Childhood Trauma and Substance Use as Predictors of Depression among Secondary School Boys in Owerri, Imo State

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ARTICLE INFORMATION

Abstract

This study investigated childhood trauma and substance use as predictors of depression among secondary school boys in Owerri. Four hundred (400) participants were selected from four (4) secondary schools within Owerri using convenience sampling method. Participants were aged between 13-15years, with mean age of 14 and standard deviation of 1.02. Three instruments, Symptoms Distress Checklist -90 (SCL-90) subscale D which measures depression, Childhood Trauma Questionnaire (CTQ), and Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) were used to test the variables. The study adopted a cross-sectional survey design. Three hypotheses were tested using a two-step hierarchical multiple regression analysis. Findings of the study indicated that there was a significant inverse relationship between depression and childhood trauma, and an insignificant positive relationship between depression and substance use. This supports the importance of early identification and intervention for individuals who experience childhood trauma. It is therefore recommended that childhood trauma should be regularly assessed by mental health professionals who can implement targeted interventions to mitigate the development of depression in later life. Also, implementation of early intervention programs that target children and adolescents who have experienced childhood trauma or are at risk of engaging in substance use should be encouraged. Again, such interventions should focus on providing psychoeducation, coping skills, and resilience-building strategies to mitigate the impact of trauma and reduce the likelihood of substance use.

Keywords: Childhood Trauma, Substance Use, Depression, Secondary School, Children, Owerri

INTRODUCTION

Depression, or depressive disorder is a common mental health condition that is characterized by a low mood, loss of pleasure or interest in activities for long periods of time (World Health Organization [WHO], 2023). Also, American Psychiatric Association [APA], (2024), defined depression or major depressive disorder as a common and serious mental disorder that negatively affects how you feel, think, act, and perceive the world. People who suffer depression experience symptoms such as poor concentration, feelings of excessive guilt or low self-worth, hopelessness about the future, thoughts about dying or suicide, disrupted sleep, changes in appetite or weight, feeling very tired or low in energy (WHO, 2023). Depression results from a complex interaction of psychological, social, and biological factors (WHO, 2018). Genetic factors play significant roles in the susceptibility and onset of depression. Family studies and twin studies have indicated a hereditary component, with a higher likelihood of developing depression if a first-degree relative has experienced the disorder (Sullivan et al., 2020). Also, Imbalances in neurotransmitters, such as serotonin, norepinephrine, and dopamine, have been linked to depression. These chemical messengers regulate mood, emotions, and motivation. Disruptions in their functioning can contribute to the development of depressive symptoms (Harmer et al., 2017). Certain medical conditions, such as chronic pain, autoimmune disorders, and hormonal imbalances, have been associated with an increased risk of depression.

Additionally, changes in brain structure and function, such as alterations in the hippocampus and prefrontal cortex, have been observed in individuals with depression (Krishnan et al., 2017). Equally, exposure to adverse childhood experiences, such as abuse, neglect, or trauma, can have lasting effects on mental health. Early life stressors may impact the development of brain circuits involved in emotion regulation, potentially increasing the risk of depression later in life (Teicher et al., 2016). Stressful life events, such as loss of a loved one, abuse, threats, illness, financial difficulties, or relationship problems, can trigger or exacerbate depressive episodes (Bjorndal et al., 2023). Individuals with limited coping strategies or inadequate social support systems are particularly vulnerable to depression (Kupferberg & Hasler, 2023). Certain personality traits, like high levels of decreased optimism and low self-esteem, have been associated with an increased susceptibility to depression symptoms (Yavari, et al., 2023) which can shape how individuals perceive and respond to life's challenges. Depression is a common mental health condition affecting people of all ages and genders, and it can significantly impair one's ability to function in daily life. Depression is robustly related to poor quality of life and well-being, high rates of sick leave, and medical treatment, and is a major cause of suicide globally (WHO, 2018).

There are two most common types of depression; major depressive disorder and persistent depressive disorder. Major depressive disorder is a common problem for adolescents. It has a wide array of symptoms affecting somatic, cognitive, affective, and social processes. Several studies aim to improve our understanding of the biological mechanisms underlying the

causality, development and pathogenesis of depression in order to develop new, more successful and personalized treatment strategies. With growing advances in psychoneuroimmunology research, extensive evidence suggests the importance of abnormal brain endocrine immune interaction and dysregulated neuroendocrine and neuro-immune response in the pathogenesis of depression (Miller & Raison, 2016).

Childhood Trauma

Childhood trauma is an event experienced by a child that evokes fear and is commonly violent, dangerous or life-threatening (Morin, 2023). The National Child Traumatic Stress Network (n.d) reported that Children who suffer from childhood trauma are those who have been exposed to one or more traumas, (such as, bullying, community violence, disaster, intimate partner violence, medical trauma, physical abuse refugee trauma, sexual abuse, terrorism/violence etc.) over the course of their lives and develop reactions that persist and affect their daily lives after the events have ended. It was also stated that traumatic reactions can include a variety of responses, such as intense and ongoing emotional upset, depressive symptoms or anxiety, behavioral changes, difficulties with self-regulation, problems relating to others or forming attachments, regression or loss of previously acquired skills, attention and academic difficulties, nightmares, difficulty sleeping and eating, and physical symptoms, such as aches and pains (NCTSN, n.d). Childhood trauma is associated with a predisposition to serious long-term mental and physical ill-health. Individuals who experience adverse conditions during childhood exhibit greater vulnerability for developing mental disorders later in adult (Misiak et al., 2017; Thumfart et al., 2022), such as PTSD (Klaming et al., 2019), anxiety (Ahmed-Leitao et al.,2019), depressive disorders (Opel et al., 2019), substance abuse (De Bellis et al., 2019), antisocial behavior (Busso et al., 2017), and personality disorders (Wells et al., 2020).

More than one billion children and adolescents across the world are exposed to violent behavior (Hillis et al., 2016). The high prevalence of childhood trauma and its' long-lasting impact on both mental and physical health make it necessary to better understand the pathogenesis and development process, which is essential for early diagnostics, and for the development of interventions that can attenuate or overcome these pathologies (Cancel et al., 2019; Johnstone et al., 2016). Those who experience childhood trauma have an increased risk of developing depression in adulthood and suicidal behaviors (Barczyk et al., 2023; de Mattos Souza et al., 2016; Tunnard et al., 2014). In a latent profile analysis of Wang et al (2023), the study which measured childhood trauma in young adults with depression suggested that high levels of emotional abuse and childhood neglect significantly affected anhedonia and that specific childhood trauma patterns predict anhedonia symptoms in adult depression. In another study of Wang et al (2020) which studied association between childhood trauma and depression among Chinese population. The result found an association between the effect of childhood

trauma on depressive and neuroticism.

Substance Use

Substance use is the continued use of alcohol, illegal drugs and misuse of over-the counter or prescription medication (Medline Plus, 2022). It impairs people's wellbeing in many ways, such as; poor academic performance, aggravated physical and mental health problems, disruptions in family functioning, unhealthy peer relationships, and accidental deaths in childhood and throughout their lifetime (Wang, et al 2020). It includes substances such as, alcohol, tobacco, marijuana (commonly called Indian hemp, igbo, wewe), methamphetamine (commonly called meth, mkpurumiri), cocaine, inhalants, prescription medicines etc.

Substance use is classified into legal and illegal drug use. Legal drugs or substances are approved for the purpose of medication or for recreation. they include; medical or prescription drugs, alcohol and tobacco. Substances or drugs are considered illegal because they are not approved by government of any nation for sale or use, such as marijuana (commonly called Indian hemp, igbo, wewe), methamphetamine (commonly called meth, mkpurumiri), cocaine, inhalants, PCP, LSD, etc. Drugs act on the central nervous system where they affect the brain functioning, altering perception, mood, consciousness, cognition and behaviors. Prescription drugs are given by professional doctors in doses according to age and body weight with clear monitoring in some cases. However, as with use of other substances like alcohol and illicit drugs, prescription drug misuse is highest found among young adults, and about 52 million or 18.4% of Americans over the age of 12 have deliberately misused prescription drugs at least once in their lifetime (National Center for Drug Abuse Statistics [NCDAS], 2024). Also, report shows that in Nigeria the prevalence of any drug use is estimated at 14.4% or 14.3 million people aged between 15 and 64 years (National Bureau of Statistics, 2018).

Substance use among adolescents is of significant public health concern. About two thirds of adolescent drug users use both alcohol and marijuana and about one fifth of them are using three and more drugs (Choi, et al 2018) and their use of illicit drugs have remained largely stable (Vaughn, et al 2018). Mochrie et al (2020), study which examined the differences in substance use, depression, and academic functioning among ADHD and non-ADHD college students found that ADHD students were more likely to have engaged in frequent alcohol use, binge drinking, regular marijuana use and to have used other drugs previously. The result also showed that ADHD students manifested depressive symptoms than non-ADHD students. Wang et al (2018), in their study on depression and substance use: towards the Development of an Emotion Regulation Model of Stigma Coping discovered that depression-related stigma was positively associated with emotion dysregulation, which was in turn associated with a greater tendency to engage in substance use coping.

Statement of the Problem

Depression is a major public health concern, particularly among adolescents. Childhood trauma and substance use are two potential risk factors that have been identified as predictors of depression in adolescence. However, the exact relationship between these factors and depression remains unclear, particularly among secondary school boys.

The present study aims to investigate the relationship between childhood trauma, substance use, and depression among secondary school boys. The research explored whether childhood trauma and substance use predict the likelihood of developing depression symptoms in this population. By addressing these research questions, this study will contribute to a better understanding of the complex relationship between childhood trauma, substance use, and depression, and help to identify potential risk factors for depression among secondary school boys.

Objective of the Study

The main objective of this study

1. To understand how childhood trauma and substance use, contribute to the development of depression among secondary school students in Owerri.

The specific objectives of the study

1. To ascertain if childhood trauma will not significantly predict depression among boys' secondary school students in Owerri.
2. To find out if substance use will not significantly predict depression among boy' secondary school students in Owerri.
3. To discover if childhood trauma and substance use will not significantly predict depression among boys' secondary school students in Owerri

Hypotheses

The following hypotheses were tested in the study:

1. Childhood trauma will not significantly predict depression among boys'secondary school students in Owerri.

2. Substance use will not significantly predict depression among boy' secondary school students in Owerri.

3. Childhood trauma and substance use will not significantly predict depression among boys' secondary school students in Owerri

METHOD

Participants - This study employed four hundred (400) boys' secondary school students drawn from Government Secondary School, Owerri, Government Technical College Owerri, Holy Ghost College Owerri and Emmanuel College Owerri, all in the area of Owerri Municipal Local Government Area of Imo State, using random sampling techniques. One hundred (100) participants were drawn from the different schools but would be shared fifty (50) for the senior section and fifty (50) for the junior section with their ages ranging from thirteen to fifteen (13-15) years, mean age of fourteen (14) and standard deviation of one (1).

Instruments: Three instruments were used for this study; Symptoms distress checklist -90 (SCL-90) subscale D which measures depression, childhood trauma questionnaires (CTQ), and Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).

The first instrument is Symptoms distress checklist -90 (SCL-90) developed by Derogates, Lipman and Covi (1977), it is a 90-item scale with 10 subscales. It is used to measure several manifestations of distress. In this study subscale D of SCL-90 which is on depression was used to measure loss of energy, interest and motivation. The scale uses a five-point format ranging from 0 = not at all, to 4 = extremely. All items were scored directly. Values of the number shaded in each item are added up to obtain a total score. Derogates, Lipman, and Covi (1977) reported alpha coefficients which ranged from .77 for psychoticism to .90 for depression. The one-week interval test-retest reliability coefficient ranged from .78 for hostility to .90 for phobic anxiety. Erinoso (1996) reported significant coefficient of concurrent validity between Retirement Stress Inventory (Omoluabi, 1996) and SCL 90 scales which ranged from .26 for scale F (hostility) to .47 for scale J (neuroticism). Norms reported by Onighaiye, (1996) from a sample of University students (18-25 years) 13.70 M (n = 80), 17.55 F (n = 80), and adults (26-87 years) 11.85 M (n = 80), 10.15 F (n = 80) by Erinoso, (1996). Scores higher than the norm indicates that the client manifest the characteristics of the particular SCL-90 scale. Sample items of the scale are: "feeling of worthlessness", and "feeling everything is an effort".

The second instrument is childhood trauma questionnaire which is a 28-item self-report questionnaire designed by Bernstain et al (1997) to assess various childhood abuse experiences among adolescents or adults. Domains of the abuse assessed by the questionnaire include Physical Neglect, Emotional Neglect, Emotional Abuse, Physical Abuse and Sexual Abuse. It is a structured 5-level likert scale with options ranging from "Never True" to "Very Often True". Some of the items include "I thought that my parents wished I had never been born". I was punished with a belt, a board, a cord or some other hard object". Berustain *et al*. (1997), reported internal consistencies among them from .66 to .92. This instrument was validated in Nigeria. Essien et al (2018), in their study reported Cronbach alpha of .80, internal consistency for the subscales were .69 for emotional abuse, .60 for physical abuse, .60 for sexual abuse, .79 for emotional neglect, .21 for physical neglect. Convergent validity coefficient with the GHQ-12 and SRQ were .39 and 45 respectively.

The last instrument used in this study is the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). Substance use was measured using the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), English version 3.0 (Humeniuk & Ali, 2006). The test contains instrument, instructions, response cards and feedback report cards. The ASSIST (v3.0) consists of 8 questions or items, covering 10 substances; tobacco, alcohol, cannabis, cocaine, amphetamine type stimulants, inhalants, sedatives, hallucinogens, opiods and 'other drug-specify'. It investigates frequency of use and associated problems for each substance. For this study, aside question 1 which is a nominal item, other questions are continuous items i.e. they use the likert scoring pattern represented on a 5 and 3 point continuum with items 2, 4, and 5, (never, once/twice, monthly, weekly, daily or almost daily) coded differentially between 0 and 8 (e.g. 0, 2, 3, 4, & 6 for item 2), and item 6(no, never =0; yes, in the past 3 months= 6; yes, but not in the past 3 months= 3). Alcohol: 0-10 was rated as low; 11-26 was rated as moderate, 27 and above high involvement. The alcohol and smoking domains of the scale was revalidated for Nigerian use by Madukwe in 2014. The internal consistency for the ASS1ST was established at a Cronbach alpha 0.71. For alcohol, concurrent validity of $r=.54$, $p<.01$, discriminant validity of $r=.59$, $p<.01$ (Madukwe, Njoku, Annorzie, Nwufo & Echeme, 2016).

Procedure

The researchers collected letter of introduction from the Department of Psychology, Faculty of Social Sciences, Imo State University, Owerri, which was presented to the Principals of the four different boys' secondary schools before permission was granted. On the day of data collection, the students were briefed on the purpose of the research, that it was for academic reasons. They were equally educated on how to fill the instruments. Through convenience sampling method the researchers collected data from the students with the instruments. After data collection, the hypotheses were tested through data analysis. Research ethics considered are informed consent and confidentiality.

Design/Statistics

The researchers employed cross-sectional design for the study and two-step hierarchical multiple regression analysis was used to analyze the data. Cross sectional design was used because it measured outcomes and exposures in the study participants at the same time while two step hierarchical multiple regression analysis was used to test for moderation effect or understand the relationships among variables.

Results

Table 1: Table of Correlations for Key Variables Used in the Study

	Depression	Age	Childhood Trauma	Substance Use
Depression	1	-.037	-.626**	.125*
Age		1	.018	.061
Childhood Trauma			1	-.107*
Substance Use				1

Note: N = 386, **= p<.01, *= p<.05

The Pearson correlation for the key variables used in the study is presented in Table 1 above. The table shows a significant positive relationship between depression and substance use *(r = .125, n = 386, p<.05)*. However, significant negative relationships were found between depression and childhood trauma *(r = -.626, n = 386, p<.01)*, substance use and childhood trauma *(r = -.107, n = 386, p<.05)*.

Table 2: Summary of Results of a Two-Step Hierarchical Multiple Regression Analyses for Depression on Childhood Trauma and Substance Use

Predictors	*Step 1β*	*Step 2 β*
Step 1		
Childhood Trauma	-.626**	-.620**
Step 2		
Substance Use		.059
F	247.65**	2.20
R^2	.392**	.396
R^2	.392**	.003
Df	1,384	2, 383
Dublin Watson	1.64	

Note: N = 386

The result of a two-step hierarchical multiple regression analysis as presented in Table 2 above tested the three hypotheses of the study. The overall model of the three-step hierarchical regression analysis was significant for childhood trauma *[R^2 =.392, F (1, 384) = 247.65, p<.01]* but was not significant for substance use *[R^2 =.396, F (2, 383) = 2.20, p>.05]*. The overall fit of the model shows that only 39.2% of the variation in depression scores among boys' secondary school students in Owerri has been explained. Similarly, the Durbin-Watson

of 1.64 falls within the accepted range ($1.5 < D < 2.5$), indicating that there is no autocorrelation problem in the data and that the error term is independent.

For analyses of hypothesis one, childhood trauma was regressed into the model and it explained 39.2% of the variations in depression scores among boys' secondary school students in Owerri. The result of the analysis of the first hypothesis showed that, childhood trauma *(β =-.626, p<.01, t = -15.74)* inversely and significantly predicted depression among boys' secondary school students in Owerri. Therefore, hypothesis one rejected.

For analyses of the second hypothesis, substance use was regressed into the model but it only explained 0.1% of variations in the variations in depression scores among boys' secondary school students in Owerri. The result of the analysis of the second hypothesis showed that, substance use *(β =.059, p>.05, t = 1.48)* does not significantly predict depression among boys' secondary school students in Owerri. Therefore, hypothesis two accepted.

DISCUSSION

The primary aim of this study was to examine how childhood trauma and substance use predicts depression. Among the variables under the study is childhood trauma. Unlike the initial hypothesis, the current study was found to significantly predict depression, thus, the first null hypothesis which stated that childhood trauma will not significantly predict depression among secondary school boys in Owerri was rejected, implying that high childhood trauma results to high depression among secondary school boys in Imo State, Owerri. To put this in another way the exposure to significant traumatic stressors in childhood, has been associated with an increased risk of depression. Most researchers that conducted similar studies on childhood trauma and depression reported findings that are similar. The findings of Wang et al (2020) and Wang et al (2023), supported the present study that there is a positive relationship between childhood trauma and depression.

The hypothesis 2 which stated that substance use will not significantly predict depression among boys' secondary school students in Owerri was accepted. This study contradicts similar studies conducted by Wang et al (2018) and Avidja (2023).

The last Hypothesis states that childhood trauma and substance use together will not significantly predict depression. After the analysis, the null hypothesis was rejected which means childhood trauma and substance use together significantly predicted depression. No study either supported or contradicted this finding rather researchers from the University of Texas found during their experimental study that nearly half of the children who experienced trauma developed depression, drug addiction, or both during the study period and that the rate of developing an addiction or mental health disorder in the maltreated teens was three times higher than in the control group (Carmona & Stockwell, 2022).

Implications of the Study

The researchers' findings have far reacting implications. They are as follows;

1. The study underscores the importance of early identification and intervention for individuals who experience childhood trauma and engage in substance use. By recognizing these risk factors during childhood and adolescence, mental health professionals can implement targeted interventions to prevent or mitigate the development of depression in later life.

2. The findings highlight the need for implementing comprehensive screening and assessment protocols in clinical settings and educational institutions. Routine screening for childhood trauma history and substance use during adolescence can aid in identifying at-risk individuals who may benefit from timely mental health support.

3. The study suggests the importance of adopting integrated treatment approaches that address both childhood trauma and substance use to prevent the onset or exacerbation of depression. Such approaches can enhance treatment effectiveness by targeting multiple underlying factors simultaneously.

4. The research outcomes have implications for public health initiatives aimed at promoting mental well-being and preventing depression. Implementing awareness campaigns and educational programs targeting parents, caregivers, and educators can help create a supportive environment for children and adolescents facing trauma and substance use challenges.

5. Recognizing the role of family and social support networks, the study advocates for strengthening these support systems for individuals with a history of childhood trauma and substance use. Such support can act as a buffer against depression and foster overall well-being.

Limitations of the Study

The limitations of this study points at different areas which can be regarded as the weak point of the study and may have affected the findings of the study. Such limitations are as follows;

1. Only 4 schools were sampled out of so many schools in Owerri, Imo state
2. The study was carried out for only one gender (boys)
3. The sample size of 400 participants may not be able to represent a large population of secondary school boys in Owerri
4. After the random sampling techniques done some student did not consent to participating in the survey due to fear of leaking some private information.
5. Students kept asking for explanation on what the exercise was about

Suggestions for Further Studies

Study highlights the need for further research to explore the complex interplay between childhood trauma, substance use, and depression. Continued investigation can lead to a more nuanced understanding of these relationships and inform the development of targeted interventions.

Recommendations

1. Implementation of early intervention programs that target children and adolescents who have experienced childhood trauma or are at risk of engaging in substance use. These programs should focus on providing psychoeducation, coping skills, and resilience-building strategies to mitigate the impact of trauma and reduce the likelihood of substance use.
2. Introduce routine screening and assessment protocols in healthcare settings, schools, and community centers to identify individuals with a history of childhood trauma and monitor substance use during adolescence. Early detection can facilitate timely intervention and support.
3. Train mental health professionals, educators, and other relevant stakeholders in trauma-informed care. Adopting trauma-informed practices can create a safe and supportive environment for trauma-affected individuals, reducing the risk of developing depression
4. Implement integrated treatment approaches that address both childhood trauma and substance use simultaneously. Such comprehensive treatment plans should involve mental health counseling, substance abuse counseling, and family therapy to address underlying factors and improve outcomes.
5. Strengthen family and social support networks for children and adolescents who have experienced trauma. Providing a nurturing and stable support system can act as a protective factor against depression and foster overall well-being.
6. Establish community-based programs that offer resources and support for trauma-affected individuals and their families. These programs can include support groups, peer mentoring, and recreational activities to foster a sense of belonging and connection.

Summary/conclusion

The study on childhood trauma and substance use as predictors of depression aimed to explore the relationship between these factors and their potential implications for mental health interventions. The study revealed interesting findings. Data were collected and analyzed using the Statistical Package for Social Science, there were two null hypotheses for the two variables, and it was rejected for the childhood trauma and accepted for the substance use. Based in these, recommendations were made on how to detect early depressive symptoms and how to manage

them.

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