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Original Article

Does Life Satisfaction Correlate with Risky Behaviors? Finding from Ethiopian Higher Education Students

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<u>ABSTRACT</u>

Objective: Many studies report high prevalence of risky behaviors among youths of higher educational institutions of Ethiopia. And, life satisfaction is one of the aspects that lead to positive and healthy life style. However, correlation of life satisfaction and risky behaviors remained unstudied. Thus, this study intends to determine correlation between life satisfaction and risky behaviors among students of higher educational institutions.

Methods: A cross sectional institution based study was conducted in Arbaminch University, Southern Ethiopia. Four hundred twenty eight students participated in the study from six colleges. Simple random sampling was used to identify respondents. Pre-tested instrument was used for data collection. Life satisfaction (using Multi-Dimensional Student Life Satisfaction Scale), sexual behaviors and substance use were assessed. Data were analyzed using SPSS version 16.0 statistical software. Explanatory Factor Analysis (EFA) was executed to identify life satisfaction domains. And, correlation analyses were performed between life satisfaction and risky behaviors.

Results: 307 (71.8%) of respondents were satisfied with their life. The EFA produced five distinct life satisfaction (LS) domains which were consistent to our initial expectation. The domains produced were family, friends, self, school environment and living milieu related. With regard to satisfaction with life domains, students were more satisfied with family domain, accounting for standardized mean score of 79.6%. However, they were least satisfied with living milieu (55.0%). Gender variation exhibited difference in LS mean score because of family domain, females were more satisfied ($F_{test 1, 426}$, p=0.000). Students' year of study showed no difference in LS mean score. Correlation analyses revealed that overall life satisfaction was significantly but inversely correlated with risky behaviors like having multiple sexual partners, never use of condom and alcohol use. These correlations were significantly attributed to the family and self domains, not to other domains.

Conclusions: Despite high prevalence of life satisfaction, living milieu was less satisfying life

domain. Life satisfied students were less likely to engage on risky behaviors. Any student centered risk behavior reduction intervention should consult life satisfaction concept, particularly because of the optimistic upshot stemming from family and positive self evaluation domains.

Keywords: Life satisfaction, Risky sexual behavior, Substance use, University student, Ethiopia.

BACKGROUND

In fact, it is difficult to put in exact words, our life constitutes all events of our existence that relates us with social, physical, psychological, economic and other dimensions of the environment. It includes plans. expectations, expectancies. our activities, achievements and responses they bear. Life satisfaction (LS) is a cognitive evaluation of one's life as a whole and/or of specific life domains. It is an important aspect of subjective well-being (SWB) and it leads to positive and healthy life style in vouth. Subjective well-being a field in behavioral sciences in which people's evaluations of their lives is studied. As a component of SWB, LS has been linked to a wide range of physical, mental, academic, and social indicators emotional of functioning particularly in adolescents. It serves as protective factor, for adolescents who experience stressful events, from developing additional externalizing behavior problems.¹⁻⁴

Evidences show life satisfaction to important for extremely college be students.^{2,5} And, many studies have shown low level life satisfaction associates with different risky behaviors.⁶⁻⁸ Risky behaviors for which there are behaviors are unknown/unexpected consequences and the potential for those consequences to have negative health outcomes. More directly risky behaviors to which LS is associated include; alcohol, tobacco and other drug use, violent and sexual risk-taking behaviors.^{7,9-12}

As far as risky behaviors are concerned, many studies report it is increasing threat particularly in

adolescence.¹³⁻²¹ This is the age when many struggle to attain independence and self reliance in different life phenomena, for example, joining higher learning institutions. Risky behaviors include use of substances like alcohol, khat leaves and tobacco. It has become one of the rising major public health and socio-economic problem worldwide. Recent trend indicates that the use of dramatically increasing substances is particularly in developing countries.14,19-21 This is more worsening in youth. If young people increasingly take drug, they are susceptible to serious health problem; the practice leaves them little chance to have a healthy lifestyle in the future.²¹ Students, particularly in University, are among the high-risk substance abusers. A study done among university students at the West Indies shows a six-month prevalence rate for alcohol was 70% and of whom 28% were regular users.¹⁹ Similarly, this is a problem in Ethiopia. For example, a study conducted among undergraduate medical students of Addis Ababa University shows 31% of lifetime alcohol use.²⁰

The other wing of risky behaviors that make the youth vulnerable is sexual behavior related. Risky sexual behavior is defined as engaging in sexual encounters at an early age, no or inconsistent condom use and having multiple sexual partners.¹³ Its prevalence is even higher among college students compared to out of college young adults.¹⁵ A study among students in Kenya University shows 71% males and 47.6% females reported having had sexual intercourse. From those sexually active students only 18% male and 14 % females reported using condom every time they had sex.¹⁶ A study conducted among students of Gondar town, Northern Ethiopia, depicted that 43.3% of sexually active ones had more than one sexual partner and about 39% had unprotected sex (without condom).¹⁷ In turn, these risky sexual behaviors are extremely detrimental to health putting them at high risk to HIV/AIDS and other Sexual transmitted diseases (STDs).¹⁸

Verily, many studies, including in Ethiopia, report high prevalence of risky sexual activity and substance use among college/university students.¹⁵⁻²⁰ They have also widely examined the physical and psychological impact of the risky behaviors. However, few studies were conducted on life satisfaction and risky behaviors. And even no previous study has given attention to see the interplay of life satisfaction and risky behaviors among university students in Ethiopia. In addition, various risk reduction initiatives (for example, HIV/AIDS prevention and control) underway to reduce the risky behaviors have not yet considered concept of life satisfaction. Therefore, it is timely and appropriate to assess life satisfaction if it would be one of the essential aspects of effective health behavior promotion interventions. Hence, this study primary aims to assess students' life satisfaction and its correlation with risky behaviors in higher learning institution setting.

METHODS

Study setting

A cross sectional study was conducted in Arbaminch University between March 24 and 28, 2013. Arbaminch University is one of the 33 universities in Ethiopia. It is found in Arbaminch town. The town is located in southern Ethiopia, Southern Nations and Nationalities of People's Regional state. It is about 505 Km from Addis Ababa; the capital of Ethiopia. Currently, the University comprises of six colleges; Institute of technology, Medicine and Health Science, Agriculture, Natural Science, Business and Economics and Social Science and Humanities. The University's total number of regular undergraduate students enrolled from different regions of the country by 2012/13 academic year was 13,018. Usually the regular students have residence inside the campus. Unlike their experiences during their stay in high school, now most of them live separated from their parents. They seem to be in a more unperturbed and less controlled setting.

Population

The study was conducted among Arbaminch University regular students available in the academic year 2012/13. Students were regarded in the study from all the colleges. The regular but undergraduate students were regarded for the study due to the fact that the attendants of the extension programs are exempted from some of the University experiences as they often live with their parents following that they come from nearing catchment areas. And, the post graduates are relatively matured and offcampus. Thus, they are less likely worthy of consideration for risky behavior and, as focus of risk reduction initiatives.

Inclusion criteria

This study included students fulfilling criteria of being regular (nonextension), undergraduate (non-post graduate) and in-campus resident.

Exclusion criteria

Among those fulfilling inclusion criteria students living off-campus and or with their parents were excluded from the study for some of the life satisfaction domains don't involve them. In addition, students who were seriously ill and temporarily unavailable in the compound during study period for various reasons such as vacation, academic attachment and the like were excluded.

Sample size

The sample size was calculated using single population proportion formula (n= (z $1-\alpha/2)^2$ p $(1-p)/d^2$) with the following assumptions; expected proportion of students satisfied with their life (p=50%), marginal error (d=5%), significance level (α =5%), reliability coefficient corresponding to 95% confidence level (z=1.96) and non-response rate (15%). A proportion of 50% was preferred due to lack of similar studies. Then, the final sample size produced was 422 students.

Sampling technique

The total sample size was proportionally allocated to the six colleges in the University based on the enrolled number of their regular undergraduate students. The proportions allocated to each college were further distributed to each stratum after stratification was made based batches found in each college. on Stratification was made by batches of students assuming that year of stay in the university influences their life satisfaction and risky behaviors. The enumerated list of all regular students was secured from the respective registrar offices of the colleges prior to the study. Then, the list was used to produce sampling frames for each batch of each college. The sampling frames sorted down all essential identifiers of students in the lists including department, classroom numbers, and identity number. Finally, in order to identify the respondent from each stratum of each college, simple random sampling was applied by using computer generated random numbers.

Measurements

The instrument was adapted from analogous studies.²⁰⁻²⁶ It was a self questionnaire. administered The questionnaire consisted of three main parts. The first part composed of respondents socio-demographic characteristics. The second part constituted Multidimensional Students' Life Satisfaction Scale (MDSLSS) with 34 items. This section holds five distinct areas adapted to be pertinent students' life satisfaction domains. The items of each domain were scored on six point agreement scale ranging from strongly disagree (1) to strongly agree (6) making the range of MDSLSS score between 34 and 204. The MDSLSS score beyond 136 regarded a student as satisfied otherwise dissatisfied. The third categories were risky behaviors items measured in yes-no format. The risky sexual behaviors items include having multiple sexual partners or never or inconsistence use of condoms during sexual intercourse in the last 12 months. And, the substance use items include use of alcohol, khat and tobacco by respondents within 30 days prior to study.

Outcome and exposure variable

Many studies report high prevalence of risky behaviors among higher learning institutions. In addition, the investigators of this study merely observe students to be outwardly ignorant despite the endeavors of some risk reduction interventions. This bared a question 'if these unhealthy behaviors have some to share with life satisfaction?' Thereof, risky behaviors were considered as desired outcome. But, life satisfaction was considered as exposure variable.

Statistical analysis

The data were analyzed using SPSS 16.0. Descriptive statistics were used to summarize the data. We executed

exploratory factor analysis (EFA) to explore the dimensions that could emerge from MDSLSS items. Accordingly, we identified five presumptive distinct LS domains. The domains were family, friendship, self, school/University environment and living milieu with respective measurement of 7, 9, 7, 6 and 5 items. However no items were excluded, for final use, from the initial MDSLSS, at the point we executed EFA we presupposed to suppress items at factor loading absolute value of 40%. Mean score was computed for each explored life satisfaction domain, after all items of each domain were summed up. Then, the total score was converted to 100 percent for possible comparisons of the domains mean scores. Independent t-test was performed to observe a glimpse of variation in mean scores of the LS domains by gender and students' year of study. The overall life satisfaction was calculated by summing up all items composed in each domain. Spearman's rank correlation coefficient was calculated to identify correlation between life satisfaction and risky behaviors at less than 0.05 level of statistical significance.

Ethical consideration

The ethical issue of this study was approved by the Ethical Committee of the college of Public Health and Medical Sciences, Jimma University. This approval was declared by letter referenced with number; RPGC/117/2013 on the date 12/03/2013. All respondents were given detail information about the objective and purpose of the study and written informed consent was obtained from each respondent.

RESULTS

Background characteristics of the respondents

Four hundred twenty eight respondents were participated in the study; giving response rate of 97.0%.Table 1 presents background characteristics of the respondents. Accordingly, 313 (73.1%) of the respondents were males. The mean age of the respondent was 21.3 years (SD=2.2) and 247 (57.7%) of respondents were orthodox Christianity. In terms of marital status, majority 414 (96.7%) of the respondents were single.

Respondents' life satisfactions

Table 2 contains the result of exploratory factor analysis for the life satisfactions domains; KMO=0.859, Bartlett's Test of Sphericity p=0.000. Accordingly, consistent with expectations, the items were tapped into five factor structure and explained 56.1% of the variance where satisfactions with parents accounted for the largest percentage, that is for 14.3%, followed by satisfactions with friendship (12.8%), and satisfactions with self (12.1%), school environment (8.6%) and living environment (8.3%).

Descriptive statistics for life satisfactions domains

descriptive Figure 1 represents information for each factor structure underlying life satisfactions. For each factor, the score was adjusted to 100% for possible comparisons among scales. Consequently, lower mean score was observed for two life satisfactions sub-scales: Satisfactions with living environment (mean=55.0, SD=9.9) and schools environment (mean=61.8, SD=22.9) whereas higher mean score was obtained for family (mean=79.6, SD=16.5) self satisfactions (mean= and 78.6. SD=14.6) domains. Figure 1 is radar charting presents the respondents' mean score to life satisfactions sub-scales. As depicted in the chart, lower charting gap is seen for living environment and schools. Moreover, independent sample t-test was used to check if mean score differences exist by gender. Except for satisfactions with

parents ($F_{test 1, 426}$, p=0.000), no statistically significant difference was observed for other sub-scales. Post-hoc test, was used to identify the source of the significant omnibus F for satisfactions with parents, and indicated that the mean score for female respondents (mean=84.4, SD=15.5) was significantly higher than mean score for males (mean=77.9, SD=16.5). Similarly, no significant mean difference was observed by year of study (p>0.05).

Respondents' sexual activity

Regarding sexual activity, 166 (38.7%) of the respondents ever had sexual intercourse and males accounted the majority of them, 136 (81.9%). About 131 (78.9%) of respondents had sexual intercourse in 12 months prior to the study period where 67 (51.1%) of them had sex with two or more partners. Results also showed that among respondents who reported to have ever had sexual intercourse, 113 (68.1%) had used a condom at least once and only 53 (47.0%) used it consistently, 38 (33.6%) reported occasionally use and 22 (19.4%) used rarely.

Relationship between life satisfaction and risky sexual activity

relationships То examine the respondents' between overall life satisfactions and risky sexual behavior, rank correlation spearman's order coefficient rho (rs) was calculated. The results of the analyses presented in Table 3. The correlation between life satisfaction domains and risky sexual activity showed that satisfaction with family domain was significantly and inversely correlated with having multiple sexual partners (rho=-0.24, p=0.005). While, satisfaction with friend, University, living milieu and self domains did not significantly correlate to risky sexual activity. Overall life satisfaction was significantly and inversely correlated with

having multiple sexual partners (rho=-0.2, p=0.025) and never use of condoms (rho=-0.16, p=0.037). However, overall life satisfaction did not significantly correlate to inconsistent use of condoms. Overall, these results indicate that higher scores on the overall life satisfaction correlated with reduced risky sexual activity.

Substance use among the respondents

The study showed that 182(42.5%) of the respondents reported ever use of alcohol and 131(7.0%) reported drinking alcohol in the past 30 days. Khat and cigarettes use were notably lower than alcohol use; about 24% of the respondents reported ever used khat while 10.7% of respondents reported ever use of cigarette smoking. Among substance users, 80 (75.5%) chewed khat in the past 30 days and 20(43.5%) were current smokers; active smoker at the time of the study.

Relationship between life satisfaction and substance use

Table 4 presents, the correlation between life satisfaction domains and substance use showed that only satisfaction with self and family domains were significantly and inversely correlated with alcohol use (rho=-0.19, p=009) and (rho=-0.19, p=0.01) respectively. These results indicated that satisfaction with family and self correlated with lower frequency of alcohol use. While none of life satisfaction domains had significantly correlated with cigarette and khat use. Additionally, the correlations analysis revealed that overall life satisfaction was significantly and inversely correlated with alcohol use (rho=-0.23, p=0.002) though it was weak in magnitude. This implies that higher scores on the overall life satisfaction correlated with lower frequency of alcohol use. However, cigarette and Khat use did not significantly correlated with overall life satisfactions.

DISCUSSION

The study was attempted to assess life satisfactions and relationship with risky behaviors including sexual activity and substance use among higher education students in Ethiopia. It revealed that life satisfactions were higher on most of life satisfaction domains except for immediate living environment and the university environment or classroom environment. Those students had been living in group that consists of six or more members in a single which might dormitory be creating discomfort and source of lower satisfactions with living environment or dormitory life. Additionally. sometimes students are assigned to Universities without their preference, or their experiences may not be as deemed before joining campus. And this may be responsible for lower satisfactions with University environment. Due to absence of local literatures, we could not able to compare this evidence with previous local studies. However, the looks are consistent with studies done in developed nations.^{25,27} This similarity may be due to similarity in terms of age group and similar educational level. Conversely, respondents achieved higher satisfaction score to family life domain which is also consistent with previous literature in developed countries where majority of students were satisfied with their family life than university environment.²⁷ This may reflect that some parents may engage in open and healthy interpersonalinteractions and communications on social and moral aspect of sex which might have strong enduring influence on sexual behaviors. Likewise, higher score was also documented for self satisfaction domain implying that positive self-evaluation is important in risky reduction, particularly in substance (alcohol)

use. This is consistent to how subjective wellbeing (SWB) is defined; it leads to positive and healthy life style in school youth, given that self evaluation is taken a main part of SWB.^{1,4}

This study also assessed the relationship between risky behaviors (sexual activity and substance use) and life satisfaction. For example, satisfaction with family domain was significantly and negatively correlated with having multiple sexual partners and condom use; meaning higher score to the family life domain of life satisfaction was correlated with lower of number of sexual partners and increased condom use. This implies that satisfactions with family life plays significant role in reducing risky sexual activity among higher education students. However, satisfactions with other aspects of life were not significantly correlated to risky sexual behaviors. Due to the absence of previous studies on the issue, we could not able to discuss this sort of relationship here.

Similarly, overall life satisfaction was significantly and inversely correlated with having multiple sexual partners and never use of condom. This result suggests that higher life satisfaction correlated with increased condom use and reduced number of sexual partners. This finding is similar with study done among students in south Columbia where dissatisfaction with life associated with having two or more sexual ever partners and having sexual intercourse.²⁸ This evidence implies that dealing with risky sexual behavior has to consider family life background and extent of satisfactions or dissatisfactions with family life.

The study also revealed that alcohol use was significantly and inversely correlated with family life and self-domain satisfaction. Respondents' who achieved higher satisfaction score to family and selfdomains were less engaged alcohol use. This

could be suggested that students who dissatisfied with parental life may often resort to alcohol use than other substances. This finding is consistent with other studies conducted in developed nation.²⁹ However, Khat chewing and cigarette smoking did not significantly correlate with anyone of life satisfaction domains. The absence of statistically significant correlation between life satisfactions Khat chewing and cigarette smoking may tell that there could be other important factors such as peer influence and academic issues that would drive these behaviors. Nevertheless, other previous studies reported inverse bivariate association between life satisfactions and Khat chewing smoking.^{28,29} cigarette perhaps. and differences in terms of settings, study populations, socio-cultural factors, and rules regulations of University and could contribute for the differences. Additionally, the prevalence of substance use could be also a potential reason for the observed difference, as the prevalence of substance use was lower in this study compared to previous literatures.^{28,29}

Limitations of the study

The finding of the current study was not compared with previous study due to absence of similar reports, particularly in local context. In addition, the study conducted only in one higher education institution which affects generalization of the finding. In addition, our analysis was limited to bivariate correlation analysis which may not overcome the problem of confounding factors.

CONCLUSION

Despite of these limitations, important conclusion would be drawn from the current study. First, good level of life satisfactions was mainly related to parental life, friendship and self-concept among the study population. However, respondents

dissatisfied with immediate environment; living area or dormitory and classroom environments. Thus, it must be noted that higher education institutions need to give attention to students' immediate living environments. Secondly, the study documented that being satisfied with family life associated with reduced risky behaviors, reduced particularly sexual partners; increased condom use, and reduced alcohol use habit. In addition, positive self-concept domain noted worthy of consideration for alcohol use. This suggests the need to take into account the impact of subjective wellbeing of family life and immediate environment while designing education reduce risky approach to behaviors. Additionally, further large scale and longitudinal studies are required to investigate the effect of life satisfactions on development of risky behaviors among such young and active population groups.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

NZ, ZB, and YK conceived the study; were involved in the design, conduct, analysis, data interpretation, report writing and manuscript preparation. In addition, ZB and YK drafted the manuscript. All authors have reviewed, read and approved the final version of the manuscript.

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Background c	Frequency	Percentage	
Sox	Male	313	73.1
JEX	Female	115	26.9
_	≤20	184	43.0
Age	>20	244	57.0
Religion	Orthodox	247	57.7
	Protestant	98	22.9
	Muslim	56	13.1
	Catholic	27	6.3
Ethnicity	Amhara	145	33.9
	Oromo	115	26.9
	Tigray	39	9.1
	Gurage	32	7.5
	Others*	97	22.7
Previous	Rural	174	40.7
residence	Urban	254	59.3
Year of study	First year	103	24.1
	Second year	116	27.1
	Third year	119	27.8
	Fourth year	55	12.9
	Fifth & above year	35	8.2

Table 1. Socio-demographic characteristics of the respondents, March, 2013 (n = 428)

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	Factor components: Life satisfactions				
Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	(Parents)	(Friends)	(Self)	(School environment)	(Living milieu)
Family gets along well together	.749				
My family is better than most	.744				
Like spending time with parents	.731				
Members of family talk nicely to one another	.726				
My parents and I doing fun things together	.701				
My parents treat me fairly	.701				
Enjoy being at home with family	.693				
My friends are great		.735			
My friends will help me if I need it		.732			
My friends are nice to me		.703			
I have a lot of fun with my friends		.682			
I have enough friends		.640			
My friends treat me well		.626			
My friends are mean to me		.494			
I have a bad time with my friends		.442			
I wish I had different friends		.426			
l am a nice person			.765		
Most people like me			.763		
There are lots of things I can do well			.709		
I am fun to be around			.661		
I like to try new things			.659		
I think I am good looking			.626		
I like myself			.606		
Satisfaction with university choice				.791	
Overall satisfaction with university				.756	
Satisfaction with university Experience				.746	
I like the campus compound where I live				.675	
Enjoy in University compound				.597	
Class room and dorm is nice				.480	
I wish I lived other dorm else					.775
I wish I lived in a different dorm					.721
The number of students in dorm high					.506
I like my dorm students					.404
I wish there were different students in my dormitory					.402

Table 2. Factor structure of life satisfactions sub-scales

	Life satisfaction domains						
Risky sexual activity	Family	Friend	School- environment	Living milieu	Self	Overall satisfaction	
	Rho	Rho	Rho	Rho	Rho	Rho	
Having multiple partners	-0.20*	-0.20	0.04	-0.02	-0.11	-0.20*	
Never use of condom	-0.10	-0.15	-0.13	0.01	-0.08	-0.16*	
Inconsistent use of condom	-0.05	-0.13	-0.09	-0.04	-0.13	-0.12	

Table 3. Correlations between life satisfaction and risky activity, March 2013

*significant at p<0.05

Table 4. Correlation between respondents' life satisfactions and substance use

	Life satisfaction dimensions					
Substance use	Family	Friend	School	Living environment	Self	Overall satisfaction
	Rho	Rho	Rho	Rho	Rho	Rho
Current alcohol use	-0.19*	-0.12	-0.05	-0.1	-0.19*	-0.23*
Current khat chewing	-0.16	-0.04	-0.11	-0.12	-0.07	-0.18
Current cigarette smoke	-0.21	0.003	-0.14	-0.23	-0.18	-0.1

*significant at p<0.05

