

Family Environment And Substance Use Among University Students

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Abstract: Family environment represents a significant, but largely ignored area of research in the context of Ethiopia. The purpose of this study was to investigate the impacts of family environment on substance use among Kotebe Metropolitan University Students. Institutional based Cross-sectional explanatory research design, which enables to collect large data in narrowed time, was employed in this study. Data were collected from questionnaires filled by 351 students recruited from five colleges using stratified random sampling technique. Subscales of Family Environment Scale with specific to family cohesion, family communication and family conflict were used to measure participant's perceived opinions regarding to the climate of their family. Substance use Questionnaire was also used to assess students' level of substance use. Multiple Linear Regression Analysis was carried out as a method of data analysis. The findings of the study revealed that there was high prevalence of substance use among Kotebe Metropolitan University students: 67.80% (n=238) of the participants reported that they have been engaged in substance use, or tried at least once during the past twelve months. Khat (39.91%), Weed (5.46%), Shisha (6.30 %), Cigarette (13.86 %) and Poly substances (45%) were the type of substances that were consumed by the students. The regression result depicted that, while family cohesion and family communication were inversely and significantly associated with level of substance use, family conflict was not significantly associated with level of substance use. The implication of this finding is that family environment particularly family conflict and communication should be considered while designing intervention programs of substance use.

Index Terms: Communication, Conflict, Cohesion, Family environment; Prevalence, Substance use; University students

1. INTRODUCTION

Substance use comprises a wide array of specific behavior namely use of each of many substances. The substances usually encompass a range of psychoactive substances including alcohol in its various forms, tobacco, illegal drugs (Marijuana, cocaine, hallucinogens, heroin etc.), and legally controlled psychotherapeutic drugs such as stimulant, sedatives and tranquilizers [13]. Substance use is among the major problems in the world. From the general population of substance users, youth are the ones who are highly involved in illicit drugs. According to UNODC the prevalence rates of substance abuse increase gradually over teenagers and reach its highest level among youths with age range of 18-25 [27]. Furthermore, people who are receiving treatment because of illicit drug use are those who are found in their late 20s to early 30s. Nowadays, majority of youths are attending universities /colleges courses, which makes them vulnerable to plenty of new hazardous behaviors. The engagement of substances among adolescents can be destructive since it is mostly linked with health complications, poor academic achievement, and general decline of performance [3]. One of the theories of human development, i.e. ecological systems theory developed by Bronfenbrenner upholds that the outcome of a person's life is strongly shaped by the environment and its immediate settings. People are not isolated; rather, they live with in multifaceted structures that include their nearby settings, social links and traditional communities [5]. Bronfenbrenner suggested that person – environment is linked in terms of micro, meso, exo and macro systems. In relation to this, researchers tested microsystem with one of the risk behaviors among adolescence (i.e. substance use), and found out that negative family context and peer context were associated with increased level of risky behaviors [11]. Researchers also reported that multiple aspects of social environment risk factors impacts adolescents to engage in substance use [8], [2], [28]. Family environment, which is, one of the social environments, possesses substantial potential contribution for adolescent substance use. Deprived family environment face meaningfully more adjustments problems.

Family functioning, which is among the various aspects of family environment embraces attachment, commitment, affection, encouragement, and companionship, is inversely related with adolescent substance use [9]. In addition, there are also numerous constituents of family environment, such as conflict, cohesion and communication that may have a direct impact on substance use.

1.1. The Link between Family Cohesion and Substance usage

Cohesion is the passionate bond that members of a family have for one another [21]. The concept of cohesion also included the amount of help and commitment that members of a family provided for each other [19]). Family interactions remain to be significant in the life of the adolescents, although the period of adolescence is manifested by an increased aspiration to be independent [17]. According to [22] family interactions has a significant contribution in encouraging risk behaviors of adolescents, or in keeping away the adolescent from risky behaviors. Affection with in a family and affinity can function as a protecting element from several of the behaviors that are risky. Researchers examined the inverse associations of family cohesion with the minimal level of risk behaviors among adolescents [8], [2]; pre immigration cohesion among family was negatively linked with illicit drug use and alcohol consumption among settlers of Latino in US [2]. Furthermore, poor family cohesion is also associated with increased levels of problem behaviors including substance use [23]. Similarly, researchers also found out the association of good family cohesion with lower probability of substance use related complications among Mexican inheritance and youths of white heritage in the United States of America [15], [14]. Furthermore, good feature parent adolescent connection is linked with reduced threat of various problematic conducts such as [1].

1.2. Family Communication and Substance use

Family communication is related with substance use variables (i.e. problems of substance use, frequency and number of drug use). Persons with poor positive family communication tend to use more number of substances in

contrast to those persons with more positive family communication [6]. Dysfunctional families typically accompanying with family crisis, little responsiveness to adolescence and lack /poor parent-youth communication lead the youth to participate in drug usage [28]. Similarly, [4] depicted there was significant inverse link between communication among family members and incidence of substance use by adolescents male. People who used drugs more frequently are marked by a family with poorer family communication. On the other hand, individuals with positive family communication tend to consume drugs less frequently.

1.3. Family Conflict and Substance use

Family conflict is explained as openly displayed aggression behaviors, resentment, as well as fight between members of a family [19]. Empirical evidences identified that family conflict is a major peril factors for the increase of problem behaviors among adolescents. According to [17] family conflict is inclined to rise during period of puberty, and this is due to the desire of the adolescence to be autonomous that is often associated with behavior change and parents commonly react to that by splitting themselves from the adolescents or by being intimidating to the adolescents which in turn related with risk taking behaviors among adolescents.

2. NEED OF THE STUDY

The term "adolescence" covers the time from the onset of puberty to the date the individual establish social independence [26]. This period is believed to be the riskiest since persons become much more vulnerable to risky behaviors. Adolescents start experimenting with alcohol, tobacco, marijuana and other substances starting from early to late adolescence and peak when they enter the late adulthood period [27]. In Ethiopia, substance use is recognized as a growing problem and appears to have greater impact on the younger generation, particularly in urban centers [7]. Studies also indicated that drug consumption by students attending higher institutions is considerably rising [20], [7], [24]. In Ethiopian situation, studies done on drug usage mainly highlighted the prevalence and effect of drug usage, rather than focusing on predisposing factors [20], [24], [10], [7]. The role of family environments (cohesion, conflict and communication) has not been investigated at all in previous studies. Therefore, there is dearth of research which has explored the aforementioned concepts in the study of substance use among university/ college students. In the light of paucity of research, the present study attempts to clearly delineate the predisposing family environment factors underlining in prediction to substance use amongst youth. Therefore, this study intended filling the gaps by investigating the association between family environments; cohesion, conflict and communication and substance use.

3. HYPOTHESIS

1. Family communication will be inversely linked with substance use
2. Family cohesion will be inversely linked with substance usage
3. Family conflict will be positively related with substance usage

4. METHODOLOGY

4.1. Participants

Institutional based cross-sectional explanatory research design, where data is collected at the same on spot time is the appropriate design of the present study. Cross-sectional research design is suitable when a researcher wanted to collect large data within limited time period. Students with the age range of 18 to 25 from Kotebe Metropolitan University (Ethiopian government public university found in the capital city), were the target population of the study. The university had 2891 regular undergraduate students enrolled in five collages in the academic year of 2018/19. From the five colleges using the Yamane (1967) sample size determination formula, a total of 351 participants, 52% (183) male and 48 % (168) were recruited using stratified random sampling technique to participate in the study.

$$n = \frac{N}{1 + N(e)^2}$$

Where

N=number of population

n=number of samples

e=margin error (95% confidence level)

4.2. Measures

Drug use Questionnaire (DAST-20): Drug use Questionnaire developed by Skinner [25]. , that measures the possible involvement of drugs during the past 12 months is used for this study. Pilot test was done among Addis Abeba University students and Cronbach alpha value for the measure of drug use questionnaire was 0.72
The Scale of Family Environment: This instrument assesses and individual's perceptions of the family social climate [19] , and for this study the relationship dimensions of family cohesion, conflict, and expressiveness were used. The subscale of cohesion have nine items that covers concepts such as enjoying by taking time together, helping each other in the house, and providing support each other etc. The subscale of family conflict contained nine items in the form of true / false and measure openly expressed conflict, anger and disagreement in the family. The subscale of expressiveness also contained nine items in the form of true or false and this scale is used in the study to measure communication level among family members. The scales were pilot tested among Addis Ababa University students and Cronbach alpha value for family conflict, cohesion and expressiveness was 0 .82, 0.89, and 0.77 respectively.

4.3. Method of Data Analysis

Multiple Linear Regression Analysis was computed to examine the link between the independent variables (family cohesion, family conflict, and family communication) and the dependent variable substance use. Assumptions of Multiple Linear Regression including Multicollinearity, Independence of error, Linearity and Normality were tested and verified before foregoing the analysis. To test the significance level, 95% confidence level was considered.

5. RESULT AND DISCUSSION

5.1. Current Prevalence of Substance use

As it is displayed in Table below, with regard to the current prevalence of substance use, of the total participants 67.80% (n=238) of them responded that they are engaged in substance usage, or attempted at least once during the

past 12 months. The remaining 32.19% (n=113) of them stated that they are not involved in any of substance during the last 12 months. Concerning the type of substances that were consumed by the students, khat, weed, shisha and cigarette represents 39.91%, 5.46%, 6.30 %, 13.86 % respectively. The remaining 45% of respondents are poly drug users.

Table 1. Prevalence of Substance use

No.			Frequency	Percentage (%)
	Current use of substance (with in the last 12 months)	None	113	32.19
		Involved(at least tried once)	238	67.80
			Total =351	Total=100
	Type of substance used	Weed	13	5.46
		Khat	95	39.91
		Shisha	15	6.30
		Cigarette	33	13.86
		More than one substance	82	34.45
			Total =238	Total=100

5.2. Regression Result.

As it is described in Table 1, 67.80% (n=238) of the total number of participants are involved in substance use, or tried once during the last 12 months. Therefore, responses of those participants were included for further analysis using multiple linear regressions. Substance use of students that could be influenced by the independent variable of family environment (i.e. family conflict, cohesion and communication) were taken together and explored using multiple regressions. Indeed, the F value, Beta coefficients and the test of significance for each coefficient have been summarized as follows.

The Equation of multiple regressions is:
 $SU = \beta_0 + \beta_1(COHE) + \beta_2(CON) + \beta_3(COM) + \beta_4(COHE) + \epsilon$

WHERE,

β_0 = constant
 SU=Substance use
 COHE= cohesion
 CON=conflict
 COM=communication
 ϵ = error term

Table 2. Model summary

Model	R	R Square	Adjusted R Square	Change Statistics			
				F Change	df1	df2	Sig. F Change
1	.506 ^a	.256	.246	26.835	3	234	.000

As it is displayed in the Table 2, indices of family environment (i.e. conflict, cohesion and communication) as a whole accounted for 24.6% of the variance in the score of substance use (adjusted $R^2=0.246$). The model summary shows R Squared of .256(.256x 100= 25.6 %) or 25.6% of the alteration in the outcome variable (Substance use) was accounted by the predictive variables in the model (F =

26.835; df = 3, 234; p = 000 or p< 0 .05). As it is clearly stated at the objective part, the major target of this study is to examine the association of each individual independent variable with the dependent variable. Indeed, analysis was done to validate the distinctive impact of each independent variable on substance use by allotting coefficients to each predictive variable. The result is displayed in Table3 below

Table 3. Coefficients of regression output

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.219	.977		14.550	.000
	Cohesion	-.505	.103	-.337	-4.879	.000
	Conflict	.066	.105	.039	.628	.531
	Communication	-.397	.137	-.212	-2.907	.004

a. Dependent Variable: substance use

As depicted in the above Table, weight of the Beta and statistical significance were examined and, based on the result of beta weights, among indices of family environment, i.e. Cohesion ($\beta = -.337$, $P = 0.000$, $P < 0.05$), and communication ($\beta = -.212$, $p = 0.004$, $P < 0.05$) predicted substance use significantly. Indeed, a one unit upsurge in family cohesion is related with 0.337 unit reduction of substance use, and a one unit increase of family communication is associated with 0.212 unit reduction of substance use. However, as it is seen in the above table, family conflict ($\beta = .039$, $p = 0.531$, $P > 0.05$) do not significantly associated with substance use. The final regression equation for the predictive variables by the standardized coefficient is;

SUBSTANCE USE = 14.219 - 0.337(COHESION) - 0.212(COMMUNICATION)

Generally the findings of the present study revealed the following with regard to the hypothesis that was posited

- Family communication will be inversely linked with substance usage is supported
- Family cohesion will be inversely linked with substance usage is supported
- Family conflict will be positively related with substance usage is not supported

5.3. Discussions

The current findings propose the prominence of family environment, with special emphasis on family cohesion and communication in decreasing drug usage among Kotebe Metropolitan university students. The study revealed that family cohesion and family communication were inversely related with substance usage among participants. This inverse association of family cohesion with that of substance usage indicates that, a cohesive family environment is preventing the students from engaging in substance use. Previous studies also indicated the positive impact of family cohesion in hindering adolescents' substance use. The finding of the present research is in line with the study that was done among Latino young people in USA. The finding of the study revealed that pre immigration family cohesion was inversely linked with harmful illegal drug use and consumption of alcohol [8]. The result of this study is also supported by the findings of another study that depicted weak family cohesion is related with greater levels of behaviors that are problematic, for instance, drug usage [23]. In addition, the findings of this study is also consistent with the findings of another study that showed the association of lower probability of substance and alcohol use problems and good family cohesion among Mexican heritage and white youths in the United State [15]. Moreover, [2] declared that cohesion of family has linked with small amount and less habit of drinking alcohol. Moreover, it has been mentioned that cohesiveness can serve as a significant defensive element from drug usage. Therefore the finding of this study is in line with the result of the aforementioned studies [14]. The current study also attempted to elucidate the prominence of family communication in reducing level of substance use among university students. The finding is in line with earlier studies that suggest lower level substance use in adolescents is linked with higher level of family communication [6], [28]. Adolescents with reduced positive family communication

tend to use higher level of substances in contrast to those with better positive family communication. Furthermore, dysfunctional families typically accompanying by poor parent -youth communication lead the adolescent to involve in drug use [28]. Furthermore, the present study examined the potential contribution of family conflict to substance use among the targeted population (i.e. university students). In disparity to earlier research findings, proposing that increased engagement of adolescents in substance consumption is associated with higher level of family conflict, the current study revealed that, though there was connection between conflict among families and substance usage, it was not statistically accepted. Research findings revealed that a family environment manifested by conflict is significant possible element for the development of risk behaviors among adolescents. Specifically, Conflict has been identified as one of the potential contributors for adolescents to engage in substance and alcohol use [16]. The disparity finding can be variations in age. Many of the previous studies concentrated on early and middle adolescence period where there is high conflict between the parent and the child due to the high desire of the adolescent to be autonomous [17]. This study concentrated on university students (i.e late adolescent period) where parent-child conflict is believed to be decreased [17].

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions

The significance of the family environment in predicting substance consumption among early and middle adolescents has been shown in prior research findings, and this study advances the need of research among this population (i.e university students), since little attention has been given. Family environments are considered substantial elements for the adolescents' healthy development. In this study, family communication and family cohesion were connected with minimal level of substance usage amongst Kotebe Metropolitan University students. This can be further explained as that family cohesion and communication were protective factors of substance use among the students. However, though plenty research findings confirmed that family conflict is a risk factor of substance use, in this study it was not significantly related with substance use. This finding is valuable for the programs that are concentrated in preventing and ceasing risky behaviors such as substance use among adolescents.

6.2. Recommendations

The observed association among family environments and university student's level of substance use may still be due to supplementary variables that were not encompassed in this study. Therefore, other family environment processes that can be accountable need to be considered while studying predisposing and protective factors of substance use. The current study is restricted to only Kotebe Metropolitan University students, and hence further research is also required that is inclusive of other universities/colleges found in the Capital city of Ethiopia. This will be helpful to understand the overall predisposing

and protective factors of substance use with larger sample size.

7. LIMITATIONS

- The study is collected only from Kotebe Metropolitan University, and hence the findings of the study cannot be generalized to generally to all other universities in Ethiopia.
- This study inculcates family environment as one of predictors of substance use that may allow the students to respond negatively to substance use. Therefore more research is needed.
- Alcohol, one of commonly abused substance in Ethiopia, is not included in this study.

8. REFERENCES

- [1] Ackard DM, Neumark-Sztainer D, Story M, Perry.C. "Parent-child relationship quality and behavioral and emotional health among adolescents". *American Journal of Preventive Medicine*. 2006; 30:59-66
- [2] Bahr SJ, Marcos AC, Maughan SL(1995). Family, educational and peer influences on the alcohol use of female and male adolescents. *Journal of studies on alcohol*; 56(4):457-69
- [3] Belew M, Kebede D, Kassaye M, Enquoselassie F. "The magnitude of khat use and its association with health, nutrition and socio-economic status". *Ethiopian Medical Journal*;38(1):11-26,2000
- [4] Brechting. E. H. "Family environment and substance use in adolescent males Kentucky Master's Theses.2004.
- [5] Bronfenbrenner U. "The ecology of human development". Harvard university press; 1979.
- [6] Brook JS, Brook DW, Gordon AS, Whiteman M, Cohen P. "The psychosocial etiology of adolescent drug use: a family interactional approach". Genetic, social, and general psychology monographs. 1990 May.
- [7] Desalegn, B. M., Deribew , A. A, Belayneh, K. G, Gobezie, T. T. "Assessment on the prevalence and contributing factors of social drugs utilization among university of Gondar regular undergraduate students, maraki campus", *International Journal of Pharma Sciences and Research (IJPSR)*,2013
- [8] Dillon FR, Rosa MD, Sanchez M, Schwartz SJ."Preimmigration family cohesion and drug/alcohol abuse among recent Latino immigrants". *The Family Journal*.;20(3):256-66,2002.
- [9] Elliot, D.S., Huizinga, D., & Ageton, S.S. "Explaining delinquency and drug use". Beverly Hills, C.A.: Sage Publications,1985
- [10] Gebreslassie, M., Feleke, A., & Melese, T. "Psychoactive substances use and associated factors among Axum University students, Axum Town, North Ethiopia". *BMC public health*, 13(1), 693,2013
- [11] Hong, J. S., Huang, H., Sabri, B., & Kim, J. S. "Substance abuse among Asian American youth: An ecological review of the literature". *Children and Youth Services Review*, 33(5), 669 677,201
- [12] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. "Monitoring the future national survey results on drug use: Bethesda, MD: National Institute on Drug Abuse",2009.
- [13] Johnstone,L.D . "Reducing adolescent risk: Toward an integrative approach". Sage publications: new Delhi ,2013
- [14] Kliewer W, Murrelle L, Prom E, Ramirez M, Obando P, Sandi L, del Carmen Karenkeris M. "Violence exposure and drug use in Central American youth: Family cohesion and parental monitoring as protective factors". *Journal of Research on Adolescence*. Sep;16(3):455-78,2006.
- [15] Kopak AM, Chen AC, Haas SA, Gillmore MR. "The importance of family factors to protect against substance use related problems among Mexican heritage and White youth". *Drug and alcohol dependence*;124(1-2):34-41,2012.
- [16] Latendresse SJ, Rose RJ, Viken RJ, Pulkkinen L, Kaprio J, Dick DM. "Parenting mechanisms in links between parents' and adolescents' alcohol use behaviors. *Alcoholism: Clinical and Experimental Research*; 32(2):322-30, 2008.
- [17] Laursen B, Coy KC, Collins WA."Reconsidering changes in parent-child conflict across adolescence: A meta-analysis". *Child development*; 69(3):817-32, 1998.
- [18] Laursen B, Mooney KS."Relationship network quality: Adolescent adjustment and perceptions of relationships with parents and friends". *American Journal of Orthopsychiatry*; 78(1):47-53, 2008
- [19] Moos RH, Moos BS. "Manual for the family environment scale". Palo Alto, Calif.: Consulting Psychologists Press, 50:33-56,1981.
- [20] Nigatu.A.G. "Strategies for the reduction of alcohol and substance abuse among adolescents at two selected universities in Ethiopia". Diss. 2016
- [21] Olson, D. H. "Circumplex Model of marital and family systems: Assessing family functioning". In Walsh, F. (Ed.), *Normal family processes*, (2nd ed.) (pp.104-137). New York: Guilford Press,1993
- [22] Pergamit, M.R.; Huang, L.; Lane, J. "The Long-Term Impact of Adolescent Risky Behaviours and Family Environment"; ASPE, U.S. Department of Health and Human Services: Washington, DC, USA retrieved sept 2, 2017 from <http://aspe.hhs.gov/hsp/riskybehav01>, 2012.
- [23] Sapp, R. L. "Family conflict and family cohesion: their relationship to youths' behavior problems". PhD diss., University of Tennessee, 2003.Retrieved from.https://trace.tennessee.edu/utk_graddiss/2375.
- [24] Shimelis T., Wosen. "Assessment of Causes, Prevalence and Consequences of Alcohol and Drug Abuse among Mekelle University, CSSL 2nd Year Students" *American Journal of Applied Psychology*. (3)3, 47-56, 2015.
- [25] Skinner HA. Guide for using the drug abuse screening test (DAST). Toronto: Centre for Addiction and Mental Health. 1982.
- [26] Steinberg, L. "Age of opportunity: Lessons from the new science of adolescence". Boston, MA: Houghton Mifflin Harcourt, 2014
- [27] United Nations Office on Drugs and Crime (UNODC). *The contemporary drug problem: Characteristics, pattern and driving factors*. World drug report ,2012
- [28] Yip P, Cheung SL, Tsang S, Tse S, Wong OL, Laidler K. "A study on drug abuse among youths and family

relationships". Center for Suicide Research and Prevention. University of Hong Kong, China, 2011

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