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Substance Use and Risky Sexual Behaviors Among School-Going Adolescent Refugees: A Study of Kyaka II and Kyangwali Refugee Settlements in Western Uganda

Namaganda Zaharah [1*], Mugyenyi Edison [2], Deborah Ojiambo [3]
[1] PhD Scholar, Department of Counselling and Higher Education, Ohio University, USA
[2] College of Education, Kampala International University-Kampala, Uganda
[3] School of Psychology, Makerere University-Kampala, Uganda

* Corresponding Author: **Namaganda Zaharah**

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Abstract
This study investigated the relationship between peer influence and substance use among school-going adolescent refugees in the Kyaka II and Kyangwali refugee settlements in Western Uganda. The primary objective was to assess the extent to which peer influence is associated with substance use among adolescents in these settlements. A total of 136 students (48 males and 88 females) from Senior One to Senior Four were selected using a simple random sampling method from two secondary schools in the settlements. A correlational research design was employed, and data were collected using structured questionnaires. Pearson's correlation analysis revealed no statistically significant relationship between peer influence and substance use ($r = -0.101$, $p > 0.05$). These findings suggest that peer influence does not directly predict substance use among adolescent refugees in this context. The study concludes by emphasizing the importance of exploring other contextual factors that may influence substance use behaviours and recommends the development of school-based programs aimed at addressing the broader psychosocial needs of refugee adolescents. Further research is needed to identify additional determinants of substance use in this vulnerable population.

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1. Introduction

Substance use among adolescents is a global issue, affecting millions of young people each year. According to the UNODC World Drug Report (2018), by 2016, over 13.7 million adolescents aged 15-17 years had used illicit substances. Similarly, in the United States, Bender *et al*. (2014) [6] found that between 28% and 48% of school-going adolescents engaged in substance use. The issue is even more prevalent in displaced settings, where adolescents face increased vulnerabilities. Hanson *et al*. (2014), NIDA (2014), and UNODC (2015) have highlighted that the use of tobacco, alcohol, and other illegal substances poses significant challenges for children and adolescents in refugee settings. Adolescent refugees, in particular, represent a distinct and vulnerable group. These young people are often exposed to difficult circumstances such as displacement, trauma, and the breakdown of family and social structures. Jennings *et al*. (2019) [31] emphasized that adolescent refugees, due to their challenging life situations such as lack of access to education and healthcare, stigma, violence, and mental health struggles are often referred to as persons of concern (PoCs), which makes them especially susceptible to engaging in substance use.

In Africa, the National Youth Risk Behavior Survey (NYRBS, 2011) found that 6.9% of school-going adolescents between the ages of 12 and 17 in refugee settings were at risk of substance use disorder. DuPont *et al*. (2013) [20] reported that by late adolescence, 78.2% of these adolescents had consumed alcohol and other substances, with the average onset occurring at age 14. In Nigeria, Eneh and Stanley (2004) [22] observed a high prevalence of substance use among young refugees, with Afolabi *et*

al. (2012) [2] noting that 87% of refugee students in four secondary schools in Rivers State had used at least one substance, including alcohol (65%), marijuana (63.1%), and cigarettes (61%). The factors contributing to substance use among adolescents in refugee settings are multifaceted. Ezard *et al*. (2011) [23] suggested that the vulnerabilities of adolescents ranging from peer influence, identity struggles, disrupted social norms, and self-medication for mental health issues significantly increase their likelihood of engaging in substance use. Furthermore, Bender *et al*. (2014) [6] and Sowey (2017) highlighted that refugee adolescents often face higher stress levels, cultural dislocation, and exposure to violence and trauma, which contribute to their susceptibility to substance abuse.

In Uganda, which is the third-largest refugee-hosting country in the world, over 1.5 million refugees have sought refuge, including 345,851 adolescents, many of whom are at risk of substance use. A report by the NDA (2015) indicated that substance use among adolescents in Uganda's refugee settlements had alarmingly increased by 45%, particularly among unemployed school-going youth. Additionally, the Uganda Police Annual Report (2018) documented a rise in substance trafficking and use, exposing adolescents to further risks such as risky sexual behaviors, including sex under the influence of substances or exchanging sex for drugs (Pelzer, 2010) [42]. For example, Robert and Kristin (2004) found that 60% of Rwandan, Burundian, and Congolese teenagers in Ugandan refugee camps routinely exchanged sex for drugs, food, shelter, or protection.

The influence of peers is another critical factor in substance use among adolescents in refugee settings. Birkenshaw (2017) [8] observed that adolescent refugees are highly susceptible to peer influence, which often results in the use of substances and associated risky behaviors such as unprotected sex, early sexual initiation, and multiple sexual partners. Abbott and Dalla (2008) [1] further suggested that peer influence increases the likelihood of these adolescents engaging in substance use and risky sexual behaviors in group settings. Carter *et al*. (2007) [11] proposed that adolescents' limited self-reliance makes them particularly vulnerable to peer pressure, which may lead to harmful behaviors such as substance abuse.

In Uganda, the increasing involvement of immigrant youth in substance use has been linked to higher levels of stress, difficulty in adapting to new cultures, exposure to war trauma, and co-occurring mental health challenges (Bender *et al*., 2014) [6]. Sowey (2017) reported a 47% increase in substance use among school-going adolescent refugees, highlighting their limited ability to resist peer influence and the higher risk of engaging in such behaviors. Without targeted interventions, the consequences of substance use may escalate, leading to early marriages, unplanned pregnancies, STDs, and other public health challenges (Mugyenyi *et al*., 2023) [38].

Given these concerns, this study seeked to examine the relationship between peer influence and substance use among school-going adolescent refugees in the Kyaka II and Kyangwali refugee settlements in Western Uganda. By understanding the extent of peer influence in shaping substance use behaviours, this study aims to inform the development of targeted school-based interventions and policies to address substance use among adolescent refugees in these vulnerable settings.

2. Literature Review

Edge, Newbold and Keary (2014) [21] reported that adolescents form a substantial proportion of the most vulnerable population in refugee situations. In 2017, children under 18 years old constituted more than half (52%) of the refugee population in Uganda engaged in substance use (IAWG, 2019). Adolescents become autonomous which leads to increased desire to make independent decisions some of which could be risky in order to get a sense of belonging (Rosenberg, 2015). Mwenyango and Palattiyil (2019) indicated that adolescent refugees face added challenges due to displacement, stigma and discrimination, disruption of family and social structures, gender imbalances between men and women, violence and mental health challenges, which expose them to peer groups from which they learn to engage in risky activities such as substance use. For example, some unaccompanied adolescents and those separated from their families during transition start experimenting with substances such as alcohol, tobacco to get a sense of belonging from their peers (UNHCR, 2019).

Adolescence is a period of transition involving sensation seeking and experimentation in risky behaviors such as the use of substances of addiction (Das *et al*., 2016) [17]. Peer substance use is perhaps the most pervasive environmental risk factor for individual use during adolescence and young adulthood (Neighbors, Foster & Fossos, 2013) [39]. Peer influence on adolescents' behaviors may take place through two processes: a direct process, whereby individuals are compelled to engage in behaviors through overt peer pressure, such as direct offers to use substances; or an indirect process, whereby individuals change their behaviors in line with the observed behaviors of others or perceived normative information (Neighbors *et al*., 2013) [39]. Despite the popular opinion that adolescent substance use is the result of peer pressure (Fisher *et al*., 2007) [24], research indicates that indirect processes may have greater influence on substance use than direct pressure (Simons-Morton *et al*., 2001). Additionally, social learning theory (Bandura, 1977) [5] is a particularly enduring explanation of peer influence on behaviors. This approach suggests that substance use behavior may be learned vicariously through observation of the substance-related attitudes and behaviors of role models, and by reinforcement of substance use by these models. Observation of models' behavior is believed to influence an individual's outcome expectancies regarding that behavior.

Gallupe, McLevy and Selection (2018) [26] noted that peer influence is a complex issue due to the potentially wide variety of contexts involving friendships and social networks. The literature puts forth two theories to explain the influence of peers on substance use among adolescents: social influence and social selection. Social influence theory states that deviant peers directly and indirectly influence illicit drug use and other risk behaviors during adolescence through peer pressure, modeling, and behavioral reinforcement. Social selection theory states that adolescents search for deviant friends based on pre-existing deviant tendencies.

Adolescence is a phase where young people need autonomy. It is characterized by adolescents' physical and psychological distance from parents (Kwan, *et al*. 2014) [37]. In refugee settings, adolescents are always looking at their peers as the source of values and behaviors (Kimberly, 2003) [33]. Though peer influence is strong, families are influential in behavioral outcome among adolescents since family is the first social group where adolescents belong (Bahr, Hoffmann & Yang,

2005) [4]. Many adolescents either migrate unaccompanied across national and international borders or are separated from their families during transition (UNHCR, 2018). Bahr *et al*, (2005) [4] concluded that the lack of a stable family structure makes peer influence to have a stronger influence on adolescents' decision to use drugs. Adolescents are susceptible to peer influence because of their limited self-reliance, inability to act independently of the influence of their peers (Steinberg & Monahan, 2007) and other developmental challenges typical of adolescents.

According to Bohnert, Bradshaw and Latkin (2009) [9], peer influence is regarded as one of the factors associated with substance use. Jaccard and Levitz (2015) [29] stated that negative influence of friends on drug use is sometimes high among school going adolescent refugees. This finding is a further demonstration of the impact of social norms and learned behaviors on the use of substances among adolescents (Birhanu, *et al*., 2014) [7]. Peer pressure exerts a very powerful influence on behavior, especially in young people in refugee settings (Fothergill, *et al*., 2009) [25]. Peer relationships play a central role in an adolescent's life, comprising a social context for the development of a young person; children and teenagers are particularly susceptible to peer influence due to the utmost importance of peers at this developmental stage; moreover, the effects of peer influence are stronger during adolescence than in adulthood (Kiuru, *et al* 2010) [34].

Similarly, Adolescents have a moderate to strong influence impact on their peers' risky behavior (Jaccard, Blanton & Dodge, 2005) [30]. Adolescent refugees are susceptible to peer influence in that it has been observed that they are more likely to engage in risk taking while in groups than alone. Adolescents, with their limited degree of self-reliance, which interferes with their ability to act independently of the influence of their peers, may be more easily driven towards engaging in risky behavior (Cauffman& Steinberg, 2006) [12]. Impulse control or sensation seeking by immigrant youths also plays an important role in the degree to which they might engage in risk taking behavior (Jaccard *et al*, 2005) [30]. The results of a study that examined risk taking and decision making supported the idea that adolescents are more inclined than those of other age groups to engage in risky behavior and make risky decisions, and that peer influence plays an important role in explaining such behavior during adolescence (Garder& Steinberg, 2003) [27].

Adolescent refugees' alcohol consumption is closely associated with the drinking behavior of their peers in order to cope with the challenges of displacement and discrimination in their communities (Richmond *et al*., 2012). It may thus be concluded that peer influence exerts a role in explaining the willingness to drink alcohol. Furthermore, Deutsch, Steinley and Slutske (2014) [19] asserted that, there is some research showing the different aspects of this process: peer norms, direct and indirect influences, and popularity and friendship effects. However, the similarity in drinking behavior patterns may arise from two different processes; the influence of peers on a person's behavior or the preference of a person to associate with similar others (Steglich *et al*., 2010).Knecht *et al*., (2011) [35] asserts that in order to evaluate peer influence, it is necessary to disentangle it from the tendency to affiliate with people with similar behavior.

Singh, Thornton, and Tonmy (2011) stated that familial risk factors such as familial substance use, marital status of parents, and level of parental education, parent-child relationships, familial socioeconomic status, child's perception that parents approve of their substance use have greatly contributed to the onset of substance use among adolescents. Snedker, Herting, and Walton (2009) added that childhood maltreatment including physical abuse and neglect, has been linked to increased risk for adolescent substance use, with one study reporting 29% of children who experienced maltreatment participating in some level of substance use and another reporting 16% of maltreated children abusing substances. Skeer *et al*. (2011) found out that though many risk factors for adolescent substance abuse and dependence are external, there are some individual factors such as mental illness that contribute to the risk of developing a substance use disorder. Adolescents diagnosed with inattention deficit hyperactivity disorder (ADHD), depression, posttraumatic stress disorder (PTSD) are at greater risk for adolescent substance abuse.

According to Trucco, Colder, Bowker, and Wieczorek (2011), entry into deviant peer groups has also been shown to be significantly associated with negative parent-child relationships, which can cause adolescents to seek deviant connections in their social sphere. Cheng and Lo (2010) [14] asserted that positive parent-child relationships serve as a protective factor against substance use. Adolescents who grow up in unstable community environments (defined to include lower levels of employment and less access to resources) are less susceptible to deviant peer influences (Piko & Balazs, 2012) [43]. This may be because privileged adolescents may not be exposed to substance use except via peers, whereas underprivileged adolescents face more risk factors, and thus peer influence decreases comparatively. It may also be a result of lower perception of risk of mild experimentation with substances within privileged communities (Clark *et al*., 2011) [16].

Peer pressure and perceived popularity have been shown to be associated with increased risk for adolescent substance use (Clark, Ringwalt, & Shamblen, 2011) [16]. This is specifically when adolescents believe that their popularity within a peer group increases with the use of substances, they are more likely to participate in such substance use. Tucker, Green, Zhou, Miles, and Shih (2011) found out that adolescents who self-identify as popular have shown to have increased prevalence of substance use compared to those who do not identify this way. Additionally, adolescents who seek to be the leaders of a group or to stand out above others are more inclined to smoke cigarettes, which can be perceived as an association with maturity, whereas those who seek to be accepted by a group are more inclined towards alcohol use, which is perceived as a communal activity (Trucco *et al*., 2011). Similarly, boys may also be more likely to engage in smoking to improve their social image, whereas girls more often do so as a form of stress relief (Chen *et al*., 2011) [13]

3. Materials and Methods

A correlation study design was used to examine the relationship between peer influence, substance use. It employed a quantitative method where data was collected and managed numerically (Alan, 2012) [3]. The study was conducted in western Uganda at Kyaka II and Kyangwali refugee settlements in Kyegegwa and Kikuube districts. The study population comprised of S.1 to S.4 students from two secondary schools in two refugee settlements in Western Uganda that is; Bujjubuli secondary school in Kyaka II Kyegegwa district and Kyangwali secondary school in

Kyangwali refugee settlement in Kikuube district. Using Krejecie and Morgan's (1970) formula that calculates a representative sample, from a population of 210, a sample size of 136 respondents was obtained and used in the study. Using a simple random sampling technique, a sample of 34 respondents from each class was selected. The demographic questionnaire included name of the school, class of study, age, sex and religion of the participant. A Peer Pressure Inventory (Clasen & Brown, (1985) [10] was used to measure adolescents' peer influence. The scale has 22 items and measured on a five-point scale from (1) strongly agree to (5) strongly disagree. In Africa, the tool was used among the school going adolescents and the reliability was found to be 0.837 (Palani & Mani, 2016). The tool was pretested in Kampala with a sample 20 school going adolescent urban refugees and the reliability was found to be 0.704. Substance use was measured using the Substance Abuse Scale (SAS, 2013) adopted from National Drug Authority Uganda. The instrument was administered to measure substance use. The scale has 21 items and measured on a five-point scale from (1) strongly agree to (5) strongly disagree. In Uganda, this instrument was used among the school going adolescents and the reliability was found to be 0.702 (Katende, 2019; Nkurunungi, 2018) [32, 41]. In Kampala, the tool was pretested with a sample of 20 school going adolescent urban refugees and it had a Cronbach's alpha of 0.726. To ensure reliability and validity; the instruments were pretested to a sample of 20 high school going refugee students in Kampala. After the pretest, data was analyzed using SPSS and a reliability test was ran to obtain cronbach's alpha coeffients and the results are as given below;

Table 1: Reliability Statistics for the Scales of the Study Variables

Variables	Number of Items	Cronbach's Alpha
Peer influence	.704	22
Substance use	.726	21

Table 1 manifests a high reliability of items and all the scales are good measures of the variables based on recommendations by (Cho & Kim, 2015) [15] who indicated that having a Cronbach's alpha of 0.70 to 0.80 and above indicates good internal consistency reliability. In this pilot study therefore, peer influence with 18 items had a Cronbach's alpha of .704, substance use with 21 items had Cronbach's alpha of .726

Data was entered into the Statistical Packages for Social Scientists (SPSS) version 22 (IBM, 2015). Then the data was descriptively analyzed and summarized into frequencies and percentages to determine the socio-demographic features of the participants. The hypothesis that stated that, there is a significant relationship between peer influence and substance use among school going adolescent refugees was tested using Pearson correlation co-efficient analysis.

Approval of the proposal was obtained from the School of Psychology, Department of Mental Health and Community Psychology, Makerere University to proceed with the study. Permission was sought from the school authorities. The purpose of the study was clearly disclosed to the respondents as being strictly academic. Confidentiality of respondents' information was further emphasized and assured by informing them not to write their names on the questionnaires. The respondents were asked to give their consent by signing a consent form which was given to them before the questionnaires were distributed. Students who were not feeling comfortable to participate in the study were excused. None of the respondents was coerced to participate in the study. That helped the researcher to foster chances of truthfulness from the respondents. The students were asked to observe the standard operating procedures (SoPs) by washing hands and putting on masks before the carrying out the exercise to avoid the spread of COVID 19.

4. Results and Findings

Demographic Information

Respondents were asked about their demographic information and this included their gender, age, class, sex, religion and name of school. Below are the results of their responses presented in frequencies and percentage.

Table 2: Frequency and Percentage Distribution of Demographic information

	Item		Frequency (n=136)	Percentage (%)
1.	Age of respondents	13	2	2
		14	3	2
		15	7	5
		16	21	15
		17	46	34
		18	29	21
		19	12	9
		20	9	7
		21	3	2
		22	3	2
		24	1	1
	Total		136	100
2.	Class of respondents	S.1	13	9
		S.2	15	11
		S.3	20	15
		S.4	88	65
	Total		136	100.0
3.	Sex of respondents	Males	48	35.8

		Females	88	64.2
	Total		136	100.0
4.	School of the respondents	Kyangwali secondary school	39	28.9
		Bujubuli secondary school	97	71.1
	Total		136	100.0
5.	Religion of respondents	Catholic	42	30.9
		Protestant	44	32.4
		Moslem	27	19.9
		Others	23	16.9
	Total		136	100.0

Field data

Majority of the participants in the study were females and these made up 64.7% (88/136) while the male respondents made 35.3% (48/136). Results from table 2 also indicate that majority of the respondents 34%were aged 17 years from senior four represented by 65% of the sample. It was still observed that majority of the respondents were from Bujubuli secondary school with 71.1% and 28.9% were from Kyangwali secondary school. Results also showed that majority of the respondents were Protestants represented with 32.4% of the sample.

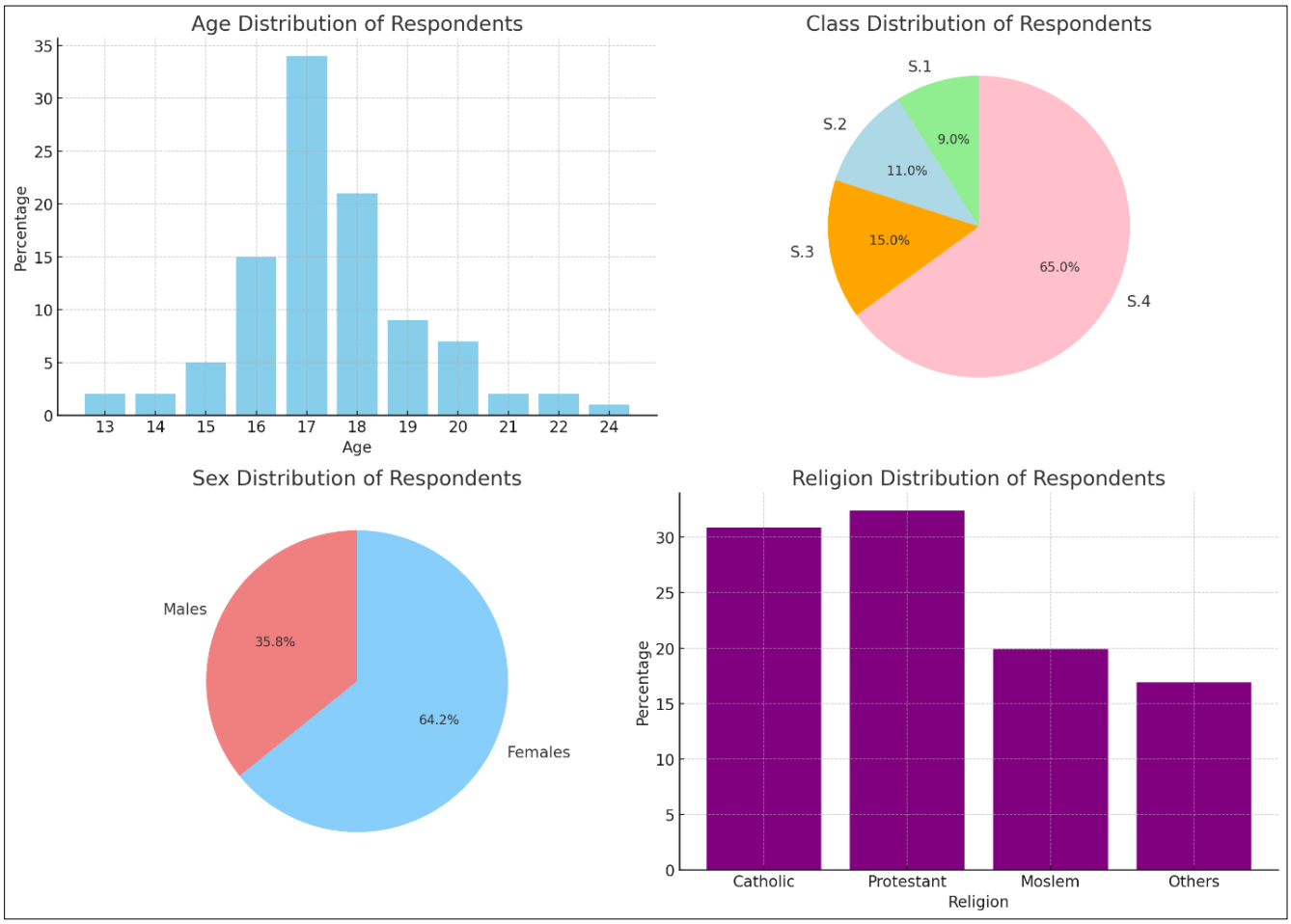

Fig 1: Graphical representations of demographics

Table 3: Pearson's Correlation Analysis for Peer influence and Substance use

		1	2
1. Peer Influence	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	105	
2.Substance Use	Pearson Correlation	-.101	1
	Sig. (2-tailed)	.356	
	N	85	85

Field data

Table 3 indicates that peer influence and substance use are not significantly related (r = -.101, P>0.05). The alternative hypothesis is not supported and it is concluded that there is no significant relationship between peer influence and substance use among school going adolescent refugee students.

5. Discussion, Conclusion and Recommendations

Objective one sought to examine the relationship between peer influence and substance use among the school going adolescent refugees. It was hypothesized that there was no significant correlation between peer influence and substance use among the school going adolescent refugees. Following data analysis, the results revealed that there were no significant relationships between peer influence and substance use.

The results of the study are not in agreement with Erikson's psychosocial development theory which states that people's personality develops in a series of stages and through the power of social experience across the individual's lifespan. Ego identity is the conscious sense of self developed through social interaction and during adolescence between the ages 12 to 18 years. Adolescents become autonomous and develop the sense of self which leads to increased desire to make independent decisions some of which could be risky in order to get a sense of belonging (Rosenberg, 2015). Mwenyango and Palattiyil (2019) added that adolescent refugees face added challenges due to displacement, stigma and discrimination, disruption of family and social structures, violence and mental health challenges which expose them to peer groups from which they learn to engage in risky activities such as substance use. For example, some unaccompanied adolescents and those separated from their families during transition start experimenting with substances such as alcohol, tobacco to get a sense of belonging from their peers (UNHCR, 2019).

The findings of the study were consistent with the results of Schneider (2010) who revealed that vast majority of the young people in refugee settings do not use drugs and those who do use them have been exposed to different significant factors related to substance. It is a misconception that all young people are equally vulnerable to substance use and that harmful use of substances ignores the scientific evidence, which has consistently shown that individuals differ in their susceptibility to substance use (Vera *et al*., 2007). Specific influential factors vary between immigrant individuals, and no factor alone is sufficient to lead to harmful use of substances, a critical combination of risk factors that are present and protective are absent and makes the difference between a young person's brain that is primed for substance use and one that is not (Skeer *et al*., 2011).

The study results are in agreement with the findings of Denault and Poulin (2012) [18] who reported that though the age of 12–17 years is a critical risk period for the initiation of substances among the school going adolescent refugees, peer influence may not necessarily be responsible for that behavior. Many young refugees use drugs to cope with the social and psychological challenges faced in the new environments and those they experience during their transition from adolescence to young adulthood ranging from the need to feel good or simply to socialize, to personal and social maladjustment. Substance use is part of the normal transition during adolescence; therefore, lacks of a significant relationship is supported with the explanation that experimentation with different behaviors is part of the natural process of separating from parents and attain acceptance and popularity with peers (Schneider, 2010). This involves developing the sense of identity, belonging, autonomy, maturity, seeking fun and adventure, and/or rebelling against authority. Adolescents may view engaging in tobacco, alcohol and other drug use may be seen as a functional way of achieving independence or popularity, along with other developmental objectives though with regrettable consequences.

However, Neighbors, Foster and Fossos (2013) [39] reported about substance use being perhaps the most pervasive environmental risk factor for individual use during adolescence and young adulthood which is not in line with the study findings. Furthermore, the scholars reported that peers during displacement might be driven to engage in risky behaviors through overt peer pressure, such as direct offers to use substances; or an indirect process, whereby individuals change their behaviors in line with the observed behaviors of others or perceived normative information. Kwan, *et al*. (2014) [37] also found out that adolescence is a phase where young people need autonomy. This is characterized by adolescents' physical and psychological distance from parents as they look at their peers as the source of values and behaviors. Refugee adolescents are susceptible to peer influence because of their limited self-reliance, inability to act independently of the influence of their peers since they are the people they spend most of their time with after separation with their families during migration and other developmental challenges typical of adolescents (Bahr *et al*., 2005) [4].

It is possible that the difference in the results in the humanitarian settings such as Kyaka II and Kyangwali refugee settlement, universal community-based interventions were used to help school going adolescent refugees to overcome the problem of substance use due to peer influence. Universal community-based interventions used include; awareness raising, sensitization of learners, psychotherapy being done by child protection organizations to prevent substance use and have exclusively been implemented and evaluated in schools (UNHCR, 2020). Such prevention programs are aimed at reducing various modifiable risk factors known to increase the likelihood of initiation of substance use as a result of peer influence among school going adolescent

6. Conclusion

The study set out to examine the relationship between peer influence and substance use among school-going adolescent refugees. The findings revealed no statistically significant relationship between the two variables, suggesting that peer influence alone may not be a primary determinant of substance use in this context. These results challenge theoretical assumptions that emphasize peer pressure as a dominant factor in adolescent behaviour, such as those found in Erikson's psychosocial development theory. Instead, the findings point to a more complex interplay of factors such as displacement-related trauma, family separation, and psychological stress that may shape substance use behaviours among adolescent refugees. The presence of protective measures and structured support systems in refugee settlements may also contribute to weakening the impact of peer influence on substance use.

7. Recommendations`

Based on the findings of this study, the following recommendations are made:

It is recommended that psychosocial support systems within refugee settlements be strengthened to address the emotional and psychological challenges faced by adolescent refugees. Many of these youths have experienced displacement, loss,

and trauma, which may lead them to engage in risky behaviors such as substance use. Access to counseling services, mental health professionals, and safe spaces for emotional expression can help adolescents develop healthier coping mechanisms and reduce their vulnerability.

Schools should play a more active role in preventing substance use by conducting regular awareness and sensitization campaigns. These programs should focus on educating students about the dangers of substance use and equipping them with skills to resist negative influences. Teachers and school counselors should be trained to identify early signs of substance use and provide timely support and intervention.

Parental and guardian involvement must also be encouraged to create a strong support system around adolescent refugees. Programs that engage parents or guardians in the education and wellbeing of their children can foster better communication and trust within families. Strengthening family bonds is vital in promoting a sense of belonging and reducing adolescents' reliance on potentially harmful peer groups.

Finally, it is important to establish partnerships between schools, community-based organizations, and NGOs to implement coordinated, context-specific interventions. These collaborations can enhance the reach and effectiveness of prevention efforts. Additionally, further research is needed to explore other factors influencing substance use among adolescent refugees, such as individual resilience, community dynamics, and cultural influences, to better inform future programming and policies.

8. Limitations of the Study

This study was limited by its reliance on self-reported data, which may be subject to social desirability bias, especially given the sensitive nature of substance use among adolescents. Respondents may have underreported or misrepresented their behaviors to conform to perceived social expectations. Additionally, the study focused only on school-going adolescent refugees, excluding out-of-school youths who might exhibit different patterns of substance use and peer influence. The sample was also geographically limited to selected schools in specific refugee settlements, which may affect the generalizability of the findings to other refugee populations or regions. Moreover, the cross-sectional design of the study did not allow for observation of changes in behaviour over time or the directionality of the relationship between variables.

9. Suggestions for Further Research

Future research should consider using longitudinal designs to track changes in substance use behaviours over time and better understand causal relationships. Including both school-going and out-of-school adolescent refugees would provide a more comprehensive understanding of the dynamics influencing substance use. Qualitative studies could also be conducted to explore in-depth personal experiences, motivations, and contextual factors affecting substance use that may not be captured through quantitative methods. Additionally, future research should examine the role of other potential influences, such as family dynamics, community norms, cultural beliefs, and accessibility of substances, to provide a more holistic view of substance use behavior among adolescent refugees.

10. Conflict Of Interest

The authors declare that they have no conflict of interest.

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12. About the Author(s)

1. Namaganda Zaharah, Ohio University - USA
2. Deborah Ojiambo, Makerere University - Kampala Uganda
3. Mugyenyi Edison, Kampala International University-Kampala Uganda

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