Journal of Sustainable Development Studies

Volume 17, 2024, 1

Role of Trauma Exposure, Psychological Inflexibility and Self Compassion in Substance Use Among Adolescent Students

Beluonwu Ifeoma Margret[1], Favour C. Uroko[2,]*

Department of Psychology, Faculty of the Social Sciences, University of Nigeria Nsukka, Nigeria

Department of Religion and Cultural Studies, Faculty of the Social Sciences, University of Nigeria Nsukka, Nigeria

*Corresponding author: Favour.uroko@unn.edu.ng

Abstract

No research in Nigeria has empirically explored the correlation between self-compassion and well-being in adolescents. Therefore, this study aimed to investigate whether self-compassion yields similar mental health advantages in adolescents as observed in older populations. The hypothesis posited that self-compassionate adolescents would exhibit enhanced social connectedness and reduced levels of anxiety and depression, aligning with previous findings in adults. The study's objectives were to assess whether: (1) Trauma exposure significantly contributes to substance use among adolescents; (2) Psychological inflexibility plays a significant role in adolescent substance use; (3) Self-compassion significantly influences substance use among adolescents. The study included 370 senior and junior secondary school students, comprising 155 (41.9%) males and 215 (58.1%) females. Four instruments were utilized: the Harvard Trauma questionnaire, the Acceptance and Action Questionnaire, the Self-Compassion Scale, and the Psychoactive Substance Use Questionnaire. Employing a cross-sectional design, the findings indicated that trauma exposure positively predicted substance use, suggesting a correlation between increased trauma exposure and heightened substance use. Additionally, psychological inflexibility positively predicted

substance use, indicating that elevated psychological inflexibility corresponded to increased substance use. However, self-compassion did not emerge as a significant predictor of substance use.

Keywords: Trauma, Psychological Inflexibility, Compassion, Substance and Adolescent

Introduction

Drug use remains a significant problem in Nigeria, however adolescent drug use is particularly damaging as such use can affect the physical and mental development of younger people and can impact their opportunities later in life. In 1991, approximately 30.4 percent of those in school grades 8, 10, and 12 had used illicit drugs at some point in their lives. This number reached a high of 43.3 percent in 1997, but dropped back to around 33 percent in 2017. As of 2017, marijuana was still one of the most used drugs among adolescents with around 80 percent of 12th graders perceiving marijuana as fairly easy to obtain, compared to 27.3 percent of those perceiving the same for cocaine . Although a good number of research on the role of trauma exposure, psychological inflexibility and self compassion among adolescents has been conducted in the advanced societies, not much has been done in developing societies like Nigeria. This study is therefore an effort geared towards identifying the predictive role of trauma exposure, psychological inflexibility and self compassion in substance use among adolescents in Nigeria.

The potential damages caused by the use of psychoactive substances in adolescents interfere with the relationship established with the peer group/friends and in school performance (Siciliano, Mezzasalma, & Lorenzoni, 2013; Birhanu, Bisetegn, & Woldeyohannes, 2014), quality of family relationships, social isolation (Bittencourt et al., 2015), mental disorders (Harford, Yi, & Chen, 2015), sexually transmitted diseases (Chatterjee, Tempalski, Pouget, Cooper, Cleland, & Friedman, 2011; Tang et al., 2015)

and traffic accidents (Cardoso & Malbergier, 2014). Recent evidence suggests the existence of a growing concern about the high rates of use of psychoactive substances in the last decades, especially among adolescents, due to the several consequences that abusive consumption can cause at this stage of development. The World Drug Report [WDR], released in 2015, stated that 246 million people aged 15-64, particularly adolescents, used illicit drugs in 2013.

Research suggests that self-compassion is strongly related to psychological wellbeing, including increased happiness, optimism, personal initiative, and connectedness, as well as decreased anxiety, depression, neurotic perfectionism, and rumination (see Neff, 2009, for a review). Self-compassion appears to have similar psychological benefits as self-esteem but is associated with fewer downsides such as ego-defensiveness or narcissism (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003a). Neff and Vonk (2009) found that when compared to trait levels of self-esteem, self-compassion was associated with more non-contingent and stable feelings of self-worth over time. Self-compassion also offered stronger protection against social comparison, public self-consciousness, self-rumination, anger, and close-mindedness. Self-compassion is likely to be highly relevant to the adolescent experience. The feelings of self-acceptance and self-kindness entailed by self-compassion should lead to fewer harsh judgments when adolescents confront disliked aspects of themselves. The ability to frame one's experience in light of the common human experience should provide a sense of interpersonal connectedness that can help teens cope with fears of social rejection (Collins, 1997). The mindful aspect of self-compassion should help prevent adolescents from obsessively ruminating on pessimistic thoughts and emotions, a process that often leads to psychological dysfunction (Nolen Hoeksema, 1991).

To date, however, no empirical research in Nigeria has examined whether self-compassion predicts well-being among adolescents. A main purpose of this study,

therefore, was to determine if self-compassion would be associated with the same mental health benefits among adolescents that have been found in older populations. It was predicted that self-compassionate adolescents would report more social connectedness and less anxiety and depression, similar to prior findings with adults (Neff, 2003a; Neff, Pisitsungkagarn, & Hseih, 2008). Another important goal of this study was to examine factors that may contribute to the development of self-compassion (or lack thereof) among adolescents. It was thought that family experiences might play a key role. Gilbert (1989, 2005) argued that self-compassion taps into an evolved mammalian physiological system guiding attachment and care-giving behavior. When accessed via other people's displays of kindness and concern or through self-directed thoughts and emotions, individuals experience feelings of connectedness and soothing when given care. In contrast, selfcriticism taps into the threat-focused physiological systems of social ranking, which involve aggressive dominance and fearful submission. Thus, individuals raised in safe, secure, and supportive environments should be more able to relate to themselves in a caring and compassionate manner. Those raised in insecure, stressful, or threatening environments should be colder and more critical toward themselves (Gilbert & Proctor, 2006). In this study, it was expected that adolescents who reported experiencing maternal criticism and stressful family relationships would report less self-compassion, while those who felt supported by mothers or who came from functional families would report greater self-compassion.

Substance use is a broad concept likely to be influenced by numerous factors but the scope of this study is limited to factors as trauma exposure, psychological inflexibility and self compassion. Consequent to this, the researcher intends to investigate and shed more lights on the role of trauma exposure, psychological inflexibility and self

compassion in substance use among adolescents. Thus, the purpose of this study is to find out whether

1: Trauma exposure will significantly play a role in substance use among adolescents.

2: Psychological inflexibility will significantly play a role in substance use among adolescents.

3: Self compassion will significantly play a role in substance use among adolescents.

Method

Participants

Participants in this study were there hundred and seventy (370) senior and junior secondary school students. The participants comprised of 85 students from Oxford Secondary School, Obollo Afor; and 287 students from St. Patricks Secondary School. Obollo-Afor. Participants were drawn by using convenient sampling technique. The reason the researcher used convenient sampling method is that the students can only be assessed during their break period. The participants consisted of 155 (41.9%) males and 215 (58.1%) females. Their minimum age range is 11-20 years with a mean of 15.15 years (SD = 5.72), Three hundred and sixty six (366) were single (98.9), 4 (1.4%) were married. For the respondent's religion, 359 (97.0) were Christian, 5 (1.4%) were Muslims, 4 (1.1%) were traditional religionists while 2 (.5%) belong to other religion. For respondents' ethnic group, 340 (91.1%) were Igbos, 12 (3.2%) were Hausas, 12 (3.2%) were Yorubas, while 6 (1.6%) belong to the other ethnic groups. The participant's class range from JS1-3 and SS1-3, whereby 144 (38.9%) participants were from JS1-3 and 226 (61.1%) participants were from SS1-3.

Instrument

Four instruments were used in the study, namely: Harvard Trauma questionnaire, the Acceptance and Action Questionnaire, Self-Compassion Scale, and Psychoactive Substance Use Questionnaire.

Harvard Trauma Questionnaire

The HTQ is a self-report scale consisting of 17 items describing a range of traumatic experiences, from "lack of food or water" to "torture", "rape", and murder of family or friend". Items for part 1 were identified by the clinical experience and treatment outcome studies conducted by Mollica, Caspi, Bollini, Truong and Tor (1992). All items are answered using a 5-point Likert scale format. They are: Never= 1, Rarely = 2, Sometimes = 3, Often = 4, Always = 5.

The present researcher conducted a pilot study to validate the HTQ-Part A for the present study on a sample of 85 adolescent students (38 males, 47 females) drawn from Oxford Secondary school Obollo afor. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .60, and the Bartlett's test of Sphericity was 425.08 (p<.001), indicating that the sample was sufficient to test for factorial validity of the scale. A one component factor structure of the scale was extracted and it accounted for 25.25% of the variance. Loadings of the items ranged from .31 to .79. The items yielded an acceptable internal consistency reliability, Cronbach's alpha of .76.

The Acceptance and Action Questionnaire-II

The AAQ-II is a 7-item scale developed by (Bond, et al., 2011). Items are rated on a 7-point scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Preliminary evidence suggests that the AAQ-II has adequate reliability and validity in nonclinical (e.g., college students) and clinical samples. The AAQ-II and the original AAQ are by far the most commonly used measures of psychological inflexibility in research to date. the AAQ-II demonstrated factor structure stability, internal consistency, test-retest reliability, convergent validity, predictive validity, and discriminant validity (Bond et al., 2011). The AAQ-II appears to measure a unidimensional factor across varied samples, consistent with theory that suggests psychological inflexibility functions as a coherent construct. the AAQ-II was associated with higher levels of depression, anxiety,

stress, and overall psychological distress. In addition, numerous condition-specific versions based on the AAQ have been validated, including for body image, cardiovascular disease, chronic pain, stigma (Levin et al., 2014), and trichotillomania.

The present researcher conducted a pilot study to validate the Psychological Inflexibility Scale for the present study on a sample of 85 adolescent students (38 males, 47 females) drawn from Oxford Secondary school Obollo afor. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .76, and the Bartlett's test of Sphericity was 174.43 (p<.001), indicating that the sample was sufficient to test for factorial validity of the scale. A one component factor structure of the scale was extracted and it accounted for 44.98% of the variance. Loadings of the items ranged from .46 to .76. The items yielded an acceptable internal consistency reliability, Cronbach's alpha of .79.

Neff's Self Compassion scale

The Neff's Self-Compassion scale is a short form scale that contains 12 items developed by (Raes, et al., 2010). All items are answered using a 4 Likert scale format, namely: 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Always. Examples of items on the scale are: When I fail at something important to me, I become consumed by feelings of inadequacy; I try to be understanding and patient towards those aspects of my personality I don't like; When something painful happens, I try to take a balanced view of the situation. Moreover, the Neff's self-compassion scale showed good Construction and factorial validation of a short form of the self-compassion scale. the NSCS demonstrates concurrent validity (e.g., correlates negatively with self-criticism), convergent validity (NSCS scores are significantly correlated with therapist ratings of self-compassion), discriminant validity (e.g., no correlation with social desirability or narcissism), and test-retest reliability (Neff, 2003; Neff, Kirkpatrick, & Rude, 2007). Past research with American samples has also demonstrated good internal consistency for the NSCS using Cronbach's alpha (.90 to .95 for overall scores).

The present researcher conducted a pilot study to validate the Self-Compassion Scale (SCS) for the present study on a sample of 85 adolescent students (38 males, 47 females) drawn from Oxford Secondary school Obollo afor. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .68, and the Bartlett's test of Sphericity was 28.56 (p<.001), indicating that the sample was sufficient to test for factorial validity of the scale. A one component factor structure of the scale was extracted and it accounted for 25.56% of the variance. Loadings of the items ranged from .33 to .69. The items yielded an acceptable internal consistency reliability, Cronbach's alpha of .75.

The Psychoactive Substance Use Questionnaire (PSUQ)

The Psychoactive Substance Use Questionnaire (Eze, 2006) is a 6-item measure of the frequency of psychoactive use on a 5-point response format of 0 (never used before) to 4 (used it frequently in the past but has stopped). Some of the substances included in the instrument were alcohol, tobacco, heroin, cannabis, cigarette, kolanut, and amphetamine. Respondents were also asked to list and rate other substances they use which were not listed in the instrument. Eze (2006) reported content validity and test-retest reliability index of r = .61 for the PSUQ, while a recent study in Nigeria reported acceptable α of .71 (Chukwuorji et al., 2020). In a study by Eze et al., (2020), the Kaiser–Mayer–Olkin Measure of sampling adequacy (.74) and Bartlett's test of sphericity {χ2 (df = 28) = 424.6, p < .001}, indicated, that the data can be tested for factorial validity. Principal Axis factor analysis with Promax rotation and confirmation with Maximum likelihood factor analysis showed that cocaine and heroin involved a different pattern of substance use, but they were positively related to other substance use (r = .14, p < .05). Cronbach's α was .74 was reported (Eze et al., 2020).

The present researcher conducted a pilot study to validate the Psychoactive Substance Use Questionnaire (PSUQ) for the present study on a sample of 85 adolescent students (38 males, 47 females) drawn from Oxford Secondary school Obollo Afor the

Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 74, and the Bartlett's test of Sphericity was 276.56 (p<.001), indicating that the sample was sufficient to test for factorial validity of the scale. A one component factor structure of the scale was extracted and it accounted for 48.95% of the variance. Loadings of the items ranged from .51 to .81. The items yielded an acceptable internal consistency reliability, Cronbach's alpha of .76.

Procedure

The researcher went to two different Secondary schools, Oxford Secondary school, and St.Patricks Secondary school Obollo Afor. The researcher introduced herself to the school authority of each of the two schools by presenting a permission letter from the Head of department of Psychology and the request was approved. The researcher with the help of the research assistants administered the questionnaires to the students in their classrooms, and explained the rationale behind the study as purely academic to the students that were present in the classroom and also assured them of the confidentiality of their responses. This same procedure was followed in the two schools. The researcher waited on the students in each of the schools to complete the questionnaires. Four days was used to administer the instruments, and there was no time limit for the completion of the questionnaires. However, from the total of four hundred questionnaires shared, the total of three hundred and seventy was recovered.

Design/Statistics

Cross-sectional design was used for this study. To analyze the data obtained from participants in the current study, the means, standard deviations, and correlations among the study variables were computed first. Pearson's correlation was used to establish the relationship between the demographic and major variables of interest. Hierarchical multiple regression was used to test for the predictability of substance use by trauma exposure, psychological inflexibility and self-compassion among adolescents.

Results

Table 1 showed the correlations between the demographic variables and the main study variables. Table 2 is the regression results for the test of hypotheses.

Table 1: Pearson's correlations of demographic variables, trauma exposure, psychological inflexibility, self-compassion and substance use

Variables		Mean	*SD*	1	2	3	4	5	6
1	Age	15.15	5.72	-					
2	Gender	-	-	-.01	-				
3	Class	-	-	.23***	-.16**	-			
4	Trauma Exposure	31.98	10.08	.01	-.08	.03	-		
5	Psy Inflexibility	17.30	5.53	.07	-.01	.02	.12*	-	
6	Self-Compassion	34.31	7.87	-.02	.18**	-.05	-.17**	.09	-
7	Substance Use	10.32	4.72	-.02	-.18**	.13*	.16**	.15**	-.12*

***$p < .001$; **$p < .01$; *$p < .05$; Psy = Psychological; Gender (Coded 0 = Male, 1 = Female)

In Table 1, there was a significant positive relationship between age and class ($r = .23$ $p < .001$), but age did not correlate significantly with any of the other variables in the study. Gender was negatively associated with class in school ($r = -.16$, $p < .01$) and substance use ($r = -.18$, $p < .01$), indicating that more females were in lower classes and reported low substance use. Gender had a positive relationship with self-compassion ($r = .18$, $p < .01$), indicating that females were more self-compassionate. Class was positively associated with substance use ($r = .13$, $p < .05$). Trauma exposure had a positive association with psychological inflexibility ($r = .12$, $p < .05$) and substance use ($r = .16$, $p < .01$). Psychological inflexibility was positively related to substance use ($r = .15$, $p < .01$). There was a negative relationship between trauma exposure and self-compassion ($r = -.17$, $p < .01$). Self-compassion was negatively associated with substance use ($r = -.12$, $p < .01$).

Table 2: Hierarchical multiple regression predicting substance use by trauma exposure, psychological inflexibility, and self-compassion, with gender and class as a control variable

Predictors	Step 1			Step 2			Step 3			Step 4		
	B	β	*t*	*B*	β	*t*	*B*	β	*t*	*B*	B	*t*
Gender	-1.59	-.17	-3.23**	-1.49	-.17	-3.03**	-1.49	-.16	-3.06**	-1.36	-.14	-2.76**
Class	1.03	.11	2.06*	1.00	.10	2.02*	.98	.10	1.99*	.96	.10	1.96
Trauma exposure				.07	.14	2.79**	.06	.12	2.42*	.05	.11	2.12*
Psy Inflexibility							.11	.13	2.65**	.12	.14	2.83**
Self-compassion										-.05	-.09	-1.64
R^2	.04			.06			.07			.08		
ΔR^2	.04			.02			.01			.01		
F	8.62 (2, 367)***			8.33(3, 366)**			8.11(4, 365)***			7.06(5, 364)***		
ΔF	8.62 (2, 367)***			7.45 (1, 366)**			7.04 (1, 365) ***			2.68 (1, 364)		

Note. ***p <.001; **p <.01; *p <.05; Psy = Psychological; Gender (Coded 0 = Male, 1 = Female)

Results of the hierarchical multiple regression for the test of the hypotheses is shown in Table 2. Gender and class were included in Step 1 of the regression analysis as control variables due to their significant correlations with the major variable(s) in Table 1. Results showed that that gender was a significantly negative predictor of substance use, β = -.17, p <.01, which indicates that females had lower substance use. Class was a significantly positive predictor of substance use, β = .11, p <.05, which indicates that those in higher classes had higher substance use. The model was significant, F (2, 367) = 8.62. The R^2 indicated that 4% of the variance in substance use was explained by the control variables.

In step 2, trauma exposure was added to the model. Trauma exposure was a positive predictor of substance use, β = .14, p <.01. The *B* showed that every one unit rise in trauma exposure was associated with .07 increase in substance use. The model was

significant, $F\Delta$ (1, 366) = 7.45, p<.01. The $R^2\Delta$ indicated that 2% of the variance in substance use was explained by trauma exposure.

Step 3 indicated that psychological inflexibility positively predicted substance use, β = .13, p <.01. The *B* showed that every one unit rise in psychological inflexibility was associated with .11 increase in substance use. The model was significant, $F\Delta$ (1, 365) = 7.04, p <.001. The $R^2\Delta$ showed that 1% of the variance in substance use was contributed by psychological inflexibility.

Self-compassion did not significantly predict substance use in step 4 of the regression analysis, β = -.09. The model was not significant, $F\Delta$ (1, 364) = 2.68. All the variables in the regression model explained 8% of the variance in substance use.

Summary of Major Findings

1. Trauma exposure was a positive predictor of substance use, showing that greater trauma exposure was associated with increase in substance use.
2. Psychological inflexibility positively predicted substance use, showing that increase in psychological inflexibility was associated with increase in substance use.
3. Self-compassion did not significantly predict substance use.

Discussion

The present study investigated the role of trauma exposure, psychological inflexibility, and self-compassion in substance use among adolescent's secondary school students. The result of the study shows that trauma exposure significantly predicts substance use among adolescents. Therefore, hypothesis 1 which state that trauma exposure will predict substance use among adolescents was confirmed. It indicates that trauma exposure is a significant predictor of substance use among adolescents. This finding is consistent with previous researchers which observed a significant association between trauma exposure and substance use. For example, Basedow et al., (2020) who

aimed to assess whether lifetime prevalence rates of traumatic events and PTSD are related to substance use disorder severity in adolescent psychiatric patients. Adolescent patients with SUD reported 3-times higher rates of trauma exposure, and a 5-time higher prevalence of PTSD following trauma exposure than the general adolescent population. Adolescent SUD patients with PTSD reported more severe substance use problems than patients without PTSD regardless of previous trauma exposures. The likely explanation for these could be as a result of the fact that adolescents are in the stage of growth, and development which is characterized by so many changes such as spurt growth, maturation of sexual organs, cognitive and behavioural changes. It's delicate period of one's life which can be influenced by various factors, either positively or negatively. Among influential factors are family, peer groups, social networking, environmental and media profusion. At this stage some students/adolescents tend to be more expose to traumatic experience and experiment with substance as they see other drug user as one who is tough, bold and strong. Many youngsters have been known to involve in substance use at the instance of traumatic experience, psychological inflexibility and self compassion.

The result showed that psychological inflexibility positively predicted substance use. On testing the second hypotheses which state that psychological inflexibility will significantly predict substance use among adolescents was accepted. Psychological inflexibility positively predicted substance use, showing that increase in psychological inflexibility was associated with increase in substance use. Rosen et al. (2020) who explored pain, psychological flexibility, and continued substance use among adults treated with methadone for opioid use disorder (OUD). Try to examine 1) the probability that an individual does not use illicit substances and 2) illicit substance use frequency among those expected to use. Greater degree of mindfulness significantly predicted the probability that an individual does not continue to use illicit substances.

Lower degree of values success significantly predicted greater illicit substance use frequency among those likely to use.

Thus, the third hypothesis which stated that self-compassion will significantly predict substance use was not accepted in the regression analysis. The model was not significant. All the variables in the regression model explained 8% of the variance in substance use. Rendon (2007) indicated that alcohol use was negatively correlated to self-esteem, self-compassion and psychological symptoms, with psychological symptoms partially mediating the association between these constructs. Phelps et al. (2017) explored the relationship between substance use disorder risk and self-compassion and posits a model for how the two are related through the mitigation of suffering. SUD risk was distributed between low risk, moderate risk, and a smaller percentage of high risk. Self-compassion was inversely related to SUD risk. The low risk group had a higher mean self-compassion score than the people who were high risk. This study suggests SUD risk has an inverse relationship to self-compassion. Raising self-compassion may be a useful addition to substance use disorder prevention and treatment interventions.

Implications of the findings of the study

The results of the study indicate that trauma exposure and psychological inflexibility significantly predict substance use among adolescents while self-compassion did not significantly predict substance use among adolescents. In Nigeria secondary schools, there are limited intervention programs for substance use among adolescents and these has led to a very serious problem that has made the average Nigerian student to be maimed, sentenced to a life of delinquency, insanity, street walking and premature death as a result of drug use. Again, many secondary schools don't have a mandatory mental health class where students can learn about how to manage trauma exposure and how to develop interpersonal skills without resorting to substance use which can

lead to post traumatic stress disorder, or violence. However, because of these laspes in the educational system, students resort to the use of substance in other to cope with traumatic experience. Thus, there is a need to establish a good intervention programs in every secondary school and also in every society in Nigeria where students/adolescents can learn good coping skills about substance use and where to get help when they perceived subjective sense of trauma exposure, and psychological inflexibility, instead of resorting to drug use. This is a strong implication for psychologist and school authorities to ensure that students are adequately counsel on the health implications of use of substance.

Limitations of the Study

This research work has its own limitations. One of the limitations is that the population sample size is too small to generalize to the entire population and equally the use of JSSS 1 students to SSSS 3 students is not enough participants that we can use in this study alone. Finally, time frame is also a huge limitation in this study. Furthermore, there was a problem of participation and cooperation. Some of the test materials administered were not recovered and some were not completed appropriately and may have reduced the validity of the data gathered.

Summary and Conclusion

This study investigated the role of trauma exposure, psychological inflexibility and self-compassion in substance use among adolescents. In a bid to review past theories which could help explain the variables under the study and their relationships, the following theories were reviewed: (1) Integrated Emotion Processing theory (2) Ehlers and Clark's cognitive model (3) Acceptance and commitment theory (ACT) (4) The social mentality theory of self-compassion and self-reassurance (5) An Ego/Self Theory of Substance Dependence. Based on the review of literature the following hypotheses were put forward: (1) Trauma exposure will significantly predict substance use among

adolescents (2) Psychological inflexibility will significantly predict substance use among adolescents (3) Self compassion will significantly predict substance use among adolescents. Three hypotheses were tested and it confirmed the first hypotheses that trauma exposure is a significant predictor of substance use among adolescents. The second hypothesis was also confirmed that psychological inflexibility also significantly predicts substance use among adolescents while the third hypotheses did not significantly predicts substance use among adolescents. Thus, Hypotheses 1 and 2 were confirmed while hypothesis 3 was not confirmed.

The main theoretical framework of the study was built on Integrated Emotion Processing theory. Three hundred and seventy (370) secondary school students participated in the research (155 males and 215 females). Their age ranged from 11 - 20 years with a mean age of 15.15 years (SD = 5.72). Four instruments were used in the study, namely: Harvard Trauma Questionnaire (HTQ) with 17 items, The Acceptance and Action Questionnaire with 7 items, Neff 's Self-compassion Scale with twelve items, and Psychoactive Substance use Scale with 6 items. A cross sectional survey design was used for the study. To analyze the data obtained from participants in the current study, the means, standard deviations, and correlations among the study variables were computed first. Pearson's correlation was used to establish the relationship between the demographic and the major variables of interest. The result showed that trauma exposure and psychological inflexibility significantly predicted substance use among adolescents while self-compassion did not significantly predict substance use among adolescents.

In conclusion, to the knowledge of the researcher, no previous studies have examined trauma exposure, psychological inflexibility and self-compassion in substance use among adolescents. Future research will need to continue to investigate the relationship in this study in order to improve theoretical understanding of trauma

exposure, which may lead to improvements or modifications of existing treatment for trauma exposure with goal to reduce substance use among adolescents. Elimination and absence of a psychoactive drug will likely benefit adolescents in their performance. Substance use programs or mental health class are important in Nigeria, focused not only on adolescents but adults and the society at large in avoiding substance use which may lead to depression and death. Implications of the findings were discussed, also the limitation and the recommendations for further studies were made.

References

Birhanu, A. M., Bisetegn, T. A., & Woldeyohannes, S. M. (2014). High prevalence of substance use and associated factors among high school adolescents in Woreta Town, Northwest Ethiopia: multi-domain factor analysis. *BMC Public Health, 14*(1), 1186.

Bittencourt, A. L. P., França, L. G., & Goldim, J. R. (2015). Adolescência vulnerável: fatores biopsicossociais relacionados ao uso de drogas. *Revista Bioética, 23*(2), 311-319.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*(4), 676-688. https://doi.org/10.1016/j.beth.2011.03.007.

Burrows, C. J. (2013). Acceptance and Commitment Therapy with survivors of adult sexual assault: A case study. *Clinical Case Studies, 12*, 246–259. http://dx.doi. org/10.1177/1534650113479652.

Cardoso, L. R. D., & Malbergier, A. (2014 a). School problems and the consumption of alcohol and other drugs among adolescents. *Psicologia Escolar e Educacional, 18*(1), 27-34.

Chatterjee, S., Tempalski, B., Pouget, E. R., Cooper, H. L., Cleland, C. M., & Friedman, S. R. (2011). Changes in the prevalence of injection drug use among adolescents and young adults in large US metropolitan areas. *AIDS and Behavior*, *15*(7), 1570-1578.

Chukwuorji, J. C., Nweke, A., Iorfa, S. K., Lloyd, C. J., Effiong, J. E., & Ndukaihe, I. L. G. (2020). Distorted cognitions, substance use and suicide ideation among gamblers: A moderated mediation approach. *International Journal of Mental Health and Addiction.* Online first. doi.: 10.1007/s11469-020-00232-0

Collins, W. A. (1997). Relationships and development during adolescence: Interpersonal adaptation to individual change. *Personal Relationships*, *4*, 1–14.

Eze, J. E. (2006). Cult membership as a determinant of psychoactive substance use among male undergraduates in a Nigerian university. *Nigerian Journal of Psychological Research, 5,* 28-36.

Gilbert, P. (2000). Social mentalities: Internal "social" conflicts and the role of inner warmth and compassion in cognitive therapy. In P. Gilbert & K. G. Bailey (Eds.), Genes on the couch: *Explorations in evolutionary psychotherapy* (pp. 118–150). Hove, UK: Brunner-Routledge.

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy*, *13*, 353-379.

Kelly, A.C., Carter, J.C., 2015. Self-compassion training for binge eating disorder: a pilot randomized controlled trial. Psychol. *Psychother. 88*, 285–303.

Basedow, L. A., Kuitunen-Paul, S., Roessner, V., & Golub, Y. (2020). Traumatic Events and Substance Use Disorders in Adolescents. *Frontiers in psychiatry*, *11*, 559. doi: 10.3389/fpsyt.2020.00559

Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*, 887- 904.

Levin, M. E., Maclane, C., Daflos, S., Seeley, J. R., Hayes, S. C., Biglan, A., & Pistorello, J. (2014). Examining psychological inflexibility as a transdiagnostic process across psychological disorders. *Journal of Contextual Behavioral Science, 3*, 155–163. https://doi.org/10.1016/j.jcbs.2014.06.003

Mollica RF, Caspi - Yavin Y (1991) measuring torture and torture related symptoms, *j consult clin psychol 3(4): 581-587.*

Neff, K. D. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2,* 85–101.

Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality, 77,* 23–50.

Neff, K. D., Pisitsungkagarn, K., & Hseih, Y. (2008). Self-compassion and self-construal in the United States, Thailand, and Taiwan. *Journal of Cross-Cultural Psychology, 39*, 267–285.

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, *100*, 569–582.

Phelps, C. L., Paniaguab, S. M., Willcocksonc, I. U., & Potterb, J. S. (2018). The relationship between self-compassion and the risk for substance use disorder. D*rug and alcohol dependence, 183,* 78-81. doi: 10.1016/j.drugalcdep.2017.10.026

Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences, 48*, 757–761. doi:10.1016/j.paid.2010.01.023.

Rendon, K.P. (2007). Understanding alcohol use in college students: A study of mindfulness, self-compassion and psychological symptoms. *Unpublished doctoral dissertation,* University of Texas at Austin, TX, USA

Rosen, K. D., Curtis, M. E., & Potter, J. S. (2020). Pain, psychological flexibility, and continued substance use in a predominantly Hispanic adult sample receiving methadone treatment for opioid use disorder. *Drug and Alcohol Dependence, 206*, 107681. doi: 10.1016/j.drugalcdep.2019.107681.

Siciliano, V., Mezzasalma, L., Lorenzoni, V., Pieroni, S., & Molinaro, S. (2013). Evaluation of drinking patterns and their impact on alcohol-related aggression: a national survey of adolescent behaviours. *BMC Public Health, 13*(1), 950.