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Examining the Determinants of Substance Use among Senior High School Students in Ghana in the Tamale Metropolis

James Kwame Mahama[1] , Alhassan Lukman Chinto[2] and **Amadu Abudu[3]**
[123]*University for Development Studies, Ghana*

Corresponding Author: James Kwame Mahama E-mail: james.mahama@uds.edu.gh

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ABSTRACT

This study investigated the prevalence of substance use and factors that influence substance use among Senior High School (SHS) Students at Tamale Metropolis in the Northern Region of Ghana. The philosophical orientation for this study was positivism and the research approach used was Quantitative. The study employed a descriptive survey study approach. The accessible population for the study was 3150 students. Thus, the sample size adopted for this study was 315. The students filled out a structured questionnaire with closed-ended questions and multiple-choice Likert scale items. Data was described and summarised by frequencies and percentages. The statistical tool used for the analysis of results was SPSS version 24. The findings revealed that the media, the location of the school, broken families, and peer pressure did have influence on students' use of substance. Frequently abused drugs were identified as tobacco, painkillers (tramadol), antibiotics, and emergency pills. Cannabis, alcohol, stimulants, sedative drugs, and inhalants such as petrol and glue were used less frequently amongst the students. Strategies to curb drug and substance abuse included establishing good relationships and communication between parents and their children, religious interventions, providing basic needs, offering guidance and counselling services, enforcing strict parental control, and enforcing strict school rules and regulations. It was recommended that the Ministry of Education was advised to add drug education as a stand-alone subject to be taught in second cycle schools in Ghana.

1. Introduction

Drug use is a worldwide issue that spans all geographic, demographic, social, and economic boundaries (Johnson et al., 2022). Lakhanpal and Agnihotri (2007) define drug and substance abuse as the excessive reliance or misuse of a specific drug, whether prescribed by a qualified healthcare professional or not. Oluremi (2012) views drug abuse as the detrimental use of mind-altering substances. This problem extends globally and poses a substantial threat to the well-being of individuals, similar to how many countries' political security (United Nations, 1998). Substance abuse encompasses the harmful utilization of prescription drugs, over-the-counter drugs, and illicit substances such as marijuana, cocaine, tobacco, morphine, heroin, ephedrine, alcohol, glue, barbiturates, caffeine, and amphetamines (Moses, Augustina & Rahama, 2018). Research suggests that approximately 25-50% of teenagers partake in hazardous behaviours that have detrimental effects on their health and behaviour, including substance abuse, unintended pregnancy, and sexually transmitted infections (Weissberg, Caplan, and Harwood, 2015). Adolescence is

commonly seen as a challenging stage in one's life, characterized by turbulent experiences and emotional strain (Takanishi, 2017). It has been labelled as a phase that poses significant threats to overall well-being (Takanishi, 2017). As a student moves from junior high to senior high school, there is an observed increase in the occurrence of various issues such as depression, thoughts of suicide, and substance abuse (Dubow *et al.*, 2016). According to a report by the Substance Abuse and Mental Health Services (2024), 9.4% of American youths 12 and older who take drugs illegally do so, while marijuana use among the same age group was reported at 7.3%. Additionally, 52.2% of adolescents were found to be alcohol users, and 25.5% were tobacco users (SAMHSA, 2016). One of the prevalent difficulties connected to drug use among students is the ability to fulfil academic responsibilities. The National Institute on Alcohol Use and Alcoholism (2005) reported that approximately 25% of students in the United States face academic challenges since using drugs. Owen, Stevenson, and Hadwin (2012) observed that a significant number of students who engage in drug abuse exhibit indiscipline and experience paranoia, which is characterized by elevated rates of anxiety, mistrust, anxiety, suspicion, depressive symptoms, and anxiety. The learning process and academic achievement of the children are negatively impacted by these consequences. Ibrahim *et al.* (2019) did a study in the Nigerian state of Sokoto that revealed alcohol use among secondary school students resulted in consequences such as low grades, frequent class absences, falling behind in school work, and difficulty in meeting academic responsibilities. Similarly, in a study by Kavutha (2015) drug usage among students was linked to high rates of absenteeism, a lack of focus in class, memory loss, unfinished assignments, cheating on tests, and generally subpar academic performance, according to research conducted in Kenya's Matinyani District. Research has demonstrated that when there is an increase in perceived risk and social disapproval associated with a specific substance (such as crack), the nationwide usage of that substance among high school students typically decreases (Bachman, Johnston, & O'Malley, 1990; Bachman, Johnston, O'Malley, & Humphrey, 2005).

A study conducted in Ghana highlighted that Ghana ranks as the third-largest consumer of marijuana globally, with 21.5% of its citizens between the ages of 15 and 65 being heavily involved in its use (Ghanaweb, 2016). Research conducted in Ghana has primarily focused on the prevalence and nature of drug use among the youth, with limited examination of the key factors influencing drug use and their consequences on child development. Local studies by Affinnih (1999a, & 1999b), Doku (2012), Kwofie (2018), Ganu (2018), and Olurishe (2019) have predominantly concentrated on determining the extent and characteristics of drug use. Consequently, there is a lack of comprehensive understanding regarding the factors associated with drug use and their specific impacts on individuals. Further investigation into these factors is necessary to gain a deeper understanding of the issue and to inform more targeted and effective interventions and policies.

2. Literature Review

2.1 Theoretical Framework

The theory that underpin this work is the Social Learning Theories of Experimental Substance Use (ESU). Other theorists have shifted attention away from the substance-specific beliefs of adolescents and toward the possible causes of those beliefs. As early as 1939, sociologist Edward Sutherland's differential association theory identified one of those causes by suggesting that delinquent behaviours (such as ESU and crime) are socially learned in small, informal groups. Subsequent sociologists (e.g., Akers, 2019) and cognitively oriented psychologists (e.g., Bandura, 1977,1986) have built upon Sutherland's (1939) assertion that adolescents acquire their beliefs about delinquent behaviours from their role models, especially close friends and parents. Thus, when compared with cognitive-affective theories, the following social learning theories of ESU focus on interpersonal or social influences as much as cognitive-affective influences. Social learning theory.

As with the cognitive-affective theories, Akers' (Akers, 2019; Akers & Cochran, 2015; Akers, 2010; Krohn, Akers, Radosevich, & Lanza-Kaduce, 2010) social learning theory (SLT) assumes that substance-specific cognitions (called definitions in the language of SLT) are the strongest predictors of adolescent ESU. However, SLT does not assume that the roots of ESU originate in an adolescent's own substance-specific cognitions. Rather, SLT begins at a more distal point and assumes that ESU originates in the substance-specific attitudes and behaviours of people who serve as an adolescent's role models. Specifically, SLT asserts that an adolescent's involvement with substance-using role models is likely to have three sequential effects, beginning with the observation and imitation of substance-specific

behaviours, continuing with social reinforcement (i.e., encouragement and support) for ESU, and culminating in an adolescent's expectation of positive social and physiological consequences from future ESU. The anticipated consequences of ESU might be largely social in nature during experimental use (taking the form of acceptance or rejection by peers) and might become largely physiological in nature during subsequent stages (taking the form of positive or negative physiological reactions to the substances themselves). Much like the cognitive-affective theories, SLT concludes by asserting that an adolescent who expects substances to produce more personal benefits than costs will be at risk for ESU.

2.2 Social cognitive/learning theory.

Bandura's (1986) social cognitive/learning theory (SC/LT), when applied to ESU, also argues that adolescents acquire their beliefs about ESU from their role models, especially close friends and parents who use substances. Specifically, SC/LT asserts that exposure to friends and parents who use substances will shape ESU by shaping two substance-specific beliefs. First, observing role models who experimented with substances will directly shape adolescents' outcome expectations, which are their beliefs about the most immediate and most likely social, personal, and physiological consequences of ESU (cf. the expectancy component of attitudes in TPB). Thus, observing parents use alcohol to relax or observing peers smoke marijuana to smooth social interactions will shape adolescents' beliefs about the consequences of, and their attitudes toward, their own ESU. SC/LT goes beyond SLT by including the concept of self-efficacy. Bandura (1977,1982) has posited that role models can shape both use self-efficacy and refusal self-efficacy. For instance, observing peers buy and inhale marijuana cigarettes can provide adolescents with the necessary knowledge and skills to obtain and use marijuana. Conversely, observing a close friend resist the pressures to use alcohol can boost an adolescent's refusal skills and self-efficacy by displaying the necessary skills to avoid using alcohol. Moreover, adolescents probably do not have to observe ESU among influential role models for ESU to be socially modelled and reinforced. In fact, simply hearing influential role models speak favourably about ESU and people who use substances might promote the onset of ESU. Therefore, the causes of ESU might be found among (a) ESU by parents, close friends, and other role models and (b) favourable statements or attitudes toward ESU by such role models, especially close friends and admired peers who endorse ESU. Empirical evidence supporting both SLT and SC/LT suggests that role models might contribute strongly to adolescents' use of alcohol and illicit drugs. For example, marijuana use is more common among adolescents who have talked to friends about using illicit drugs (Kandel, Kessler, & Margulies, 1978), have friends who hold positive attitudes toward marijuana use (Bailey&Hubbard, 1990; Kandel et.al., 2000), have friends who use cigarettes, alcohol, marijuana, and narcotics (Huba, Wingard, & Bentler, 2014; Kandel et al., 2000), and have been offered cigarettes, marijuana, alcohol, and pills by their friends (Huba et al., 2014; Kandel et.al., 2000). Moreover, Akers et.al. (2014) found that nearly half of the variance in alcohol use and nearly two thirds of the variance in marijuana use could be predicted from adolescents' perceptions that significant adults, peers, and close friends approve of alcohol and marijuana use. However, this empirical support must be viewed as somewhat tentative because of the possibility that peer ESU might be a consequence of an adolescent's own ESU rather than a cause. Along this line, Fisher and Bauman (2007) argued that the strong relationship between peer ESU and an adolescent's own ESU stems less from peer influences (as described by social learning theories) than from the process of friendship selection, whereby adolescents who experiment with substances seek out and befriend other peers who also experiment (Flay et al., 1983). This tendency for birds of a feather to flock together can even explain findings from longitudinal studies if ESU at Time 1 is not controlled when assessing the relationship between peer ESU at Time 1 and an adolescent's own ESU at Time 2. Bandura's SC/ LT suggests that an additional key to prevention lies in teaching refusal skills and enhancing refusal self-efficacy

2.3 Prevalence of Substance Use and Abuse

Substance use among adolescents has seen a global increase since the 1990s, with marijuana being the most commonly used illicit drug worldwide (Centers for Disease Control and Prevention, 1991; Reuter, 2006). The World Health Organization (WHO) highlights tobacco use as a severe public health threat, with over 7 million deaths annually attributed to tobacco-related diseases (World Health Organization, 2017). In the World School-Based Student Health Study, 8.3% of students aged 13 to 15 reported smoking cigarettes, with alcohol and drug usage also being prevalent among youth (Lennox & Cecchini, 2008). Alcohol consumption accounts for 3.3 million deaths annually and contributes significantly to the global disease burden (World Health Organization, 2014b). In North America, Australia, and Europe, cannabis use exceeds 90% of illicit drug usage among young people (Alexander, 2001). Studies in Canada and South Africa reveal that the median age for first-time drug use is around 12 years (Canadian Centre for Substance Abuse, 2002; Madu & Matla, 2003). Environmental and social factors significantly influence substance use initiation, while personal biological and psychological characteristics determine the risk of

developing substance use disorders (Glantz & Pickens, 1992; Kendler & Prescott, 1998a, 1998b). In Kenya, a study found a high prevalence of cigarette smoking among college students, with 69.8% having smoked cigarettes (Peltzer et al., 2011). In Ghana, a survey of senior secondary students indicated that alcohol, cigarette, and marijuana usage were prevalent, with boys more likely to be lifetime users of these substances (Adu-Mireku, 2003). A case study in Tema Secondary School highlighted marijuana, tobacco, and alcohol as the most commonly used substances among students, with peer influence being a significant factor in drug initiation (Dogbe, 2003).

2.4 Factors Associated with Substance Abuse

2.4.1 Demographic Factors

Research has demonstrated that demographic characteristics, including gender, age, ethnicity, and socioeconomic status, serve as pivotal risk determinants for the consumption of psychoactive substances (Peltzer et al., 2011). Empirical investigations have repeatedly established that males exhibit higher rates of alcohol and illicit drug consumption in comparison to females (Johnson et al., 2003; Johnston et al., 1991; Lang, 2001; Thorne and DeBlassie, 1985). In the period from 2008 to 2010, the average alcohol consumption per person for males was considerably elevated when contrasted with females, showing recorded figures of 7.8 litres for men against 1.9 litres for women (World Health Organization, 2014a). The onset of alcohol and cannabis use reaches its zenith between the ages of 16 and 18, followed by a notable decrease in risk by the age of 21 (Callen, 1985). Research conducted in secondary educational institutions, such as the study by Njoki (2013) in Kiambu County, Kenya, has illuminated the pronounced prevalence of substance use among male students, particularly within the critical age bracket of 16 to 18 years for the initiation of such substances.

2.4.2 Family Factors

Family dynamics, such as lack of parental monitoring and the presence of substance use within the family, significantly influence adolescent substance use (Davison et al., 2004; Rice & Dolgin, 2008; NACADA, 2008). Adolescents from families with prevalent alcohol and drug use are more likely to engage in substance abuse themselves, often imitating family behaviours (Gorsuch & Butler, 2000). Moreover, the absence of emotional support from parents and strained family relationships heightens the risk of substance use among adolescents (Liddle & Rowe, 2006; Rice & Dolgin, 2008). Studies have also linked adolescent substance use to unstable family environments, including the absence of a father or the presence of dysfunctional family dynamics (Stein et al., 1989; Oetting & Beauvais, 2000).

2.4.3 Social Factors

Peer influence is a crucial factor in adolescent substance use, with studies showing that adolescents are more likely to use substances if their peers do (Kwamanga et al., 2003; Odejide, 2006). The desire for peer acceptance often leads to experimentation with drugs, particularly in social and school environments (Kiiru, 2004). The need to belong to a peer group engaged in substance use can also prompt adolescents to partake in these behaviours, reinforcing the impact of social networks on substance use decisions (Maina, 2010; Kiiru, 2004).

2.4.4 Psychological Factors

Psychological characteristics, such as anxiety, low self-esteem, and sensation-seeking, are linked to substance use among adolescents (Davison et al., 2004; Marmorstein et al., 2010). Substances are often used as a coping mechanism for emotional distress or as a means to enhance positive mood states (About the partnership - the partnership for a drug-free America, n.d.; Zastrow, 2004). Adolescents with psychological vulnerabilities may use substances to alleviate anxiety or achieve a sense of well-being, leading to increased usage and potential dependency (Hepworth et al., 1998).

2.4.5 Economic Factors

Socioeconomic factors, such as poverty and the affordability of substances, play a significant role in adolescent substance use (Parry, 1998; Goodman & Huang, 2012). Research shows that lower socioeconomic status correlates with higher rates of substance use, with accessibility and cost being critical determinants of consumption patterns (Farrell et al., 2003). Additionally, economic hardships and the prevalence of drugs in lower-income areas contribute to higher substance abuse rates (Liddle & Rowe, 2006).

2.4.6 Behavioural Factors

Behavioural traits, including rebelliousness and early engagement in risky behaviours, are associated with higher substance use among adolescents (Botvin et al., 2000; Fisher & Harrison, 2000). The use of "gateway" substances like alcohol and marijuana often precedes the use of harder drugs (Schilling & McAlister, 2000). Adolescents who participate in substance use are also more likely to engage in other problematic behaviours, further compounding the risks associated with substance abuse (Casemore, 2000).

2.5 Effects of Drug Abuse

Substance abuse has far-reaching health, social, and economic consequences that affect individuals and society alike. It impairs learning behaviours, reduces attention spans, and leads to poor academic performance among students, often resulting in defiance of school rules, violence, and antisocial behaviour (Ibrahim et al., 2019; Berk, 2007; Flisher, 2006). Students who abuse substances are prone to withdrawal, aggression, and deteriorating relationships with peers and family, which contributes to declining academic performance and increased truancy (Parrott et al., 2004; Njeri & Ngesu, 2008). Illicit drugs can impair cognitive functions, reduce decision-making abilities, and lead to risky behaviours such as theft and violence to sustain substance dependence, which further links substance abuse to criminal activities (Lakhanpal & Agnihotri, 2007; Butcher et al., 2004). Moreover, substance abuse impacts the economy through reduced work productivity, absenteeism, and increased healthcare costs (Parrott et al., 2004; Department of Social Development, 2006). It also disrupts family life, creating patterns of codependency and increased occupational accidents (Goel, 2009).

3. Materials and Methods

3.1 Research Design

This study employed a descriptive survey research design, which focuses on describing a phenomenon rather than explaining it (Bless & Higson-Smith, 2000).

3.2 Study Population

The targeted population of the study consisted of SHS students from three senior high schools in the Tamale Metropolitan area, Tamale. The study focuses on SHS students from the Ghana Senior High School, Vitting Senior High School and Dabokpa Technical School to provide a more comprehensive image of the factors related to substance use by senior high school students.

3.3 Sample Size

The study's population consisted of 315 students from three separate affiliated schools. 145 students were taken from Ghana Senior High School, 92 students from Vitting Senior High School and 78 students from Dabokpa Technical School.

Table 3.1: Sampling Frame

Name of school	Population (n)	Sample size (10% of n)
Ghana Senior High School	1450	145
Vitting Senior High School	920	92
Dabokpa Technical School	780	78
Total	**3150**	**315**

3.4 Sampling Technique

A purposive sampling method was utilized to select participants who possessed the relevant information and could provide valuable insights into the phenomenon under investigation (Greenfield, 2002; Kerlinger & Lee, 2000; De Vos, 1998; Goodwin, 1995; Liamputtong & Ezzy, 2005). The aim was to select participants who could offer illuminative and information-rich cases, allowing for a deeper understanding of the subject matter, rather than seeking empirical generalizations (Newman, 2000; Patton, 2001). During the pre-test phase, an instrument was used to identify the people who matched the requirements to be included in the study. Given the difficulty in recruiting adolescents who engage in substance abuse, a snowball sampling technique was employed, acknowledging the complexity of recruitment in such cases. This sampling method involves primary data sources nominating another

potential primary data source to be used in the research. Subsequently, a simple random sampling method was employed to ensure that the collected data represented the entire student population. Senior high schools in Ghana's Northern Region's Tamale Metropolitan area were used to choose the sample for this study. The population of interest for this study was specifically senior high school students. These particular schools were chosen due to the high number of substance addiction cases among teenagers and students that have been reported, as documented by the Department of Social Development and the Department of Education.

3.5 Data Analysis

The four processes of data analysis as proposed by Cronk (2012)-coding, data cleansing, meaning-making, and narrative and interpretative data presentation were followed in the analysis of the data that had been gathered. All information gathered through structured questionnaires was coded, and the statistical tools like SPSS version 24 and STATA were used for analysis. Once the data had been cleaned, response frequencies could be calculated. Tables of frequencies, percentages, mean and standard deviation were used to present the analysis findings. A table gave frequencies and percentages for categorical groups such as socio-demographic traits, types of substance, factors and measures used to curb drug abuse.

3.6 Ethical Considerations

The Tamale Metropolitan Education Directorate approved the investigation, and the researcher provided copies of the approval letter to the heads of the selected senior high schools (SHS). All respondents were verbally told of the study's objectives and allowed to provide their agreement before the questionnaires were given out. The researcher worked with the respondents to determine suitable dates and venues for questionnaire administration. Confidentiality and anonymity were ensured for the respondents, and their welfare was taken into consideration, following ethical standards outlined by Jackson (2011). The researcher asked the subjects for their permission, with the involvement of their teachers. During the questionnaire completion process, teachers were present in the classroom. The data collected was treated with strict confidentiality.

Throughout the study, the researcher upheld the strictest ethical standards and values, including privacy, integrity, confidentiality, anonymity, informed consent, and research independence, as recommended by MacDonald, Headlam, and Coolican (2014). Codes rather than names were utilized, and only aggregated statistics were presented, protecting the respondents' privacy. The study's conclusions were built exclusively on the information that participants gave. To avoid plagiarism, all sources cited in the thesis were appropriately referenced in the reference list.

4. Results and Discussion

Table 1: Socio-Demographic Information on the Respondents

	Variable	Variable category	F	%
1.	Gender	Male	125	40
		Female	190	60
2.	Age (in yrs.)	Less than 15 years	9	3
		15-20 years	281	89
		Over 20 years	25	8
3.	Religion	Christian	91	29
		Muslim	221	70
		Traditionalist	3	1
4.	Student status	Border	235	75
		Day	80	25

Source: Fieldwork data (2024)

The results indicate that more than half of the students, 190 (60%) were females while the rest 125 (40%) were males. This implies that the majority of the students were females. Therefore, the study had a relatively even distribution of respondents across both genders, with a higher proportion of female students. The study's results were not biased towards any particular gender since both male and female students participated in the research. Taking a gender perspective means looking beyond the apparent differences between the sexes and instead examining the societal norms and constructs that shape our understanding of gender (Hensing, 2008). Therefore, it is essential to consider a gender perspective when examining the reasons why some males are likely to start using drugs or substances. Research conducted on young Swedish adults aged between 20-25 years indicates that the prevalence of illicit drug use tends to increase with age, especially among young men, as evidenced by studies such as Bullock & Röger (2005) and Palmer *et al.* (2009). As a result, male adolescents in the present study who displayed high levels of alcohol consumption, antagonism, and depressive symptoms may be more likely to engage in illicit drug use in the future. It is crucial to remember that these boys have a higher risk of substance use based on findings from a cross-sectional study, and the present study's results cannot verify the actual results. As part of the study, the students were asked to disclose their ages. Age is a crucial factor in all aspects of life, and it influences decision-making regarding various issues. This information was necessary since age has been recognized as a factor in the use of drugs and other substances (Farrell, Manning & Finch, 2003; United Nations Drug Control Programme, 2015).

Table 1 presents the findings, indicating that the majority of the students 281 (89%) were aged between 15-20 years, 25 (8%) were over 21 years old, and 9 (3%) were under 15 years old. Moreover, the data showed that most of the female students 281 (89%) were between 15-20 years old, highlighting their vulnerability to drug and substance abuse. This supports the observation that the respondents to the survey were secondary school students. According to NACADA (2019), adolescents begin misusing drugs on average when they are 14 years old. Adolescents are typically more susceptible than adults to drug and substance misuse. The study's outcomes showed that only 3% of the participants were under the age of 15. As a result, the findings reflect the views of school-going youths who are over 15 years old, since they were the majority of the respondents.

The findings indicate in Table 1, that 29% (91) of the respondents were Christians, 70% (221) were Muslims, and 1% (3) were traditionalists. Religion encompasses various aspects of one's relationship with the supernatural, and in Ghana, beliefs and practices associated with the supernatural take different forms and operate at various levels. It was expected to find a higher percentage of Muslims in the study area since they dominate the region. The key informants noted that religion had a weak link to drug and substance abuse in schools, despite the different religious affiliations of the students.

Additionally, the findings revealed that 75% (235) of the students attended boarding schools, while the remaining 25% (80) attended day schools, indicating that the majority of the students were boarders. This information is significant in terms of drug and substance abuse since it has been established that the type of school can influence such behaviour.

Table 2: Drug Usage by Students

Description	Responses	Frequency	%
Have you ever used any drug or substance?	Yes	120	38
	No	195	62
	None	199	63
How many times have you used tramadol?	1 - 9 times	65	21
	10 - 19 times	27	8
	20 or more times	24	8
	I did not use the	190	60
	substance	49	16
	I bought it	38	12
	From my friends	12	4
How did you usually get that substance?	From my family	26	8
	I stole it	48	39
	At home	33	26
	At school	15	12
	At someone else house	29	23
Where were you the last time you had any of those substances	At the bar/club		

Source: Fieldwork data (2024)

According to the data presented in Table 5, 38% of the respondents testified that they had used at least one illicit drug or substance before, while 62% reported that they had not used any. 120 people (38%) of the total respondents who admitted to using drugs or other substances in the past still use at least one illegal product today. These results show that senior high school students in the Tamale Metropolis frequently use these substances. The statement concurs with Egerton's (2015) discovery that the use of illegal drugs has risen in recent times, and the increased accessibility of various illicit substances is the key reason for the global trend of drug use. This observation supports the notion that drug abuse is an important public health issue. Reports estimate that 5% of people worldwide have used illegal drugs at least once in their lifetime (Dasgupta, 2017).

The results show that 63% said that they had never consumed tramadol before, while 21% had used it between 1 to 9 times, 8% had used it between 10 to 19 times, and 8 % had used it 20 or more times. According to the U.S. Department of Health and Human Services (2010) finding that lawful drug usage is less common among young people than the use of alcohol and tobacco, the higher incidence of alcohol and tramadol use among students is consistent with this finding.

The results showed that 60% of the respondents reported not using any substance. Among the 40% who reported using substances, 16% purchased it, 12% obtained it from their friends, 4% received it from their family, and 8% admitted to stealing it. The results are consistent with earlier studies showing that peers have a significant impact on adolescent drug usage (Halebsky, 1987). “Associating with drug users is a strong sign that an adolescent uses drugs, according to research (Hawkins, Lishner, & Catalano, 1985). Adolescent substance usage is also connected to how they feel about their families (Smart, Chibucos & Didler, 1990). Adolescent drug usage has been associated with parenting stress in childrearing techniques, inconsistent punishment, restrictive discipline, and maternal rejection (Vicary & Lerner, 1986)."

According to Turner, Irwin, and Millstein (1991), adolescents who live in single-parent households are more inclined to experiment with smoking, drugs and alcohol. This aligns with the idea proposed by Wagenaar (2017) that families play a crucial role in socializing children and teaching them appropriate beliefs, norms, and values. According to a 2009 report by the New Zealand Ministry of Health, illegal drugs, particularly cannabis, were easily accessible to the participants through various sources, including friends, siblings, and even parents.

By the findings, 39% of the respondents get their drugs at home, 26% at school, 12% at a friend's house, and 23% at a bar or club. This finding supports the study by Tam and Foo (2012), which demonstrated that pupils are abusing drugs not just after school hours but even while being taught and during learning. It emphasizes that using and abusing drugs does not have to wait until after school for young people, especially students.

Table 3: Family/Home factors contributing to drug and substance abuse among students.

Factors	Strongly Disagreed		Disagreed		Neutral		Agreed		Strongly Agreed		Mean	S.D
	F	%	F	%	F	%	F	%	F	%		
Because their parents also take drugs	132	42	52	16	52	17	47	15	32	10	2.35	1.41
Because of home problems	87	27	78	25	50	16	47	15	54	17	2.69	1.45
Too much pocket money	106	34	59	19	55	17	48	15	47	15	2.59	1.45
To cope with frustrations at home	93	29	62	20	64	20	43	14	53	17	2.69	1.45
From very poor families and therefore do so as frustrations	41	13	62	20	49	16	74	23	89	28	3.34	1.40

Source: Fieldwork data (2024)

The results in table 3 showed that the majority of the respondents felt that their parents also take drugs, because of home problems, too much pocket money, to cope with frustrations at home are not factors contributing to drug and substance abuse among students. According to the results, the students did not view parents' drug use as a contributing factor to drug abuse. This finding contradicts Yambo's (2013) study which suggested that family members and close friends frequently teach students about drug misuse. However, the results are consistent with Kamunyu's (2015) study which found that students imitate their siblings when it comes to drug abuse. Adolescents from households with alcohol-related disorders are also more likely to become alcoholics, according to Kushner and Sher (2016). "UNODC/UNAIDS (2018) conducted a study that found family factors contribute to individual differences in illicit drug use. These factors include being from a single-parent or stepfamily, having poor relationships with parents, experiencing family conflict, and having poor parental supervision. People pick up behaviours from their family members through imitation and role modelling, according to Bandura (1986). Chemical dependence that is handed down from one generation to another is influenced by how a family communicates. People are more likely to take illicit substances if their family has a history of doing so. A Mayo Clinic study that suggested that a family history of alcohol or drug abuse enhances a person's likelihood of developing an addiction backed up this conclusion. These findings are consistent with the World Drug Report (2011), which found that people with a close family history of drug use are more likely to try drugs. These findings contradict Bachand's (2013) study which suggested that the lack of necessities like clothing, food, and shelter could lead children to drugs and substance abuse. Similarly, the results did not support Mackenzi's (2013) findings that high academic demands from parents could lead to stress, rebellion, and substance abuse.

On the other hand, a minority of the respondents felt that students from very poor families and therefore do so as frustrations are a factor contributing to drug and substance abuse among students in the Tamale Metropolitan Area. Additionally, these findings are consistent with Otieno and Ofula's (2009) study, which suggested that some students used their excess pocket money to purchase drugs. The research also discovered a link between a student's pocket money, the possession of a car by their parent or guardian, and drug and alcohol usage. These findings align with Cheng's (2010) observation that authoritarian parenting, which doesn't allow children to express their needs or disappointments, can lead to frustration and risky behaviours like abusing drugs and other substances. The findings support the National Centre on Addiction and Substance Abuse's (NACADA, 2014) assertion that family pressure and disappointments increase a child's propensity for drug use. These results suggest that psychological stress experienced by young people who endure maltreatment may have an impact on their drug usage. Therefore, it is essential to provide family and community support to address these issues instead of neglecting them.

Table 4: Psychological Factors Contributing to Drug and Substance Abuse Among Students.

Factors	**Strongly Disagreed**		**Disagreed**		**Neutral**		**Agreed**		**Strongly Agreed**		**Mean**	**S. D**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**		
Because substances make them to be sociable, feel good or relax	69	22	57	18	55	17	60	19	74	24	3.04	1.48
Substances help them deal with low esteem and anxiety	77	25	32	10	85	27	63	20	58	18	2.98	1.42
Insomniacs drink to sleep, which often leads to them passing out	61	19	56	18	49	16	58	18	91	29	3.20	1.50
Reduce tension and frustration, even relieve boredom and fatigue	50	16	45	14	64	20	51	16	105	34	3.37	1.46
Influence by mass media	39	12	42	13	71	23	74	24	89	28	3.42	1.35

Source: *Fieldwork data (2024)*

From table 4 above, results showed that half of the respondents are of the view that psychological factors contribute to drug and substance abuse among students. They perceived that reduces tension and frustration, even relieves boredom and fatigue and Influence by mass media contributed to psychological factors contributing to drug and substance abuse among students. This result is in line with Kikuvi's (2009) research, which indicated that drug use decreases attention span and leads to faster boredom among students who use illicit drugs. According to Watts and Wright (1990), tobacco is frequently used as a doorway substance to treat boredom and may impede the growth of more useful coping mechanisms. Similarly, Smith and Caldwell (1989) found that adolescent smoking is associated with a perception of leisure time as boring and unchallenging, resulting in feelings of low competence. The results confirm Ayako's (2005) assertion that a large portion of Kenyan youngsters are influenced by the media, which frequently portrays drinking and smoking as markers of success and popularity. Similar research was done by the National Centre on Problems Such as Substance Consumption (NACASA, 2018), which connected press attention to drug and alcohol abuse. Before reaching 15, 90% of teens have viewed images on social media of their friends drinking, doing drugs, or passing out, according to the report. The study also found that youths were three times more likely to use marijuana, alcohol, and other substances after seeing these images. Tam & Foo (2012) have presented proof for this conclusion, suggesting that the internet has contributed to the increased access to and awareness of

illicit drug users. Illicit substances are now being marketed and sold online, making it easier for individuals to purchase them.

On the other hand, the other half of the respondents felt that substances make them sociable, feel good or relaxed and substances help them to deal with low esteem and anxiety are not the psychological factors contributing to drug and substance abuse among students in the Tamale Metropolitan Area. A study by Virgili, Owen, and Severson (1991) found that adolescents aged 14-18 who smoke consider less serious health effects, less personal risk, and higher advantages over hazards associated with smoking. Additionally, they have difficulty picturing negative consequences for themselves and perceive smoking to be less avoidable. Furthermore, Sobal (1987) found that adolescents do not view substance abuse as a significant health issue. This may be because families who regularly use alcohol and other drugs may normalize and accept such behaviour, delivering the message that it is okay for their kids. In addition to Ibid (2013) and Samo *et al.*, (2013), this is corroborated by Kushner, Abram, and Carrier (2000) who noted that continued drug use can impair an individual's cognitive and behavioural abilities. Some students may try drugs only once or a few times, while others may employ them frequently. or even become dependent on them, leading to drug addiction and negative consequences. Armstrong and Costello (2002), Hoffman and Cerbone (2002), Jané-Llopis & Matytsina (2006), Kirkcaldy *et al.* (2004), Rao & Chen (2008), Comeau, Stewart, & Loba (2001), and Swendsen & Merikangas (2000) found that psychiatric disorders like anxiety, depression, and psychological issues increase the risk of substance use and reliance.

Other respondents thought that Insomniacs drink to sleep, which often leads to them passing out either contributes or does not contribute to drug and substance abuse among students. Research has indicated that some sedative drugs, including Valium, Phenobarb, Piriton, and Phenergan, can help people fall asleep (Barabar, 2017). Benzodiazepines are anti-anxiety drugs that also make you drowsy and can make you fall asleep, including Xanax, Valium, Ativan, and Librium. While these drugs can help induce sleep, they are potentially addictive and can lead to memory and attention problems. As a result, they must be only used under the guidance of a medical professional.

Table 5: Economic Factors Contributing to Drug and Substance Abuse among Students.

Factors	**Strongly Disagreed**		**Disagreed**		**Neutral**		**Agreed**		**Strongly Agreed**		**Mean**	**S. D**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**		
Low socio-economic status was associated with high substance use	107	34	59	19	80	25	32	10	37	12	2.47	1.36
Low price of many substances and poverty	85	27	80	25	68	22	41	13	41	13	2.60	1.35
Increase in the global production of these substances	59	19	77	24	90	29	40	13	49	15	2.82	1.31

Source: *Fieldwork data (2024)*

The results from table 5 showed that a minority of the respondents are of the view that economic factors contribute to drug and substance abuse among students. They perceived that an increase in the global production of these substances led to economic factors contributing to drug and substance abuse among students. This suggests that the cost of medications affects how often they are used and abused. This result is in line with one from NACADA (2017), which indicated that the low price of alcohol contributed to higher degrees of intoxication. In a similar vein, Gituru (2012) blamed the accessibility and cost of drugs for the increased proportion of drug and alcohol usage among secondary school pupils.

On the other hand, the majority of the respondents have a high perception that low socio-economic status was associated with high substance use, low price of many substances and poverty are economic factors contributing to drug and substance abuse among students in the Tamale Metropolitan Area. According to research, social and economic variables significantly influence how common drug and substance use is among students. Peer, familial, and environmental influences are examples of social risk factors. Numerous studies have revealed that teenagers are

more likely to consume illicit drugs and alcohol if their family has a history of heavy drinking and drug use. (Barrett, 2000; Johnson *et al.*, 2003; NACADA, 2004; Kiiru, 2004). Similarly, teenagers from dysfunctional or troubled families are more prone to experience difficulties with substance misuse (Oetting and Beauvais, 2000). Furthermore, teenagers who are exposed to alcohol and other drug use among their peers are more prone to consume drugs and alcohol themselves (Agnello-Linden, 2001; Schilling &Barrett, 2000).

Table 6: Environmental Factors Contributing to Drug and Substance Abuse Among Students.

Factors	**Strongly Disagreed**		**Disagreed**		**Neutral**		**Agreed**		**Strongly Agreed**		**Mean**	**S. D**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**		
Lack of appropriate law enforcement	97	31	59	19	32	10	49	15	78	25	2.85	1.59
Local communities were the main sources of drugs for students	83	21	54	17	87	28	55	18	36	11	2.71	1.33
Schools located near social places and commercial centres are more likely to have students who have access to drugs.	46	15	44	14	83	26	51	16	91	29	3.31	1.40
Mixed messages adolescents receive about drinking and drug use from their environment are more likely to abuse drugs.	37	12	50	16	79	25	76	24	73	23	3.31	1.30

Source: *Fieldwork data (2024)*

Results from table 6 revealed that majority (half) of the respondents are of the view that environmental factors contribute to drug and substance abuse among students. They perceived that Schools located near social places and commercial centres are more likely to have students who have access to drugs. Also, mixed messages adolescents receive about drinking and drug use from their environment are more likely to abuse drugs which contributes to drug and substance abuse among students in the Tamale Metropolitan Area. The results imply that student drug and substance misuse may originate in marketplaces and shopping malls. This discovery is consistent with research by Tumuti *et. al.* (2014) that also defined social centres as suppliers of drugs and other substances. Furthermore, a NACADA (2018) survey found that pupils bought drugs and other substances from stores close to their campuses. NACADA (2019), which found that students were more likely to abuse drugs and substances during interschool contests, weekends, on their walk home from school, and school holidays, also found that students also access drugs and substances during social events. The conflicting messages that society sends regarding drinking and drug use can impact the attitudes of adolescents towards substance abuse. Studies by Kiiru (2004) and Siringi (2003) support this idea.

On the other hand, the other minority (half) of the respondents are of the view that lack of appropriate law enforcement, and local communities were the main sources of drugs for students and are the environmental factors contributing to drug and substance abuse among students Tamale Metropolitan Area. According to Agnello-Linden (2001), a lack of law enforcement can contribute to teenage drinking. This suggests that students perceive social centres such as markets as places where they can obtain drugs and substances. This is in line with research done by

Njoki (2013), who found that marketplaces and stores close to schools were sources of narcotics and other illegal substances.

Table 7: Model Summary

Source	SS	df	MS_	Number of obs = 260
Model	70.1275383	4	17.5318846	F(4, 255) = 42.78
				Prob > F = 0.0000
Residual	104.501845	255	0.409811157	R-squared = 0.4016
				Adj R-squared = 0.3922
Total	174.629383	259	0.674244724	Root MSE = .64016

The model summary in Table 7 provides a comprehensive overview of the regression analysis conducted with 260 observations. The total sum of squares (SS) is 174.6294174.6294, with the model explaining 70.127570.1275 of this variance, resulting in an R-squared value of 0.40160.4016. This indicates that approximately 40.16% of the variability in substance use among SHS students can be explained by the four independent variables included in the model, suggesting a moderate level of explanatory power. The adjusted R-squared value of 0.39220.3922 accounts for the number of predictors and indicates that the model remains robust even with adjustments for degrees of freedom. The F-statistic of 42.7842.78 (with a corresponding p-value of 0.00000.0000) demonstrates that the model as a whole is statistically significant, meaning that at least one predictor variable significantly contributes to explaining substance use behaviors in this population. The Root Mean Square Error (RMSE) of 0.640160.64016 reflects the average distance between observed and predicted values, providing insight into the model's predictive accuracy.

Table 4: Regression analysis of factors associated with the use of substances among SHS students in the Tamale Metropolis

Substance abuse	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
family	.1936096	.0496964	3.90	0.000	.0957419	.2914773
psychological	.2995777	.0531428	5.64	0.000	.1949231	.4042323
economical	.0945172	.0457656	2.07	0.040	.0043906	.1846439
environmental	.1675642	.0494634	3.39	0.001	.0701554	.264973
_cons	.8125939	.1683031	4.83	0.000	.4811528	1.144035

The regression analysis in Table 8 indicates strong correlations between various variables and substance use among senior high school students in the Tamale Metropolis. The results show that psychological factors have the most significant positive correlation with substance use, with a coefficient of 0.2996 ($p < 0.001$), indicating that students facing psychological difficulties are more inclined to partake in substance use. Family influence is significant, with a coefficient of 0.1936 ($p < 0.001$), suggesting that students from families with substance use histories face an elevated risk. Furthermore, environmental factors exhibit a substantial positive correlation (coefficient = 0.1676, $p < 0.001$), underscoring the influence of students' environments on their substance use habits. The economic components exhibited a moderate correlation (coefficient = 0.0945, $p = 0.040$), indicating that economic conditions may affect substance use, but to a smaller degree than psychological and familial factors. The constant term (_cons) of 0.8126 ($p < 0.001$) signifies the baseline level of substance usage when all other variables are controlled at zero, highlighting an intrinsic propensity for substance use even without these influencing factors.

5. Conclusion

The study concluded that there is a significant prevalence of substance use among senior high school students in the Tamale Metropolis, with many students engaging in the use of illicit drugs, including tramadol. The study concluded that while many respondents did not perceive parental drug use or home problems as significant factors contributing

to their own substance abuse, there is a notable influence of family dynamics and financial resources on students' drug use behaviors. A minority of respondents acknowledged that frustrations from poverty and excess pocket money could lead to drug use, indicating that both economic conditions and familial relationships play crucial roles in shaping adolescent substance use patterns. The study concluded that psychological factors play a significant role in drug and substance abuse among students, with half of the respondents identifying these factors as contributing to their substance use. Many students perceive drugs as a means to alleviate tension, boredom, and frustration, while the influence of mass media is also recognized as a contributing factor. Conversely, some respondents do not view substances as beneficial for socializing or managing self-esteem and anxiety.

The study further concluded that economic factors have a nuanced impact on drug and substance abuse among students in the Tamale Metropolitan Area. While a minority of respondents acknowledged that economic conditions, such as the increase in global production and affordability of substances, contribute to abuse, the majority linked low socio-economic status and poverty to higher rates of substance use. The study finally concluded that environmental factors significantly influence drug and substance abuse among students in the Tamale Metropolitan Area. A majority of respondents identified that proximity to social places and commercial centers increases access to drugs, with mixed societal messages about substance use contributing to abuse.

5.1 Recommendation

The study proffers the following recommendations following the findings of the study:

1. Guidance officers in Senior High Schools should be supported by the government, school administrations and other stakeholders to organise orientation and counselling services for students on the effect of drugs in their lives.
2. There should be a shift in policy in teacher training and the subjects offered in secondary schools to address these issues. Teachers and school administrators should be required to attend training on drug and substance management, according to the Ministry of Education.
3. To effectively combat drug and alcohol addiction among senior high school pupils, a comprehensive approach involving the school, parents, family, and the larger community is necessary.
4. Future study should investigate the relationship between specific types of substance use (e.g., alcohol, marijuana, prescription drugs) and various academic outcomes, such as grades, attendance, and graduation rates.

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