



Moderating Role of Self-esteem in the Relationship between Substance Use and Suicidal Ideation

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ABSTRACT

This study investigated the moderating role self-esteem in substance use as a predictor of suicidal ideation in a sample of Substance users in Amurri Nkanu West Local Government Area Enugu State Nigeria. Seventy-eight (78) male participants between the ages of 26 to 64 years (mean age = 34.94, Standard Deviation = 14.58) were drawn from five communities in Amurri using purposive sampling techniques. Three sets of tests used in sampling participants responses were: Index of Self-esteem (ISE) (Hudson, 1982), Beck Scale for Suicidal Ideation (BSS) (Beck et al., 1988) and Alcohol Smoking and Substance Involvement Screening Test (Version 3.0) (Humeniuk et al. 2006). The study adopted correlational design while moderated hierarchical regression analysis was used for data analysis. The results indicated that substance use positively predicted suicidal ideation $t(3, 74) = 4.61, sig. = .001$. However, only two dimensions of substance use yielded positive statistical significant predictions of suicidal ideation (tobacco: $\beta = .312, t(78) = 2.523, sig. = .014$; alcohol: $\beta = .355, t(78) = 3.691, sig. = .001$). The result also revealed that self-esteem did not predict suicidal ideation $t(3,74) = -1.06, sig. = .29$. The result further indicated that self-esteem failed to moderate the prediction of suicidal ideation by substance use $t(3,74) = .76, sig. = .45$. Substance users especially those who use tobacco and alcohol are mostly likely to have suicidal thoughts.

Keywords:

Age,

Self-Esteem,

Substance Use,

Suicidal Ideation,

Substance Users.

Introduction

Suicide is serious public health problem (Health, 2017; Amare, 2018) that has multiple, complex and inter-related psychological, social and economic impacts across the population (Dong, 2018). It contributes to 1.4% of the global burden of disease and the second cause of death for individual's aged between 15 and 29 years (Zubrick, 2016). The World Health Organization (WHO) Mental Health Action Plan 2013 to 2020 aims to reduce on the full range of suicidal phenomena including: suicidal ideation and suicidal behaviour by 10% (World Health Organization, 2013). Further, persons having serious suicidal thoughts are more likely to make an actual suicidal attempt than those without, and suicidal attempt is one of the strongest predictors of completed suicide (Bridge et al., 2006).

Substance use, including use of cigarette, alcohol, marijuana, and other illegal drugs, is another type of risky behaviours among adolescents and adults. Substance use may increase risk of suicide ideation because substance use may induce depressed feelings, decrease abilities of cognitive processing and problem solving, and influence important relationships and school/work performance (Bagge & Sher, 2008). Although less considered, suicidal ideation may increase risk of substance use (Bagge & Sher, 2008). Individuals with suicidal ideation may use substances as self-medicate methods to escape or relieve suicidal feelings (Bagge & Sher, 2008).

Additionally, the relations between substance use and suicidal ideation may be spurious and explained by third variables (Bagge & Sher, 2008). On that note, high self-esteem may allow individuals to overcome difficulties and stressful life events, and protects

against suicidal behaviours by decreasing vulnerability to depression (Sharaf et al., 2009).

The term self-esteem is used to describe a person's overall subjective sense of personal worth or value. In other words, self-esteem may be defined as how much you appreciate and like yourself regardless of the circumstances. Self-esteem is defined by many factors including: self-confidence, feeling of security, identity, sense of belonging and feeling of competence. Against the above background, in the present study, the researchers are interested in the moderating role of self-esteem in substance use and suicidal ideation of the people of Amurri in Nkanu West Local Area (LGA) Enugu State Nigeria.

As enumerated in the background to the study, Nigeria as a nation has shared from the blow of suicide as reported in many parts of the country. Worst still is unreported cases of attempted suicide, suicidal ideation and suicide itself which is usually the case in most remote places like Amurri in Nkanu West Local Government Area of Enugu State. The researchers being worried about the trending issue of suicide and its link to substance use by various researchers looked at the third variable (self-esteem) in the above link among Amurri people. One of the researchers in the course of working in Amurri noticed some involvement of the people in substance use. In addition, heard and received reports of self-harm and suicidal thoughts among the substance users such as (of what benefit is my life) during counseling sessions in his church. Thus, the researchers deemed it fit to look at the link that substance use has with suicidal ideation and the moderating role of self-esteem in eliminating or

reducing suicidal thoughts. Hence, the following research questions:

- I. Will substance use significantly predict suicidal ideation?
- II. Will self-esteem significantly predict suicidal ideation?
- III. Will self-esteem moderate substance and suicidal ideation?

The following purposes motivated this work:

- I. To determine whether substance use will significantly predict suicidal ideation.
- II. To examine if self-esteem will significantly predict suicidal ideation.
- III. To investigate whether self-esteem will significantly moderate substance used and suicidal ideation.

In terror management theory, Greenberg et al. (1997) proposed that people need self-esteem to manage their existential concerns. Terror Management theory (TMT) proposes that self-esteem functions to shelter individuals from the anxiety that arises due to awareness that they will die. The theory begins from the premise that as humans developed sophisticated cognitive abilities, the ability to project the self into the future led to the realization that death is inevitable. Thus, Cognitive behavioural theory (Beck, 1976) postulated that the way people acquire and interpret information impact on their choices and behaviours, especially if the perception is hopeless, also this theory is based on the idea that, how we think (cognition), how we feel (emotion) and how we act (behaviour) all interact together. The negative evaluation an individual gives to situation will determine if he or she will be hopeless. The cognitive

behavioural theory helps to anchor the three variables together, because our day to day activities depend on how we think and react or act. If one chooses to think positive he/she will likely act positively (high self-esteem) while poor cognition of self will lead to (low self-esteem). In other words, our thought patterns affect our self-esteem, which may boost or minimize the thought of substance use and also the thought of suicide. Thus, cognitive behavioural theory is the perfect explanation of the three key study constructs (substance use, suicidal ideation and self-esteem) as further portrayed by the following past studies.

Katapally (2022) investigated the association between Cannabis use and suicidal ideation among youth while investigating how school health policies mediate this association with 818 youth selected as participants, and result indicated that cannabis use and other factors such as bullying, other illicit drug use, and youth who identified as females or other gender were associated with increased suicidal ideation. Similarly, João et al. (2022) investigated the relationship between cannabis use and suicidal behaviour and result indicated that substance is associated with suicidal ideation. Also, Shekwolo et al. (2021) investigated the relationship between Substance use and Suicidal Ideation among Youths in Kaduna North, Kaduna State with 140 selected participants, and result revealed a statistical significant positive relationship between substance use and suicidal ideation among Youths in Kaduna North.

Rubio et al., (2020) evaluated dimensions of social support (friends, family, significant others, and school) and substance use (alcohol, marijuana, and other illicit drugs), as moderators of the relationship

between depressive symptoms and suicidal ideation, with 775 adolescents selected as participants, and result shows that substance use predicted suicidal ideation. Further, Liu et al. (2022) investigated the mediating role of self-esteem in the relationship between physical disability and suicidal ideation, and whether the mediation effect was moderated by resilience among nursing home residents, Participants were 538 nursing home residents, and result shows that self-esteem is an associate of suicidal ideation. Yang et al. (2021) studied the impact of limited social support and loneliness on suicidal ideation, under the influence of self-esteem, an important inner resource for quality living. The participants comprised 538 nursing home residents selected by a stratified sampling. A moderating effect, with satisfactory model fit indices and significant path coefficients, was detected between self-esteem and suicidal ideation. Also, Al-shawashereh, (2015) also found that participants with low self-esteem obtained highest suicidal ideation scores.

Most of the empirical works reviewed opined that substance use predicts suicidal ideation. The same thing is applicable to self-esteem which many past researchers found to predict suicidal ideation and also has buffering effect in substance use and suicidal ideation. However, most of studies sampled students and adolescents whereas the present study sampled adults. So owing to the dearth of literature as demonstrated above, this research is very necessary in order to fill the identified gap.

The following hypotheses were tested:

- I. Substance use will significantly predict suicidal ideation.

- II. Self-esteem will significantly predict suicidal ideation.
- III. Self-esteem will moderate the relationship between substance used and suicidal ideation.

Method

Participants

Seventy eight (78) people were drawn from five communities (Umuakpu, Umuonyia, Umuigbo, Ibetenabuo and Enuagu) in Amurri Nkanu West Local Government Area Enugu State. The participants comprising of 78 males with age range of 25 to 64 years ($m=34.94$, $SD=14.58$) were drawn from the above five mentioned communities. Purposive sampling technique was used to select the participants who engage in substance use. Among the participants 38 were married, 36 were single, 4 were widowers, 49 have low educational level First School Leaving Certificate (FSLC) while 29 were with moderate educational level West African Examination Council (WAEC), 68 were unskilled labourers while 10 were skilled labourer. Some demographic characteristics such as age, marital status, educational level, kind of substance use, occupations were explored as control variables.

Instruments

Three scales were used for this study and comprised the following:

The Beck et al. (1988) Beck Scale for Suicide Ideation

The Beck et al. (1988) Beck Scale for Suicide Ideation is a 21-items scale assesses various aspects of suicidal ideation. Each statement group consists of three sentences that describe different intensities of suicidal ideation, representing a three-point scale (0 to 2). The total BSS score can range from 0 to 38,

with higher values indicating a greater risk of suicide. The first five items of the BSS serve as a screening device for suicidal ideation during the last week (including the day of assessment) and are summed up to the BSS-Screen score. Two filter questions (the statement groups four and five) assess the presence of active or passive suicidal thoughts. If participants endorse one of them (i.e., chose a sentence rated 1 or 2), they are to complete the subsequent 14 statement groups which allow for an assessment of the severity of existing suicidal ideation. If participants choose the response option rated “0” for both item 4 and item 5 they skip items 6 to 19 and precede to the last two statement groups. These last two items address the frequency and intensity of former suicide attempts and are again to be answered by all participants. One-week retest reliabilities of $r_{tt} = .54$ (Beck & Steer, 1993). However, in a pilot study conducted with 30 substance users sampled from Ngwuocha in Obe Nkanu West LGA, the researchers obtained a Cronbach alpha of .83.

Alcohol, Smoking and Substance Involvement Screening Test (Version 3.0) for non clinical use by (Humenuik, Ali & World Health Organization, 2006)

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was developed for the World Health Organization (WHO) by an international group of researchers and clinicians as a technical tool to assist with early identification of substance use related health risks and substance use disorders in primary health care, general medical care and other settings. The ASSIST (version 3.0) consists of eight items. The first 7 items cover ten substances:

tobacco, alcohol, Cannabis, cocaine, amphetamine type stimulants, inhalants, sedatives, hallucinogens, opioids and ‘other drugs’. Item 1 elicits information about lifetime use of substances. The second item asks about frequency of use during the prior three months. Items 3-5 and 7 elicit information in line with International Classification of Diseases (ICD-10)/ Diagnostic and Statistical Manual version four (DSM-IV) diagnostic criteria of substance dependence, namely, strong desire or urge to use; use leading to health, social, legal or financial problems; failure to do was normally expected because of use of substance; and loss of control over substance use, respectively. Item 6 is about friend or relative’s expression of concern about the individual’s use of substances. The last item elicits information about non-medical use of drugs by injection. The concurrent and construct validity properties of ASSIST (version 2) were reported as acceptable (Humenuik et al., 2006). A pilot study was conducted by the researchers to determine the reliability of the instrument in the present study. Twenty (20) male substance users drawn from Ngwuocha Obe Nkanu West LGA took part in the study which yielded a Cronbach Alpha reliability coefficient of .93. Face validity was also adopted, hence, 3 experts in Clinical Psychology rated the ASSIST 3.0 and they all agreed that the 8 items measure substance use.

Index of Self-Esteem (ISE) (Hudson, 1982):

It a 25-item inventory Index of Self-Esteem (ISE) designed to measure the self-perceived and self-evaluative component of self-concept which is the sum total of the self-perceived and the other-perceived views of the self-held by a person. It was

used to determine the self-esteem of the traders selected for the study. The response format of the scales ranged from 1 (rarely or none of the time) to 5 (most or all of the time) for ISE.

Scoring: There is direct and reverse scoring of items. To get a participant's overall score add together the result of the direct score and the reverse score items, then subtract 25 from the overall score to obtain the client's ISE score.

Reliability: Hudson (1982) obtained a coefficient alpha of .93 and a two-hour test-retest co-efficient of .92.

Validity: Concurrent validity with SCL – 90 by Derogatis et al. (1973) in scale C – interpersonal sensitivity = .46; scale D – Depression = .38

Interpretation: Scores higher than the norms indicate that the clients have low self-esteem while scores lower than the norm indicates high self-esteem. The researchers carried out a pilot study with thirty (30) in a pilot study conducted with 30 substance users sampled from Ngwuocha in Obe Nkanu West LGA, the researcher obtained a Cronbach alpha of .95

Procedure

The researcher(s) introduced themselves and their mission to the village market representatives or chairmen. Therefore, with the understanding of the evening markets representatives, purposive sampling technique was adopted in drawing participants for this study. The researcher(s) visited the market once every week for 10 weeks (2 weeks for one community) to administer and collect the research questionnaires from the participants who gave their consent to the study. The choice of the markets

located in the following communities: Umuakpu, Umuonyia, Umuigbo, Ibetenabuo and Enuagu in Amurri Nkanu West Local Government Area are because they are villages that operate evening markets. Further, most of the participants may not be seen in the morning market like Afor Amurri market because as mostly unskilled labourers they work in the morning and relax in the evening with some substance.

One hundred copies (100) of the questionnaires were distributed, ninety-eight (98) were collected, out of which 20 were discarded for improper filling and for having zero response in item number one in WHO-ASSIST (version 3.0). Hence, the remaining 78 copies of the questionnaires properly filled were used for data analysis.

Design and Statistics

Correlational design was adopted while statistical test that was used for data analysis is moderated hierarchical regression using Statistical Package for Social Sciences (SPSS) Version 25 software because of one predictor variable, one criterion variable and one moderating variable.

Results

Table 1: Inter-correlation among Suicidal Ideation, Substance Use, Self-esteem, Age, Marital Status, Educational Level and Occupation.

Factors	Mean	SD	1	2	3	4	5	6	7	8
1. BSS	23.46	8.75	1	-.785**	-.618**	-.236*	-.081	.075`	-.073	.134
2. ASSIST	42.46	24.94		1	-.742**	-.135	.135	.225*	-.061	-.051
3. ISE	35.54	30.21			1	.147	-.001	-.312**	-.003	.075
4. Age	34.94	14.58				1	.354**	-.017	.195	-.193
5. Edu. Level	1.37	.49					1	-.095	.137	-.184
6. Marital Status	.59	.59						1	.022	.067
7. Occupation	1.13	.34							1	-.194
8. Religious Affiliation	.50	.60								1

*Correlation is significant at **0.01; * at 0.05 (2 tailed-test)*

Note: BSS = Beck Scale for Suicidal Ideation; ASSIST = Substance Use coded as others (0) – Opioids (9); ISE = Self-esteem; Age is coded as 0 = (17-21 Late Adolescent), 1 = (22-39 Young Adult) and 2 = (40-64 Adult); Educational Level 1 = (low FSLC) and 2 = (high WAEC, etc); Marital Status 0 = Single, 1 = Married and 2 = widower/others; Occupation 1 = Unskilled labour and 2 = Skilled labour; Religious Affiliation 0 = Traditional, 1 = Christianity and 2 = Others.

The table revealed that suicidal ideation correlated positively with substance use $r(78) = .785$, sig. = 0.01), which means that substance use aid the experience of suicidal ideation. The criterion variable (suicidal ideation) also correlated negatively with self-esteem $r(78) = -.618$, sig. = 0.01), indicating that participants who experience suicidal ideation have high self-esteem. Suicidal ideation equally correlated negatively with age $r(78) = -.236$, sig. = .05. This means that participants who experience suicidal ideation are of younger age. Substance use correlated negatively with self-esteem $r(78)$, $-.742$, sig. = 0.01, thus, participants substance use is associated with high self-esteem. Substance use positively correlated with marital status $r(78) = .225$, sig. = 0.05, this implies that experience of substance use is more in widowers. Self-esteem and marital status correlated negatively $r(78) = -.312$, sig. = 0.01, this indicates that widowers have high self-esteem more than single and married. Further, age correlated positively with educational level $r(78) = .354$, sig. = 0.01), thus, adults have moderate educational level unlike late adolescents and young adults who have low educational level.

Table 2: A table providing a model summary of the moderated linear regression analysis on substance use as a predictor of suicidal ideation, the moderating role of self-esteem.

R	R²	MSE	F	df1	df2	P
.79	.62	30.10	40.64	3.00	74.00	.00
Model	Coeff.	Se	T	P	LLCI	ULCI
Constant	14.51	2.93	4.96	.00	8.68	20.34
ASSIST	.23	.05	4.61	.00	.13	.33
ISE	-.05	.04	-1.06	.29	-.13	.04
Int-1	.00	.00	.76	.45	.00	.00

a. Dependent Variable: suicidal ideation

Note: $R = .79$ $R^2 = 62\%$ $\Delta R^2 = .62$, $sig. = .001$. The moderated linear regression revealed that substance use contributed significantly to the regression model, $F(3,74) = 40.64$, $p < .001$). The relationship between variables yielded ($R = .62$) and accounted for approximately 62% ($\Delta R^2 = .62$) of the variance in suicidal ideation scores. Hence, substance use positively predicted suicidal ideation $t(4.61)$ $sig. = .001$, This implies that participants who experience suicidal ideation may use more substances. The first hypothesis which stated that “substance use will predict suicidal ideation” was accepted. However, hierarchical regression in table 3 below will give more highlights concerning the 10 dimensions of the substance use. Self-esteem did not predict suicidal ideation $t(-1.06)$ $sig. = .29$, this means that participants self-esteem has nothing to do with their suicidal ideation. The second hypothesis which stated that “self-esteem will predict suicidal ideation” was rejected. Finally, self-esteem failed to moderate the positive prediction of suicidal ideation by substance use $t(.76)$ $sig. = .45$. This implies that for an individual to thought of harming oneself and use of substance used depend on the level of self-esteem-(low self-esteem or high self-esteem)

Table 3: Hierarchical regression analysis on the ten dimensions of substance use and suicidal ideation among Amurri people.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.661	1.340		7.954	.000
	Tobacco	.312	.124	.343	2.523	.014
	Alcoholic	.355	.096	.485	3.691	.000
	Cannabis	-3.776	5.479	-.709	-.689	.493
	Cocaine	6.352	6.900	1.198	.921	.361
	Amphetamine	-1.736	2.306	-.293	-.753	.454
	Sedatives	-.144	.183	-.076	-.784	.436
	Hallucinogens	.962	4.118	.025	.234	.816
	Others	.276	.292	.087	.947	.347

a. Dependent Variable: Suicidal Ideation (BSS)

Out of the ten dimensions of substance use, inhalants and opioids have no response from the participants and were not captured in the analysis. However, only two out of the remaining eight dimensions of substance used by the participants positively predicted suicidal ideation (tobacco: $\beta = .312$, $t(78) = 2.523$, sig. = .014; alcohol: $\beta = .355$, $t(78) = 3.691$, sig. = .001). The remaining substances (cannabis, cocaine, amphetamine, sedatives, hallucinogens and others) did not yielded significant outcomes in the experience of suicidal ideation among Amurri people.

Discussion

The present study investigated substance use as a predictor of suicidal ideation and the moderating role of self-esteem among Amurri people. Considering the results, the first hypothesis which stated that substance use will predict suicidal ideation of Amurri people was accepted. This implies that Amurri people who use substance also had high scores in suicidal ideation scale. This finding is consistent with some past findings that substance use has an association with suicidal ideation and especially among students and adolescents (Katapally, 2022; Joao, et al., 2022 & Shekwolo, et al., 2021).

The second hypothesis which stated that “self-esteem will significantly predict suicidal ideation” was rejected, indicating that self-esteem did not predict the experience of suicidal ideation of Amurri people. Al Shawashereh (2015) found that self-esteem had negative relationship with suicidal ideation. Thus, past studies were inconsistent with the findings of the present study.

Self-esteem also failed to moderate substance use as a positive predictor of suicidal ideation among Amurri people. The third hypothesis which stated that “self-esteem will moderate substance use as a predictor of suicidal ideation was rejected. This finding suggests

that self-esteem and substance use jointly did not increase or decrease the manifestation of suicidal ideation. The outcome of this finding is not in line with the past studies reviewed in this work since most of them for instance (Yang et al. 2021) found that self-esteem served a buffering effect in the relationship between substance use and suicidal ideation. The findings of this study have theoretical, empirical, and practical implications.

Theoretically, the findings of this study have given credence to the theoretical framework of the study. Cognitive behavioural theory (Beck, 1976) which states that the way people (Amurri people) acquire and interpret information impact on their choices and behaviour, especially if the perception is hopeless, also this theory based on the idea that how we think (cognition) how we feel (emotion) and how we act (behaviour) all interact together. Empirically, the findings of this study are in tandem with earlier studies especially on substance use as a predictor of suicidal ideation. Practically, campaigns should be carried to enlighten the public on the effect of substance use on suicidal ideation.

This study has some limitations, first, conducting research in a community is usually stressful due to uncertainty in meeting with the intended participants in the designated places. Some of the Amurri people were not sampled owing to the fact that the research was made for only those involved in substance use. Females were not sampled as it was not a common practice for women to join their men folks to use substance in the evening village market squares.

Future research should investigate the predictor variable in relation to gender differences and years of

duration of substance use to allow for a more representative exploration within suicidal ideation.

Considering the findings of this study, the current study highlighted evidence of positive relationship between the predictor variable of substance use and the criterion variable suicidal ideation though only tobacco and alcohol dimensions of substance use yielded remarkable outcome. Self-esteem did not predict suicidal ideation. It also failed to moderate the positive relationship between substance use and suicidal ideation among Amurri people. Thus, the need for a psychological factor to weaken the positive relationship found between substance used and suicidal ideation since self-esteem failed to do so.

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