Confidence + Readiness to change) and PIU behaviors.

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