

The Association between Sociocultural Factors and Substance Use among Haramaya University Students

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ABSTRACT: All the associated risk factors were not equally responsible for influencing individuals either in alcohol use, khat use, tobacco, or cannabis use. This study attempted to examine sociocultural factors influencing university students in substance use by comparing one with another. A cross-sectional study was carried out. The study used a quantitative approach to collect data from 384 students. Compared with their involvement in khat use, female students were positively influenced in cigarette and hashish use (Adjusted Odds Ratio, AOR = 1.102, 95% CI: 1.056, 1.149) and alcohol use (AOR = 1.066, 95% CI: 1.021, 1.113). The involvement of students in alcohol use (AOR = 0.884, 95% CI: 0.838, 0.932) and cigarettes and hashish use (AOR = 0.909, 95% CI: 0.866, 0.953) were negatively associated with stress related to their academic activities. The involvement of students in alcohol use (AOR = 0.942, 95% CI: 0.906, 0.979) was negatively associated with parental influences; involved in alcohol use (AOR = 0.445, 95% CI: 0.210, 0.941) was negatively associated with the thoughts of considering substances as an energizer. The involvement of students in alcohol use (AOR = 4.980, 95% CI: 1.614, 15.368) was positively associated with peer influences. It was, thus, suggested that the management of Haramaya University should work on creating awareness of the negative consequences of substance use. Concerned professionals, including sociologists, psychologists, and health workers, should work on raising students' awareness as it was possible to undertake their studies without substance use. Moreover, the university management is strongly recommended to expand recreational centers within the campus. Lastly, Haramaya woreda administration should restrict the availability and accessibility of these substances around the campus.

KEYWORDS: Factors, substance use, Haramaya University, students, multinomial logit models

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Background

Substance use is a global problem.¹⁻³ It is associated with significant problems, such as risky sexual behavior, substance use dependencies and disorders, mental problem and disability, failure to meet primary responsibilities at work, school, or home.^{1,4-6} Substance use has also been a part of social life and integrated into the culture of many communities across the world for millennia.^{7,8}

Although there are various levels of involvement in substance use, humans' involvement in the different substance use started in ancient times.⁹⁻¹¹ Alcohol is the first substance known to humankind, and its consumption started in Mesopotamia about 10 000 years ago.¹² Another substance that has been in use for millennia is khat (*Catha edulis*). Due to the stimulating effect of its leaves, khat is typically used by people living in the Horn of Africa and the Arabian Peninsula. Khat was used for the first time almost a millennium ago.¹³ Additionally, tobacco used in the form of pipes, cigars, and cigarettes began in America before 8000 years.¹⁴ It is a psychoactive substance made from dry leaves of the tobacco plant. Cannabis and its products, first smoked by the people of western Asia and Egypt 5000 years ago, are derived from the leaves and flowering parts of the hemp plant.¹⁵ It is regarded as an illegal substance in some countries, in the West, Europe, and African nations such as Ethiopia.^{16,17}

Generally, psychoactive substances can be categorized into 4 groups.^{3,18} The first one is a depressant, psychoactive substance that slows down the activity of the central nervous system. This includes alcohol, glues, aerosols, solvents, and petrol.^{12,19} The second group is called a stimulant that speeds up the activities of the central nervous system. It helps in enhancing the feeling of getting energy and confidence after it is used.²⁰ Nicotine, caffeine, amphetamines, and cocaine are the examples of a stimulant.²⁰ Hallucinogens are the third category; they are agents which cause hallucination or perceptual anomalies, and other substantial subjective changes in thoughts, emotion as well as consciousness. They include LSD (lysergic acid diethylamide), PCP (phencyclidine), and ketamine.^{10,21} Finally, the last group of substances is a narcotic, and it is a substance like opium and heroin, which make one sleepy after use and alter mood and behavior.²²

Across the world, people involved in substance use due to several sociocultural factors, which include parental influence, peer pressure and social expectation.^{5,20,23,24} For example, a recent study conducted in Saudi Arabia, Jazan Province, showed that the majority of men were khat users due to the influences of social norms.²⁵ Also, in Taiwan, 70% of men smoke cigarettes as a result of cultural expectations.²⁶

In Ethiopia, a study conducted in Amman Polytechnic College of Bench Maji Zone identified that 36.8%, and 20% of



students used substances because of peer pressures and stress, respectively.²⁷ Two related studies conducted in Bahir Dar and Haramaya universities indicated students involved in substance use for improving their academic performances.^{28,29} Still another study conducted in Wolaita Sodo University stated that students involved in substance use due to peer influences and improving academic achievement.³⁰ Recently, a study conducted in Mekelle University, explained that more male students are involved in substance use than female students because of social norms.¹

The existing literature shows that substances such as alcohol, khat, cigarette, and hashish are the most commonly used by students in Ethiopian universities.^{1,4,16,27,29,30} These studies only identified the factors associated with any substance use without identifying or exploring the factors that contribute to the use of these individual substances. Thus, this study attempted to identify the associated risk factor for alcohol, khat, cigarette, and hashish use separately by comparing one with another. Moreover, they forwarded many possible ways that could help for prevention or intervention mechanisms in line with the associated factors of substance use. However, currently, involvement in substance use has become a pressing concern among students of Ethiopian universities.^{1,16,27,30}

The World Health Organization's (WHO's) instructions on alcohol, smoking, and substance involvement screening test (ASSIST) states that primary prevention, intervention, and care are very essential to control hazardous and harmful consequences of substance use.³¹ In addition, identification of the associated factors for each substance is an effective and essential strategy in reducing its harms and risks.³¹ Therefore, an investigation of the associated factors should be applied individually for each substance in order to understand the effects of sociocultural factors on either using alcohol or khat or cigarette and hashish. The findings of the present investigation can help to apply initial intervention efforts independently across the sociocultural factors influencing students' involvement in substance use in Ethiopian universities in general and in Haramaya University in particular.

Previous studies on substance use among young Ethiopians treated the associated risk factors as if they predicted equality in alcohol, khat, cigarette, and/or hashish use without a comparison of one with another.^{1,4,16,27,29,30} Cognizant of such gaps and limited shreds of evidence in the study setting, the current study examined the relative effects of sociocultural factors on university students' involvement in each type of substance use.

Materials and Methods

Study setting

The study was conducted in Haramaya University among regular undergraduate students from November 2019 to January 2020. A regular undergraduate student is a university student who is studying for a bachelor degree in the working day program rather than evening, weekend, summer or distance program. Haramaya University is one of the public universities

in Ethiopia and it is located at 510 km from Addis Ababa (the capital of Ethiopia), in East Hararghe Zone, Haramaya town that lies between Dire Dawa and Harar towns.³² Haramaya University has 2 campuses, namely, Haramaya campus (main campus) and Harar campus (located in Harar town). The study was conducted at the main campus.

Theoretical basis of the study

The study used a situational action theory to explain the relative effects of associated risk factors on involvement in substance use. The theory was developed by Nina-Katri Gustafsson in 2017. The theory addresses the associated risk factors of involvement in substance use along a line of societal norms, behaviors, explanations, and interactions.⁹ While explaining the relative effects of associated risk factors on substance use is central to it, the theory pointed out why individuals are involved in using different substances.⁹

Study design

A cross-sectional study design was used to examine the socio-cultural factors influencing regular undergraduate students in the involvement of substance use in Haramaya University.

Inclusion and exclusion criteria

The study participants were all regular undergraduate students. A regular undergraduate student is a university student who is studying for a bachelor degree in the working day program rather than evening, weekend, summer or distance program. Both male and female of any year of study, registered for their study (at the time of the study), healthy enough to answer questions and involved in substance use at any level of frequency and quantity. The participants were only those students who involved either in alcohol use or khat use or cigarette and hashish use. Undergraduate students who are studying for their bachelor degree at university in the evening, weekend, summer, and distance program were not included in the study. Also, students who engaged in more than 1 substance use were not included in the study.

Study participants

The study was conducted on selected regular undergraduate students who were involved in either alcohol use or khat use or cigarettes and hashish use once or twice or more times over the past 3 months.

Sample size and sampling procedure

An estimated sample size of 384 was arrived at using the single population formula.³³ The samples represent the total population of the university who were involved either in alcohol use or khat use or cigarettes and hashish because all students from all colleges following the gates participated in the study.

Since involvement in any substance use within the campus was not allowed to students, the researcher was forced to look for nearby locations where students were actually involved in substance use. Located at Bate 04 *kebele* (the lowest administration unit in Ethiopia), the main campus of the university has a walled compound with 4 gates that students and other staff used for entry and exit. The study sites where students actually involved in each kind of substance use were outside the compound, at or near the gates. These sites were suggested to the researcher by the chairperson of Bate 04 *kebele* (where the university is located), 3 other workers of the *kebele*, and 4 senior students who worked in the anti-drug club in the university. The sites for each substance use were selected randomly, and study participants were contacted purposefully. Finally, cluster sampling was applied to the study participants reached the sample size.

Study instrument

The revised version of the World Health Organization on Alcohol, Smoking, and Substance Involvement Screening Test (WHO ASSIST V 3.0) was employed to collect data. WHO ASSIST helped to query associated factors influencing individuals in the involvement of substance use. Thus, this study adapted questions from WHO ASSIST to examine the associated sociocultural factors of involvement either with alcohol use or khat use or cigarette and hashish use. The study was conducted using a survey instrument called an interview schedule. An interview schedule, which took around 10 minutes, was carefully and logically prepared. The instruments had 2 components of the measurements; the first item consisted of 8 sociodemographic characteristics, and the second one consisted of 15 items of sociocultural factors. All questions related to sociocultural factors were answered in yes or no responses. To check for the validity of the instruments, a pilot study among fifty (50) non-sampled students were conducted in each place where students used substances, before the actual data collection. Then, necessary adjustments were made. Based on the adjustments, appropriate questions were developed which helped to answer the objectives of the study.

Data and variables

The primary data were collected by trained data collectors after intensive training was given to them on the objectives of the study. Data were collected in the afternoon when students were normally expected to be present at all sites where they were actually involved in substance use. Most commonly in Ethiopia, involvement in substance use was described by categorical variables such as alcohol use or khat use or cigarettes and hashish use.^{16,29} The involvement in substance use was measured whether undergraduate students involved either in alcohol use or khat use or cigarette and hashish use in the past 3 months. Students were asked different questions framed with sociocultural factors that influenced them in the involvement of either alcohol use or khat

use or cigarettes and hashish use in the past 3 months. Thus, the outcome variable, involvement in substance use, was categorized into nominal responses as follows.

$$Y = \begin{cases} 1 & \text{if students had involved in cigarette and hashish use} \\ 2 & \text{if students had involved in alcohol use} \\ 3 & \text{if students had involved in khat use} \end{cases}$$

Sociodemographic variables such as, sex of students (male, female), age of students (18-20, 21-23, 24-26, and above 26), year of study of students (first, second, third, fourth, fifth, and sixth), marital status (unmarried, married), religion of students (Orthodox, Protestant, Islam, Waqefata, Catholic, Adventist), parent occupational status of students (skilled agricultural and fishery, service workers, technical and professional, crafts and related trades), residence area of students before joining the university (rural, urban), and monthly income level of students (≤ 500 , 501-1000, and >1000) were treated as independent variables.

Sociocultural factors such as, stress, medicinal purposes, effects of social interactions, substance use of energizer effects, parental influences, peer influences, and economic and social dependence on substance use were assessed as the following. Stress was assessed by asking students as they were involved in substance use because of mentally or emotionally disruptive or upsetting condition that occurred in response to external influences such as examinations, academic overload, being separated from family members, and feeling of helplessness and loneliness or not. The medicinal purposes of substance use were assessed by asking students as they involved in substance for medicinal or not. The effects of social interactions were measured whether students influenced in substance use or not while attending different parties, get together and holidays in their local or context. The energizers effects of involvement in substance use were assessed whether students influenced in substance use for getting energies or not. Parental influences were assessed by asking students as their mother or father influenced them in substance use or not. Peers influences were assessed by asking students as their close-friends, classmates, roommates, or their senior students influenced them in substance use or not, and economic and social dependences on substance use was assessed as there were practices of cultivating, marketing, trading, and utilizing substances for social services and celebrating ceremonies in their communities or not.

Statistical analysis

The data were cleared and entered into EpiData version 3.1 and then exported to SPSS version 20 software. The distributions of study participants were presented in tables, and they were explained using descriptive statistics, such as frequencies and percentages. Pearson statistic ($\chi^2 = 730.188$, $P = .892$) was commonly used to test the goodness of fit of multiple logit

models. The P (.892) of the statistic was greater than the significance level (.05), indicating that the model fitted well the data. A measure of how well the multinomial logit model fitted the data was checked using the likelihood ratio chi-square test ($\chi^2 = 166.856, P < .05$) and the adequately fitted data. Pearson chi-square test was employed in bivariate analysis to test the association between sociocultural factors and involvement either in alcohol use or khat use or cigarettes and hashish use. Then, all significant predictors at $P < .25$ in the bivariate analysis were included in multivariate logistic regression analysis. The modeling procedures were applied in testing the existence of multicollinearity among independent variables using the Variance Inflation Factor (VIF) with a cut point value that was set to 10. The relative effects of sociocultural factors on the involvement of either alcohol use or khat use or cigarettes and hashish use were examined by multinomial logistic regression analysis and interpreted by an adjusted odds ratio at 95% confidence intervals. Only statistically significant independent variables were retained in the final model for interpretation. The statistical significance level was set at a $P < .05$ (2-sided).

Ethical consent

The study got the official permission letter of VPRO-130/20101/19 from the office of Haramaya University-Vice President for Research. Verbal consent was sought from each study participant. Study participants' anonymity and confidentiality were ensured.

Results

Three hundred eighty-four (384) respondents participated in the study. Table 1 below shows sociodemographic characteristics of the study participants. Nearly, three-fourth (72.4%) of the study participants were males. More than two-thirds (69%) of the study participants were aged 18 and under 24. More than a quarter (29.2%) of them were third-year students, 23.2% were second-year students, and 19.3% were fourth-year students. Most of the participants (94.3%) were unmarried. Only 45.6% and 32.8% of participants were Orthodox Christians and Muslims, respectively, whereas 12.8% were Protestant Christians. The large proportion of the participants' parents (31.5%) were skilled in agriculture and fishery. In contrast, 27.9% of their parents were technical and professional employees of government and non-governmental organizations. Slightly over one-quarter (26.8%) of them were crafts and related trades. Most of the participants (68.5%) were students who came from the urban centers before joining the University. The monthly income of a large percentage of the study participants (44.3%) was greater than 1000 ETB (Ethiopian Birr).

Distribution of students' involvement in substance use

Table 2 shows the type of substances used by students. As can be seen from the table below, 90 (23.4%) of the students were

Table 1. Sociodemographic characteristics of the study participants.

VARIABLES	FREQUENCY (F)	PERCENTAGE (%)
Sex		
Male	278	72.4
Female	106	27.6
Age (years)		
18–20	128	33.3
21–23	137	35.7
24–26	98	25.5
>26	21	5.5
Year of Study (year)		
First	68	17.7
Second	89	23.2
Third	112	29.2
Fourth	74	19.3
Fifth	23	5.9
Sixth	18	4.7
Marital status		
Unmarried	362	94.3
Married	22	5.7
Religion		
Orthodox	175	45.6
Protestant	49	12.8
Islam	126	32.8
Waqefata	23	5.9
Catholic	6	1.6
Adventist	5	1.3
Parent occupational status		
Skilled in agricultural and fishery	121	31.5
Service workers	53	13.8
Technical and professionals	107	27.9
Crafts and related trades	103	26.8
Residence area before joining the university		
Rural	121	31.5
Urban	263	68.5
Monthly income (ETB^a)		
≤500	93	24.2
501–1000	121	31.5
>1000	170	44.3

a = Ethiopian Birr.

Source: Author Survey, 2020.

involved in cigarettes and hashish smoking. Among the study participants, a higher number of students (12.5%) were involved in hashish use. Also, 99 (25.8%) students were involved in alcohol use. Only 10.7% and 9.6% of the study participants, respectively, were involved in wine, beer, and draught beer use. Lastly, 195 (50.8%) of students was involved in khat use.

Bivariate analysis of sociocultural factors and involvement in substance use

The distribution of the study participants' characteristics of involvement in substance use and the corresponding *P*-values of the chi-square test of association of predictors was presented in Table 3 below. Among the study participants, only 38 (9.9%) female students were involved in cigarettes and hashish use, 25

(6.5%) and 43 (11.2%) of them involved in khat and alcohol use, respectively. Whereas, 52 (13.5%) and 170 (44.3%) of male students were involved in cigarettes or hashish use and khat use, respectively.

Out of the participants, 67 (17.4%) and 140 (36.5%) of them were involved in cigarettes or hashish and khat use, respectively, due to stress. Only 103 (26.8%) students were involved in alcohol use due to stress. Because of the medicinal purposes of the substances, only 29 (7.6%) and 33 (8.6%) students were involved in cigarettes or hashish use and khat use, respectively. Moreover, 30 (7.8%) students are involved in alcohol use. Because of social interactions such as parties, get together, holidays etc., 19 (4.9%) and 64 (16.7%) of the students involved in cigarettes or hashish use, and khat use, respectively, while only 26 (6.8%) of students involved in alcohol use. Due to parental influences, 74 (19.3%) and 120 (31.3%) students involved in cigarettes or hashish use, and khat use, respectively, while 102 (26.6%) students involved in alcohol use.

Considering substances as an energizer, only 54 (14.4%) and 135 (35.2%) students are involved in cigarettes or hashish use, and khat use, respectively; only 89 (23.2%) of them involved in alcohol use. Due to peer influences, 59 (15.4%) and 97 (25.3%) students are involved in cigarettes or hashish use and khat use, while 158 (41.1%) of them are involved in alcohol use. Lastly, because of dependencies on substances for social services and economic reasons, 12 (3.1%) and 32 (8.3%) of students involved in cigarettes or hashish use and khat use, while 19 (4.9%) of students involved in alcohol use.

The goodness of fit of the model

The results of different tests were employed to explain the goodness of fit of the model. A goodness of fit, a multinomial

Table 2. The Distribution of students' involvement in substance use.

VARIABLES	FREQUENCY (F)	PERCENTAGE (%)
Smoking		
Cigarettes	42	10.9
Hashish	48	12.5
Alcohol		
Araqe(Katikalla)	13	3.4
Tella	8	2.1
Beer and its Product	37	9.6
Wine	41	10.7
Khat	195	50.8

Source: Author Survey, 2020.

Table 3. Bivariate analysis of each predictor with involvement in substance use.

VARIABLES	STUDENTS' INVOLVEMENT IN SUBSTANCE USE						CHI-SQUARE TEST P-VALUE
	SMOKING		KHAT		ALCOHOL		
	N	%	N	%	N	%	
Sex							
Female	38	9.9	25	6.5	43	11.2	<.0001
Male	52	13.5	170	44.3	56	14.6	
Stress	67	17.4	140	36.5	103	26.8	.002
Medicinal Purposes	29	7.6	33	8.6	30	7.8	.032
Effects of Social Interactions	19	4.9	64	16.7	26	6.8	.037
Parental influences	74	19.3	120	31.3	102	26.6	.011
Energizers effects	54	14.1	135	35.2	89	23.2	.014
Peer Influences	59	15.4	97	25.3	158	41.1	<.0001
Economic and Social Dependence	12	3.1	32	8.3	19	4.9	.057

Source: Author Survey, 2020.

logit model, was done with the following tests. Before establishing the model, multicollinearity test was performed among the independent variables. The multicollinearity was measured by Variance Inflation Factors (VIF). If a value of VIF is closer to 1, the lower is the degree of multicollinearity, and vice versa. In general, if the value of VIF exceeds 10, there is a high degree of multicollinearity in the regression model among the independent variables. In the current study, a collinearity test showed that the VIF value of each independent variable was less than 10. Thus, the test indicated the collinearity among the independent variables was weak, and a logistic regression model can be established.

Pearson statistic is commonly used to test the goodness of fit of multiple logit models. Pearson statistic ($\chi^2=730.188$, $P=.892$) can be used to test a hypothesis that the model is established by comparing the predicted and observed frequency of occurrence and nonoccurrence. In general, if the P -value of the statistic is greater than the significance level (.05), it means that the model fits well. As it can be seen from Table 4 below, the P -value of Pearson statistics in the model is greater than .05, indicating that the fitting of the model is good.

If a P -value is less than a level of significance (.05), a linear relationship between the predictor variable and logit P is considered significant. Such significance was assessed by the Wald statistics test. Thus, the study considered only the significant variables for the interpretations. The likelihood ratio test ($\chi^2=166.856$, $P<.001$) was used to measure the good fit of a multinomial logit model. If a P -value of the test is less than the significance level (.05), the model fitted well. The P -value of the test ($<.001$) was less than .05, indicating that the model fitted well. In this study, log-likelihood is replaced by a -2 log-likelihood. It was the -2 log-likelihood value of the final multinomial logit model (626.968, $P<.001$) that was used to compare with the initial model (793.824, $P<.001$), and the final model was smaller than the initial one indicating that the model fitted effectively.

Cox and Snell R^2 was described as the percentage of the change in a dependent variable explained by the model's independent variables. Nagelkerke R^2 is a modified Cox and Snell R^2 . The 2 values are between 0 and 1. The larger the values, the higher the accuracy of the model. The 2 values of the model are 0.352 and 0.403, respectively, indicating that the accuracy of the model was acceptable.

Multivariate analysis

All the associated factors checked significantly at a P -value of less than .25 in a bivariate analysis were considered in multivariable multinomial logistic regression analysis. The study presented 2 multinomial logit models toward students' involvement in substance use. In this study, involvement in khat use served as a reference category. The model presented parameter values obtained from the maximum likelihood estimates. The

first model presented in Table 4 compared students' involvement in alcohol use with involvement in khat use. In the first model, predictor variables, such as sex, stress, medicinal purposes, effects of the social interactions, parental influences, energizer purposes, peer influences, and economic and social dependence, were employed. The second model presented in Table 5 compared students' involvement in cigarette and hashish use with involvement in khat use. In the second model, all predictor variables mentioned under the first model were also considered.

As it was indicated in Table 4, compared with involvement in khat use, the probability of alcohol use by female students was 1.066 (Adjusted Odds Ratio (AOR)=1.066, 95% CI: 1.021, 1.113) times more likely than male students. The likelihood of students' involvement in alcohol use due to stresses was 0.884 (AOR=0.884, 95% CI: 0.838, 0.932) times less likely than students without stresses. It was also observed that the probability of students' involvement in alcohol use because of parental influences was 0.942 (AOR=0.942, 95% CI: 0.906, 0.979) times less likely than those without parental influences. Moreover, the probability of students' involvement in alcohol use because they considered it as a source of energy was 0.445 (AOR=0.445, 95% CI: 0.210, 0.941) times less likely than students who did not consider it as such. Lastly, the probability of students' involvement in alcohol use because of peer influences was 4.980 (AOR=4.980, 95% CI: 1.614, 15.368) times more likely than those without peer influences.

As shown in Table 5 below, compared with involvement in khat use, the probability of female students' involvement in cigarette and hashish use was 1.102 (AOR=1.102, 95% CI: 1.056, 1.149) times more likely than male students. In addition, the probability of students' involvement in cigarettes or hashish use due to stress was 0.909 (AOR=0.909, 95%CI: 0.866, 0.953) times less likely than those without stress. Lastly, the probability of students' involvement in cigarettes or hashish use because they considered it as a source of energy was 0.488 (AOR=0.488, 95% CI: 0.253, 0.939) times less likely than students who did not consider it as such.

Discussion

Haramaya University students were vulnerable to substance use, with a prevalence of khat users by 50.8%, alcohol users by 25.8%, and cigarette and hashish smokers by 23.4%. The current finding related to khat use (50.8%) was not similar to the finding (20.2%) of the study conducted in Adama Science and Technology University.³⁴ The current finding of alcohol users (25.8%) was not similar to the finding (20%) to the study conducted previously in Haramaya University.²⁹ The result of the current study toward cigarettes and hashish users (23.4%) was not similar to the finding (19.8%) of the study conducted in Bahir Dar University.²⁸ Overall, the inconsistency of results in these studies might be due to the methodologies, survey instruments, or sampling strategies employed. Since involvement in

Table 4. Coefficients of multinomial logistic regression-alcohol use versus khat use.

INDEPENDENT VARIABLES	MULTINOMIAL LOGIT MODEL							
	ALCOHOL USE VERSUS KHAT USE							
	B	SE	WALD	DF	P-VALUE	AOR	95% C.I. FOR AOR	
							LOWER BOUND	UPPER BOUND
Sex								
Female	0.064	0.022	8.346	1	.004*	1.066	1.021	1.113
Male	0			0				
Stress	-0.124	0.027	20.872	1	.000*	0.884	0.838	0.932
Medicinal purposes	-0.038	0.024	2.529	1	.112	0.963	0.919	1.009
Effects of social interactions	-0.046	0.026	3.219	1	.073	0.955	0.908	1.004
Parental influences	-0.060	0.020	9.112	1	.003*	0.942	0.906	0.979
Energizers purposes	-0.811	0.382	4.495	1	.034*	0.445	0.210	0.941
Peer influences	1.605	0.575	7.799	1	.005*	4.980	1.614	15.368
Economic and social dependence	-0.655	0.545	1.443	1	.230	0.520	0.179	1.512

*Significant at $p < .05$.

Source: Author Survey, 2020.

substance use is integrated into the ways of life of communities,⁷ further studies should be carried out to explore the prevalence of involvement in substance use along cultural contexts.

The results presented in Table 4 indicated that female students were more influenced in the involvement of alcohol use than khat use. In other words, male students were influenced by the involvement of khat use than alcohol use. The results presented in model 2, Table 5, indicated that female students were influenced by the involvement of cigarettes and hashish use than khat use. The studies conducted in Mekelle University,¹ Bahir Dar University,²⁸ and Haramaya University²⁹ revealed that cultural norms and expectations resulted in differences in substance use among male and female students. These studies identified that cultural norms and expectations solely encourage males in the involvement of substance use without a comparison of substances separately. Thus, the current findings revealed that cultural norms and expectations encourage male students than female students to use khat. Besides, these factors encourage female students more than male students to use alcohol or cigarettes and hashish compared with khat use. In line with the findings, the differences between male and female students in the involvement of each substance use were related to customs, traditions, or socialization processes found within their communities.

As it was specified in Table 4, stress was found to be another factor, which statistically influenced students in the involvement of khat use than alcohol use. Likewise, the result presented in the second model, Table 5, indicated that students were influenced in the involvement of khat use than cigarette

and hashish use due to stress. The studies conducted in Ethiopian universities stated that university students involved in substance use due to stress related to academic activities, even though the studies did not separately identify which substances students involved in during stressful circumstances.^{16,28,29,35} Again, these studies, however, identified the principal sources of stress among students. The identified sources were during examinations, academic overload, being separated from family members, and feeling of helplessness and loneliness.^{16,28,29,35} Khat was easily accessible and available to users in the study area since the source of income of the communities in the study area was mainly the cultivation and trade of khat. Therefore, restricting the availability and accessibility of addictive substances in general, and khat in particular near or around universities could prevent students from involving themselves in substance use.

Situational undertaking or stress influenced young people to involve in substance use. In Mekelle University, students are involved in different psychoactive substances as a result of stress related to their academic issues.¹ Their stress was stemmed from not being able to cover the course reading materials assigned to them. This was taken as one of the factors.¹ A study conducted in Sodo district, Ethiopia, explained that adults were more involved in alcohol use than khat use due to the impact of negative social ills.⁷ A further study conducted in the USA indicated that youths were involved in drug use for the purposes of changing or improving their daily lives.²⁰ In addition, young people in North Dakota were involved more in cigarettes and hashish use than in other substances as a result

Table 5. Coefficients of multinomial logistic regression-smoke versus khat use.

INDEPENDENT VARIABLES	MULTINOMIAL LOGIT MODEL							
	SMOKE VERSUS KHAT USE							
	B	SE	WALD	DF	P-VALUE	AOR	95% C.I. FOR AOR	
							LOWER BOUND	UPPER BOUND
Sex								
Female	0.097	0.022	20.149	1	.000*	1.102	1.056	1.149
Male	0			0				
Stress	-0.096	0.024	15.326	1	.000*	0.909	0.866	0.953
Medicinal purposes	-0.041	0.022	3.630	1	.057	0.960	0.920	1.001
Effects of social interactions	-0.022	0.025	0.786	1	.375	0.978	0.931	1.027
Parental influences	-0.028	0.019	2.360	1	.125	0.972	0.937	1.008
Energizers purposes	-0.718	0.334	4.611	1	.032*	0.488	0.253	0.939
Peer influences	0.658	0.387	2.882	1	.090	1.930	0.903	4.126
Economic and social dependence	0.042	0.464	0.008	1	.927	1.043	0.420	2.589

*Significant at $p < .05$.

Source: Author Survey, 2020.

of the hardships or challenges of lives.³⁶ A mini-review conducted by³⁷ reported that adverse academic outcomes influenced university students in illicit drugs use. In addition, the review conducted by³⁷ explained the reason for illicit drugs use was to get relief from the psychosocial stresses. Similarly, Iranian university students were involved in drug use as a result of stresses that emanated from the dissatisfaction of academic outcomes.^{2,24}

According to the finding of the current study, parental influences were statistically significant in predicting university students' involvement more in khat use than alcohol use. Nevertheless, compared with khat use, students' involvement in cigarettes and hashish use was non-significant as the findings of the current study revealed. In relation to this, studies conducted in Ethiopian universities also revealed that students involved in substance use due to the influences of parents, though the studies did not explicitly show which type of substances students involved in.^{1,28,29}

Parents are the significant others in determining their children's future.^{10,38} Children have learned and internalized the practices, experiences, behaviors, traditions, norms, customs, and actions that exist within their family, locality, and society with the help and support of their parents. For example, if parents are either smokers or chewers or drinkers, their children are more likely to become either smokers or chewers or drinkers.^{10,38} Together with such assumptions, the reasons for students' involvement more in khat use might come from being influenced by their parents who used khat more than other substances at home. It is, therefore, essential for parents to inform in detail their children about the negative and positive consequences of involvement in substance use.

As far as parental influences are concerned, studies conducted in universities of North India,²³ in Poland,³⁹ and in Conservative Religious University of USA⁴⁰ also indicated young people involved in substance use because of parental influences. In particular, young people in northern Thailand are involved in alcohol use because of parental influences.⁴¹ However, in South Africa, because young people had pocket money they were involved in heavy alcohol use.⁴² From the studies mentioned above, it is possible to infer that young people who involved in substance use with preferences were influenced by their parents' background in substance use, their own experiences, and the sociocultural practices toward involvement in substance use found in young people's localities.

Concerning the use of substances because of students considered as a source of energy, the results in the first model (Table 4) showed that students most often involved in khat use than alcohol use for the stated purpose. In addition, because use of substances was considered as a source of energy, the parameter estimation results presented in the second model, Table 5, also showed the study participants involved more in khat use than cigarette and hashish use. In relation to substances used as a source of energy, studies conducted in South Africa,⁴³ South West Ethiopia²⁷ (36.8%), Haramaya University¹⁶ (45.4%), and Rift Valley University³⁵ stated that young people were khat use because they considered it as a source of energy. However, the studies indicated young people's involvement in khat use without comparing it with using other substances such as alcohol or cigarettes or hashish.

What is more, studies carried out in Bahir Dar University,²⁸ Haramaya University¹⁶ and Rift Valley University³⁵ revealed that students involved in substance use utilized their potential

and to work continuously on their studies. Since the students in the study area had no other jobs or responsibilities other than their studies, they were more likely to use khat for the purposes of utilizing their potential and working continuously on their studies, that is, improving their academic performances. The students' involvement in khat use was influenced by their beliefs that khat use could make them feel more alert and energetic for their academic performances. Lastly, the study participants involved more in khat use than other substances because they believed that khat use helped them to do their academic responsibilities for long hours without feeling tired.

A final sociocultural factor that influenced university students in using substances was peer influences. Peer influences were the final sociocultural factors that statistically significant in determining students' involvement in substance use. The result presented in Table 4 indicated that students involved more in alcohol use than khat use because of peer influences. A related study conducted in Amman Polytechnic College of South West Ethiopia²⁷ indicated that 36.8% of students involved in substance abuse because of peer pressure. Similarly, due to peer influences, students in Wolaita Sodo University, Ethiopia were involved in substance use.³⁰ A similar case was also observed in the USA at Conservative Religious University.⁴⁰ The aforementioned studies explained peer influences were associated factors for young peoples' involvement in substance use; however, these studies did not specify which type of substances young people involved in.

Peers are persons having similar age, groups, interests, or social status.⁴⁴ In the study area, the majority of students in the university had similar interests and lived in the same setting. Within the campus, groups such as classmates, roommates, close friends, and senior students were considered as peers. The likelihood of sharing behaviors, activities, or actions among groups with similar interests is common practices.^{41,45} If a student has a peer (classmate, roommate, close friend, senior student) who is involved in substance use, the probability of the student's involvement in substance use is high. In fact, the current study found that the study participants had peers who involved more in alcohol use than in other substances.

Conclusion

The current study identified individual sociocultural factor influencing students' involvement in alcohol use or cigarettes and hashish use compared with involvement in khat use. Through the examination of the influencing factors and the analysis of multinomial logit regression models, this study revealed that being female had a significant impact on students' involvement in alcohol use and cigarettes and hashish use than in khat use. Stress emanating from academic related issues had a significant impact on students' involvement in khat use than alcohol use, cigarettes and hashish use. As a result of parental influences, students were more likely to involve in khat use than alcohol use. Students who thought that substances were sources of energy were more likely to involve in khat use than alcohol

use, cigarettes and hashish use. Students were more likely to use alcohol than khat use as a result of peer influences.

Limitations

While the study had strengths in identifying the sociocultural factors of students' involvement independently either in khat use or alcohol use or cigarette or hashish use, it was not without limitations. The analysis in this study was based on the data obtained from the interview schedule and the 2 disaggregated models. The size of the sample calculated by this study was large enough, but the sex composition of samples did not cover a large number of female students. Only the sociocultural factors were considered in investigating associated factors of students' involvement in substance use; however, environmental and personal factors were not included. The sociocultural factors alone could be the limitations of the study. In-depth studies can be conducted on different types of associated risk factors focusing on other involvement patterns of substances in the future. Lastly, the author suggested that additional studies are needed with more comprehensive assessments of the students' mother or the students' father whether they influence or not students either in alcohol use or khat use or cigarette and hashish use; further studies should be carried out by addressing other variables not included in this study.

Recommendations

In light of the above findings and conclusions drawn, the following pertinent recommendations were forwarded.

Students in universities in Ethiopia in general and in Haramaya University in particular, reported that their involvement in khat use or alcohol use or cigarettes and hashish use was linked to sociocultural factors. Such types of associated factors were found at an individual student's level and the factors were also evident at structural and organizational levels. The social constructions of being female were linked to involvement in either alcohol use or cigarettes and hashish use. However, the social constructions of being male among university students were linked to involvement in khat use. Students' inability to overcome stress related to their academic issues influenced them in khat use than other substances. Parental influences were reported to be linked to involvement in khat use than alcohol use among university students. Moreover, considering substances as a source of energy was reported to be linked to involvement more in khat use than other substances. Lack of ability to refrain from sharing friends' practices or beliefs were reported to be linked to involve more in alcohol use than khat use among university students. This study, therefore, recommends that the management of Haramaya University and stakeholders should expand and launch recreational centers within the campuses and create awareness of the pros and cons of substance use. Finally, it is recommended that the university management should look

for strategies that can restrict the accessibility and availability of substances near its campuses.

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Author Contributions

The author designed the study, prepared and analyzed the data, wrote the first draft of the manuscript, read and approved the final manuscript.

Ethics Approval and Consent to Participate

Permission letters were obtained from Haramaya University Vice President for Research Office and district offices. Verbal consent from study participants were also obtained after explaining the purpose of the study and confidentiality was assured using a coding system; interview schedules did not have any personal identifiers.

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Availability of Data and Materials

The datasets used during the study are available from the corresponding author on reasonable request through email.

REFERENCES

- Kahsay ZH, Azeb GT, Alessandra NB. A qualitative study of drivers of psychoactive substance use among mekelle university students, northern Ethiopia. *Subst Abuse Treat Prev Policy* 2019;14:11.
- Shahraki G, Zahra S, Mohammad F. Family and social predictors of substance use disorder in Iran: a case-control study. *Subst Abuse Treat Prev Policy* 2019;14:17.
- UNESCO. *Good Policy and Practice in Health Education. Education Sector Responses to the Use of Alcohol, Tobacco and Drugs*. United Nations Educational, Scientific and Cultural Organization; 2017.
- Belete H, Mekonen T, Fekadu W, Legas G, Getnet A. Help seeking behavior for problematic substance uses in North-West Ethiopia. *Subst Abuse Treat Prev Policy* 2019;14:25.
- California Health Care Foundation(CHCF), 2018. Substance use in California: a look at addiction and treatment. <https://www.chcf.org/wp/SubstanceUseDisorder>.
- Randall CS, Linda RS. Substance use among American Indian youths on reservations compared with a national sample of US adolescents. *JAMA Netw Open* 2018;1:e180382.
- Zewdu S, Charlotte H, Abebaw F, Medhin G, Teferra S. Treatment gap, help-seeking, stigma and magnitude of alcohol use disorder in Rural Ethiopia. *Subst Abuse Treat Prev Policy* 2019;14:4.
- World Health organization. *Alcohol, Gender and Drinking Problems: Perspectives from Low and Middle Income Countries*. Department of Mental Health and Substance Abuse, Geneva. WHO Library Cataloguing-in-Publication Data; 2005.
- Nina-Katri. Substance use framed as situational action. Working paper series. *The Department of Sociology, Stockholm University, Stockholm, Sweden*. 2017.
- Rogers K. *Health and Disease in Society. Substance Use and Abuse*. Britannica Educational Publishing; 2011.
- Bancroft A. Drinking with & without fun: female students accounts of pre-drinking and club-drinking. *Sociological Research Online* 2012;17:142-152.
- Amitava D. *The Science of Drinking. How Alcohol Affects Your Body and Mind*. Rowman & Littlefield Publishers, Inc; 2011.
- Susan B. *Ethnic Identity and Development. Khat and Social Change in Africa*. Palgrave Macmillan, Inc.; 2010.
- Justin H. Tobacco Smoking. *The Spinney Press*; 2011.
- Pertwee RG. *Handbook of Cannabis. Institute of Medical Sciences University of Aberdeen*. Oxford University Press; 2014.
- Andualem D, Assefa S, Chalachew M. Assessment of substance use and risky sexual behaviour among haramaya university students, Ethiopia. *Sci J Public Health* 2014; 2:102-110.
- Sara C, Ettore Z, Roberto F. *Illicit Drugs in The Environment. Occurrence, Analysis, and Fate Using Mass Spectrometry*. John Wiley & Sons, Inc., 2011.
- Rickwood D, Crowley M, Dyer K, et al. *Perspectives in Psychology: Substance Use Prepared by the Australian Psychological Society's Working Group on Substance Use*. The Australian Psychological Society Ltd; 2005.
- Saitz R. *Addressing Unhealthy Alcohol Use in Primary Care*. Springer Science +Business Media; 2013.
- Carl GL, Thomas PG. *Adolescent Substance Abuse Evidence-Based Approaches to Prevention and Treatment*. Springer Science + Business Media LLC; 2018.
- Randi M. *Drugs the Straight Facts. Marijuana*. Chelsea House Publishers, A subsidiary of Haight's Cross Communications; 2003.
- Barton A. *Illicit Drugs. Use and Control*. Taylor & Francis e-Library; 2011.
- Kaur R K, Tarundeep S, Debasish B, Kumar R. Prevalence and pattern of psychoactive substance use among female students aged 18-25 years in universities of North India. *Int J Comm Med Public Health* 2019; 6: 602.
- Farhad T, Yaghubi H, Pairavi H, Hosseini SR, Zafar M, Moloodi R. Risk and protective factors for substance use among Iranian university students: a national study. *Subst Abuse Treat Prev Policy* 2018;13:46.
- El-Setouhy M, Rashad A, Anwar MM, Ghailan KY, Alsharqi A, Sheikh KA. Impact of khat price increases on consumption behavior-price elasticity analysis. *Subst Abuse Treat Prev Policy* 2019;14:19.
- Chang Y-C, Huang W-H, Tsai C-Y, Hwang L-C. Comparisons of early and delayed abstainers and its effects on long-term smoking cessation in Taiwan. *Subst Abuse Treat Prev Policy* 2019;14:31.
- Birega MG, Banchlay A, Minilk A, Tadele M. Descriptive study on magnitude of substance abuse among students of aman poly technique college students, bench Maji zone South West Ethiopia. *J Addict Res Ther*. 2017;8:320.
- Gebrehanana E, Yemane B, Alemayehu W. Substance prevalence and predictors of harmful khat use among university students in Ethiopia. *Subst Abuse Res Treat* 2014;8:SART.S14413.
- Gezahegn T, Andualem D, Mitiku T. Substance use and associated factors among university students in Ethiopia. *J Addict*. 2014;2014:1-8.
- Tesfa M, Wubalem F, Tefera CM, Workie SB. Substance use as a strong predictor of poor academic achievement among university students. *Psychiatry J* 2017;2017:7517450.
- World Health Organization, 2010. The alcohol, smoking and substance involvement screening test (ASSIST). Manual for use in primary care. WHO Library Cataloguing-in-Publication Data.
- Strategic Management and Institutional Transformation of Haramaya University. *Haramaya University Facts and Figures*. Apple Printing Press; 2013.
- Hosmer D, Lemeshow S. *Applied Logistic Regression*. 2nd ed. John Wiley & Sons Inc; 2000.
- Tadesse G. *Practices of Substance Abuse and Risky Sexual Behavior among Adama Science and Technology University Students*. MA Thesis, Adama Science and Technology University, Adama, Ethiopia, 2013.
- Mustefa A. Prevalence of Substance Use and its Determinants among Rift Valley University College Students in Adama. *J Rift Valley Univ Coll* 2011;1(3): 44-57.
- Selya A S, Oleksandr I, Abigail B, Wheat D. Youth smoking and anti-smoking policies in North Dakota: a system dynamic simulation study. *Subst Abuse Treat Prev Policy* 2019;14:34.
- Slobodin O, Crunelle CL. Mini Review: Socio-Cultural Influences on the Link between ADHD and SUD. *Front Public Health* 2019;7:173.
- Jiloha RC. Social and cultural aspects of drug abuse in adolescents. *Delhi Psychiatry J* 2009;12(2):167-175.
- Nowak M, Malgorzata P, Alicja M, Czarkowska-Paczek B. Smoking, alcohol consumption, and illicit substances use among adolescents in Poland. *Subst Abuse Treat Prev Policy* 2018;13:42.
- Thompson WE. Social support, religious involvement and alcohol use among students at a conservative religious university. *Behav Sci* 2017;7:34.
- Singkorn O, Tawatthai A, Bukhari P, et al. Factor associated with alcohol use among Lahu and Akha hill tribe youths, northern Thailand. *Subst Abuse Treat Prev Policy* 2019;14:5.
- Trangenstein P J, Neo K M, Carl L, Jernigan DH, Parry CDH. Heavy drinking and contextual risk factors among adults in South Africa: findings from the international alcohol control study. *Subst Abuse Treat Prev Policy* 2018;13:43.
- Karl P, Nancy P. Drug use among youth and adults in a population-based survey in South Africa. *S Afr J Psychiatr* 2018;24:1139.
- Ritzer G. *Sociological Theory*. 8th ed. The McGraw-Hill Companies; 2011.
- Takalani T, Tosin OH. Substance use amongst secondary school students in a rural setting in South Africa: Prevalence and possible contributing factors. *Afr J Prim Health Care Fam Med* 2016;8:e1-e6.