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Childhood Emotional Neglect and Substance Misuse among Emerging Adults: The Mediating Roles of Alexithymia, Experiential Avoidance, and Loneliness

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A B S T R A C T

Objective: This study aimed to examine the relationship between childhood emotional neglect and substance misuse among Nigerian emerging adults and to determine whether alexithymia, experiential avoidance, and loneliness mediated this relationship.

Methods and Materials: This cross-sectional correlational study was conducted with 412 emerging adults aged 18 to 29 years who were recruited from universities, vocational institutions, youth organizations, and community settings in Nigeria. Participants completed the Emotional Neglect subscale of the Childhood Trauma Questionnaire–Short Form, the 20-item Toronto Alexithymia Scale, the Acceptance and Action Questionnaire–II, the UCLA Loneliness Scale, and the Alcohol, Smoking and Substance Involvement Screening Test. Pearson correlation analysis was used to examine associations among the study variables. A parallel multiple-mediation analysis was conducted using PROCESS Model 4 with 5,000 bootstrap resamples. Age, sex, educational enrolment, and current psychological treatment were entered as covariates.

Findings: Childhood emotional neglect significantly predicted alexithymia ($\beta = .386$, $p < .001$), experiential avoidance ($\beta = .355$, $p < .001$), and loneliness ($\beta = .459$, $p < .001$). Alexithymia ($\beta = .207$, $p < .001$), experiential avoidance ($\beta = .171$, $p < .001$), and loneliness ($\beta = .213$, $p < .001$) each significantly predicted substance misuse. The total effect of childhood emotional neglect on substance misuse was significant (B = 0.767, 95% CI [0.590, 0.944]). The direct effect remained significant after inclusion of the mediators (B = 0.280, 95% CI [0.123, 0.437]), indicating partial mediation. The total indirect effect was significant (B = 0.487, 95% CI [0.347, 0.647]). Significant specific indirect effects were observed through alexithymia (B = 0.163, 95% CI [0.089, 0.251]), experiential avoidance (B = 0.124, 95% CI [0.061, 0.205]), and loneliness (B = 0.200, 95% CI [0.119, 0.298]).

Conclusion: Childhood emotional neglect was associated with greater substance misuse among Nigerian emerging adults both directly and indirectly through emotional-processing difficulties, avoidance-based coping, and loneliness. Interventions addressing emotional awareness, acceptance of distress, and social connectedness may help reduce substance-related risk in this population.

Keywords: *childhood emotional neglect; substance misuse; emerging adults; alexithymia; experiential avoidance; loneliness; mediation; Nigeria*

1. Introduction

Emerging adulthood, generally spanning the late teens through the twenties, is a developmental period characterized by identity exploration, increasing independence, changing family relationships, educational and occupational transitions, and the formation of intimate and social bonds. Although these developmental processes can promote autonomy and psychological growth, they can also expose young people to emotional instability, social disconnection, and maladaptive coping behaviors. Substance misuse is one of the most consequential behavioral risks during this stage because experimentation with alcohol, tobacco, cannabis, sedatives, stimulants, opioids, and other psychoactive substances may become integrated into attempts to manage distress, regulate emotions, gain social acceptance, or escape painful internal experiences. The development of substance-related problems is therefore unlikely to be explained solely by availability, peer influence, or individual choice. Instead, it is increasingly understood within a biopsychosocial framework in which early adversity, emotional-processing deficits, avoidance-based coping, interpersonal difficulties, and social isolation interact across development. Research on behavioral addictions similarly demonstrates that problematic behaviors are shaped by the interaction of psychological vulnerabilities, emotional dysregulation, family influences, and social-contextual factors rather than by a single causal mechanism (Chang et al., 2023).

Childhood trauma represents a particularly important developmental antecedent of later psychological and behavioral difficulties. Trauma may affect emotional development, beliefs about the self and others, interpersonal security, physiological stress regulation, and the capacity to organize overwhelming experiences into coherent personal meaning (Paivio & Pascual-Leone, 2023). Adverse childhood experiences have been associated with diverse forms of psychopathology and maladaptive behavior, including anxiety, depression, self-injury, disordered eating, compulsive behaviors, interpersonal victimization, and substance involvement. The effects of childhood adversity may also vary across cultural environments because family roles, emotional-expression norms, social expectations, and interpretations of caregiving differ between societies. Cross-cultural evidence concerning childhood trauma and social anxiety illustrates that early relational experiences can influence later fears of evaluation and social interaction through culturally embedded psychological processes (Gök et al., 2026). Family functioning remains especially important during adolescence and emerging adulthood, as family conflict, low emotional support, inconsistent caregiving, and other relational difficulties are associated with behavioral problems among young people (Harerimana et al., 2025).

Within the broader category of childhood maltreatment, emotional neglect is often less visible than physical or sexual abuse because it involves the absence of necessary emotional experiences rather than the presence of an overt harmful act. Childhood emotional neglect occurs when caregivers repeatedly fail to recognize, validate, respond to, or support a child's emotional needs. Emotionally neglected children may receive adequate food, shelter, education, or physical supervision while lacking affection, emotional availability, encouragement, comfort, protection, and opportunities to discuss internal experiences. Consequently, emotional neglect may remain unidentified by families, professionals, and even affected individuals. Its effects, however, may be enduring because children learn to understand emotions through repeated interactions with responsive caregivers. When caregivers disregard or discourage emotional expression, children may infer that their feelings are unacceptable, unimportant, dangerous, or incomprehensible. Unsupportive emotional socialization has been linked to later psychopathology, partly through disruptions in emotional awareness and expression (Talbot & Lecours, 2021).

Recent evidence suggests that childhood emotional neglect may be associated not only with subjective distress but also with alterations in neural systems relevant to emotional processing, self-regulation, and interpersonal functioning. Neuroimaging findings among young adults with histories of childhood emotional neglect have identified differences in brain white-matter characteristics, suggesting that emotional deprivation may be associated with measurable neurodevelopmental consequences (Jin et al., 2025). Childhood trauma has also been associated with disruptions in the embodied sense of self, fundamental assumptions about the world, and feelings of loneliness (Henriques et al., 2025). These consequences may make emerging adults more vulnerable to using substances as external regulators of affect. Alcohol or drugs may temporarily reduce anxiety, emotional numbness, shame, emptiness, social discomfort, or intrusive memories, even though repeated use can intensify functional impairment and psychological distress over time. Clinical and theoretical discussions of pathological substance use have similarly

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emphasized that substance-related behavior may become intertwined with broader disturbances in psychological functioning, family relationships, and adaptation (Furlanetto & Dantas, 2023; Furlanetto, 2023).

The association between childhood emotional neglect and substance misuse is unlikely to be exclusively direct. Emotional neglect may initiate several developmental pathways that increase susceptibility to problematic substance use. Three potentially important mechanisms are alexithymia, experiential avoidance, and loneliness. These constructs capture different but complementary consequences of emotional deprivation. Alexithymia concerns difficulties recognizing, differentiating, and communicating emotions. Experiential avoidance refers to efforts to suppress, escape, or control unwanted internal experiences. Loneliness reflects perceived deficiencies in meaningful social and emotional connection. Examining these variables simultaneously can provide a more detailed explanation of how early emotional deprivation becomes associated with substance misuse during emerging adulthood.

Alexithymia is characterized by difficulty identifying feelings, difficulty describing emotions to others, limited emotional differentiation, and an externally oriented cognitive style. Individuals with elevated alexithymia may experience physiological arousal or diffuse distress without being able to determine whether they are sad, fearful, ashamed, angry, or lonely. Alexithymia also extends beyond verbal emotional expression and may influence the perception and interpretation of emotional information through sensory modalities such as music, odor, taste, and touch (Suslow & Kersting, 2021). Although alexithymia can occur across different clinical and nonclinical populations, childhood maltreatment is a well-established developmental correlate. A meta-analysis found that individuals maltreated during childhood and adolescence exhibit higher levels of alexithymia, supporting the proposition that adverse caregiving environments can impair emotional awareness and communication (Khan & Jaffee, 2022). Research among university students has likewise shown meaningful relationships among childhood trauma, alexithymia, and difficulties in emotion regulation (Akpinar, 2024).

Emotional neglect may be especially relevant to alexithymia because children require caregivers to label feelings, validate emotional states, model appropriate expression, and demonstrate effective regulation. Without these interactions, emotional experiences may remain undifferentiated and difficult to communicate. Childhood trauma, shame-related processes, limited cognitive flexibility, low distress tolerance, and alexithymia have all been implicated in reduced social-emotional competence (Farahani et al., 2022). Alexithymia has also been associated with social withdrawal during adolescence, indicating that emotional-processing difficulties can interfere with interpersonal engagement at a stage when peer relationships become increasingly important (Iannattone et al., 2021). Although alexithymia has been studied in various age groups and clinical contexts, including older individuals with medically explained and unexplained physical symptoms, its relevance consistently extends to difficulties integrating emotional and bodily experiences (Bos et al., 2022).

Alexithymia may increase substance-misuse risk because individuals who cannot identify or describe their emotions may struggle to use adaptive regulation strategies, seek support, or communicate distress. Psychoactive substances can then function as rapid, externally mediated methods of changing internal states. Empirical studies have identified alexithymia as a mediator between childhood maltreatment and several harmful outcomes. Alexithymia and self-injury functions have mediated associations between childhood maltreatment and nonsuicidal self-injury among adolescents with major depressive disorder (Shi et al., 2025). Alexithymia has also been examined alongside loneliness and resilience in relation to self-injurious behavior among adolescents with depression (zhang et al., 2023). In college women, alexithymia, impulsivity, and alcohol use have been implicated in pathways linking early trauma with later sexual victimization (Mullet et al., 2021). These findings suggest that alexithymia may constitute a transdiagnostic mechanism through which adverse childhood experiences become translated into maladaptive coping and risk behaviors.

The clinical relevance of alexithymia is further supported by evidence that changes in emotional awareness may influence treatment outcomes. Improvements in alexithymia during trauma-focused therapy have been associated with changes in posttraumatic stress, dissociation, and interpersonal difficulties (Zorzella et al., 2020). Psychotherapeutic approaches that explicitly help individuals attend to, symbolize, tolerate, and communicate emotion may therefore be especially important for people with histories of emotional neglect. Existential–humanistic perspectives similarly emphasize direct engagement with emotional experience as a central component of therapeutic change (Varisco, 2025). Metacognitive and interpersonal approaches may also help young people understand internal

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states, examine relationship patterns, and improve their capacity to reflect on themselves and others (Inchausti et al., 2025). These perspectives support the possibility that alexithymia is not merely a correlate of childhood neglect but a modifiable psychological pathway with implications for substance-misuse prevention and intervention.

Experiential avoidance represents a second potential mediator. It refers to attempts to avoid, suppress, alter, or escape unwanted thoughts, memories, emotions, bodily sensations, and behavioral urges, even when these efforts produce longer-term harm. Experiential avoidance is not equivalent to occasionally distracting oneself from distress. Rather, it becomes problematic when avoiding internal experiences rigidly organizes behavior and narrows the person's ability to act according to valued goals. Emotionally neglected children may learn that painful feelings should not be expressed, discussed, or brought to caregivers. As emerging adults, they may continue to treat internal discomfort as intolerable and seek immediate relief through alcohol or drugs. Substance use can negatively reinforce avoidance because temporary emotional relief increases the likelihood of repeated consumption when distress reappears.

The effects of childhood maltreatment on compulsive behaviors may depend partly on how individuals expect emotions to be regulated. For example, negative mood-regulation expectancies have been shown to moderate the association between childhood maltreatment and compulsive buying (Kaur & Mearns, 2021). This suggests that maladaptive behavior becomes more likely when individuals doubt their capacity to manage negative affect through adaptive means. Related evidence indicates that adverse childhood experiences are associated with multidimensional maladaptive eating patterns, including orthorexic tendencies, through complex psychological processes rather than simple direct effects (Rzeszutek et al., 2024). Although compulsive buying, disordered eating, self-injury, and substance misuse are behaviorally distinct, each may provide short-term relief, distraction, control, or emotional numbing. Experiential avoidance may therefore represent a broad functional process that helps explain why emotionally neglected individuals adopt different maladaptive strategies for managing distress.

Loneliness is a third plausible mechanism connecting childhood emotional neglect with substance misuse. Loneliness is a subjective perception that one's social relationships are insufficient in quality, intimacy, belonging, or emotional responsiveness. It differs from objective social isolation because individuals may feel lonely even when surrounded by peers, classmates, coworkers, or family members. Emotional neglect may create enduring expectations that others will be unavailable, dismissive, or incapable of understanding one's needs. It may also impair the ability to disclose feelings, trust others, and sustain reciprocal intimacy. Consequently, emerging adults with histories of emotional neglect may experience persistent loneliness despite having social contact.

Longitudinal research among college students has shown that perceived loneliness is closely related to psychological functioning and can intensify under conditions of disrupted social connection (Conti et al., 2022, 2023). Loneliness may coexist with alexithymia because difficulty identifying and communicating emotions can obstruct intimacy, while repeated interpersonal disconnection may further reduce opportunities to develop emotional competence. Evidence has shown that alexithymia and loneliness jointly mediate the relationship between childhood emotional abuse and nomophobia, demonstrating that emotional and interpersonal vulnerabilities can connect early adversity with maladaptive dependence on external sources of relief or connection (Saladino, 2025). Loneliness has also been associated with disruptions in self-experience following childhood trauma (Henriques et al., 2025). These findings support its consideration as an independent mediator rather than merely a secondary consequence of alexithymia.

Substances may serve several functions for lonely emerging adults. They may reduce social anxiety, facilitate participation in peer gatherings, create temporary feelings of belonging, or numb the pain of perceived rejection. However, persistent substance misuse can damage relationships, increase withdrawal, and deepen loneliness, generating a self-reinforcing cycle. The broader psychological literature identifies social isolation, family dysfunction, hopelessness, emotional distress, and maladaptive coping as important risk factors for severe outcomes among young people, including suicidal behavior (Gelvez-Gafaro & Medina-Duarte, 2022). Contemporary suicide-prevention approaches therefore emphasize recovery, connectedness, meaning, and the restoration of adaptive coping capacities rather than focusing exclusively on symptom reduction (Ramamurthy & Gregory, 2025). Emerging forms of depression and changing psychopathological presentations also highlight the need to assess loneliness, emotional disconnection, behavioral dependence, and other features that may not be captured by conventional symptom categories (Chiappini et al., 2025).

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Educational and social institutions may play an important preventive role by providing emotionally responsive environments and opportunities for psychological education. Schools and universities are not merely academic settings; they are also contexts in which young people learn to discuss difficult experiences, develop emotional literacy, and access support. The central role attributed to schools in sensitive educational interventions demonstrates their potential to facilitate structured discussion of emotionally challenging topics (Fagnani, 2022). Family and institutional support may be particularly important for individuals whose childhood environments did not provide consistent emotional responsiveness. Research on adults raised within demanding family and occupational cultures, such as military families, further indicates that early lifestyle conditions can shape later adult relationships and patterns of emotional connection (Freeman et al., 2024).

The Nigerian context deserves specific attention. Emerging adults in Nigeria may encounter economic uncertainty, educational pressure, unemployment, changing family expectations, urbanization, exposure to substances, and limited access to mental-health services. At the same time, collectivist family structures, religious communities, and extended social networks may provide protection for some individuals while increasing stigma around emotional disclosure or substance-related problems for others. Findings generated primarily in Europe, North America, or Asia cannot automatically be generalized to Nigerian emerging adults. Cultural norms regarding obedience, family loyalty, emotional restraint, gender roles, and help-seeking may influence both the experience of emotional neglect and the pathways through which it affects behavior. A culturally situated analysis is therefore necessary to determine whether alexithymia, experiential avoidance, and loneliness explain unique portions of the association between childhood emotional neglect and substance misuse.

Despite growing evidence linking childhood adversity with alexithymia, loneliness, emotion-regulation difficulties, self-injury, compulsive behavior, and other forms of psychopathology, important gaps remain. Many studies examine childhood maltreatment as a broad composite rather than isolating emotional neglect. Others investigate alexithymia or loneliness separately, making it difficult to determine their unique contributions when considered together. Experiential avoidance has also received comparatively limited attention as a mediator of the emotional-neglect–substance-misuse relationship. Moreover, studies of young people often focus on clinical populations, single behavioral outcomes, or Western cultural settings. Integrating the three mediators within a parallel model can clarify whether emotional-processing deficits, avoidance-based coping, and perceived interpersonal disconnection constitute complementary pathways. Such an analysis may also identify intervention targets: emotional-identification training for alexithymia, acceptance-based strategies for experiential avoidance, and relational or community-based interventions for loneliness. Given that substance misuse may arise from several co-occurring vulnerabilities, a multiple-mediation framework is more consistent with contemporary developmental and biopsychosocial perspectives than a single-mechanism explanation.

Accordingly, the aim of the present study was to examine the relationship between childhood emotional neglect and substance misuse among Nigerian emerging adults and to determine whether alexithymia, experiential avoidance, and loneliness mediate this relationship.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quantitative, cross-sectional, correlational design to investigate the relationship between childhood emotional neglect and substance misuse among emerging adults and to examine the mediating roles of alexithymia, experiential avoidance, and loneliness in this relationship. A parallel multiple-mediation framework was adopted because the three proposed mediators were expected to represent distinct but interrelated psychological pathways through which experiences of emotional neglect during childhood might contribute to substance misuse in emerging adulthood. The study population consisted of emerging adults residing in Nigeria. Emerging adulthood was operationally defined as the developmental period between 18 and 29 years of age. Participants were recruited from universities, vocational training institutions, youth organizations, and community centers located in urban and semi-urban areas of southwestern Nigeria. The use of multiple recruitment settings was intended to increase the demographic diversity of the sample and prevent the study from being limited exclusively to university students.

A total of 450 questionnaires were distributed using a combination of paper-based and secure online survey formats. Of these, 426 questionnaires were returned, corresponding to a response rate of 94.67%. Following the initial screening of the responses, 14 questionnaires were

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excluded because of substantial missing data, patterned responding, duplicate online submissions, or failure to satisfy the eligibility criteria. Consequently, the final sample consisted of exactly 412 Nigerian emerging adults. Participants were eligible for inclusion when they were between 18 and 29 years of age, were currently residing in Nigeria, possessed sufficient English-language proficiency to understand the questionnaire items, and voluntarily agreed to participate in the study. Individuals were excluded when they reported a medical, cognitive, or psychiatric condition that substantially impaired their ability to understand or independently complete the questionnaires. Participants who left more than 10% of the questionnaire items unanswered were also excluded from the final analysis.

A multistage convenience and purposive sampling procedure was used. Initially, educational institutions and community-based youth settings were identified based on accessibility and the availability of emerging-adult populations. After permission had been obtained from the relevant institutional and community authorities, potential participants were approached through classroom announcements, youth-group meetings, institutional noticeboards, email invitations, and social-media platforms commonly used by young adults. The recruitment information briefly described the study as an investigation of childhood experiences, emotional functioning, social relationships, and health-related behaviors. References to specific hypotheses were avoided to reduce expectancy effects and socially desirable responding. No participant was required to disclose substance use publicly, and questionnaires were completed in private settings or through an anonymous online survey link.

The study was conducted in accordance with the ethical principles governing research involving human participants. All participants received an information sheet describing the purpose of the study, the voluntary nature of participation, the approximate time required to complete the questionnaires, the potentially sensitive nature of some questions, and their right to discontinue participation at any time without penalty. Informed consent was obtained before participants accessed the study measures. No personally identifying information, including names, student identification numbers, telephone numbers, or residential addresses, was collected. Participants were informed that their responses would remain confidential and would be used exclusively for research purposes. Contact information for appropriate psychological and substance-use support services was provided at the end of the survey because questions concerning childhood neglect and substance misuse could produce emotional discomfort in some participants. Completion of the full assessment battery required approximately 25 to 35 minutes.

2.2. Measures

A demographic information form was developed by the researchers to collect relevant background information, including age, sex, relationship status, educational level, employment status, living arrangement, and current area of residence. Participants were also asked whether they had ever received psychological or psychiatric treatment and whether they were currently using any prescribed psychoactive medication. These variables were collected to describe the sample and identify potential covariates that could influence the principal relationships examined in the study. The demographic form did not request identifying information and was presented before the standardized psychological measures.

Childhood emotional neglect was assessed using the Emotional Neglect subscale of the Childhood Trauma Questionnaire–Short Form. The Childhood Trauma Questionnaire–Short Form is a 28-item retrospective self-report instrument designed to assess adverse experiences occurring during childhood and adolescence. The complete questionnaire evaluates emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect and includes validity items intended to detect the minimization or denial of childhood adversity. For the present study, the five-item Emotional Neglect subscale was used because childhood emotional neglect constituted the primary predictor variable. The items assess the extent to which participants experienced insufficient affection, emotional support, understanding, protection, and a sense of belonging within their families while growing up. Responses are rated on a five-point Likert scale ranging from 1, representing "never true," to 5, representing "very often true." Positively worded items are reverse-scored before the responses are summed. Higher scores indicate more severe perceived childhood emotional neglect. The Childhood Trauma Questionnaire has demonstrated satisfactory construct validity and internal consistency across community, student, and clinical populations and has been used in culturally diverse settings.

Alexithymia was measured using the 20-item Toronto Alexithymia Scale. This instrument assesses difficulties in identifying and describing emotional experiences, as well as

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a cognitively oriented style characterized by limited attention to internal emotional states. It contains three dimensions: difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking. Participants indicate the extent to which each statement applies to them on a five-point Likert scale ranging from 1, representing "strongly disagree," to 5, representing "strongly agree." Several positively worded items are reverse-scored before the total score is calculated. Total scores can range from 20 to 100, with higher scores indicating greater alexithymic characteristics. Although dimensional scores may be reported for descriptive purposes, the total alexithymia score was used in the mediation analysis because the study focused on general impairments in emotional awareness and emotional communication. The scale has shown acceptable reliability, factorial validity, and convergent validity in studies involving young adults and individuals with problematic substance use.

Experiential avoidance was assessed using the seven-item Acceptance and Action Questionnaire–II. The instrument measures psychological inflexibility and the tendency to avoid, suppress, control, or escape unwanted thoughts, emotions, bodily sensations, and memories. Participants respond to each item on a seven-point Likert scale ranging from 1, representing "never true," to 7, representing "always true." Item scores are summed to generate a total score ranging from 7 to 49. Higher scores indicate greater experiential avoidance and psychological inflexibility. The scale was selected because experiential avoidance provides a theoretically relevant mechanism through which individuals exposed to emotional neglect may attempt to regulate distressing internal experiences through maladaptive behaviors, including substance use. The Acceptance and Action Questionnaire–II has demonstrated acceptable internal consistency and associations with emotional distress, avoidance-based coping, addictive behaviors, and reduced psychological well-being.

Loneliness was measured using the 20-item UCLA Loneliness Scale. The scale evaluates subjective feelings of social isolation, inadequate companionship, lack of meaningful interpersonal connection, and dissatisfaction with the quality of one's social relationships. The items include both positively and negatively worded statements to reduce response bias. Participants rate how frequently they experience each statement on a four-point Likert scale ranging from 1, representing "never," to 4, representing "often." Positively worded items are reverse-scored, and all item scores are summed to produce a total loneliness score. Higher scores reflect more severe perceived loneliness. The instrument measures subjective social disconnection rather than the objective number of social relationships. This distinction was particularly important because an emerging adult may have frequent contact with peers or family members while still experiencing emotional isolation. The UCLA Loneliness Scale has demonstrated strong internal consistency, test–retest reliability, and convergent validity across student, community, and clinical samples.

Substance misuse was evaluated using the Alcohol, Smoking and Substance Involvement Screening Test. This instrument assesses lifetime and recent involvement with tobacco products, alcoholic beverages, cannabis, cocaine, amphetamine-type stimulants, inhalants, sedatives or sleeping medications used without medical supervision, hallucinogens, opioids, and other psychoactive substances. The measure examines the frequency of substance use, craving or a strong desire to use substances, health and interpersonal problems associated with substance use, failure to meet expected responsibilities, expressions of concern from relatives or friends, unsuccessful attempts to reduce use, and injection-related behavior. Each substance-specific section is scored according to the standardized scoring procedure. Higher scores represent more extensive substance involvement and a greater likelihood of harmful or dependent patterns of use. For the primary analysis, an overall substance-misuse index was calculated by summing the substance-specific involvement scores across the assessed substance categories. The tobacco items were retained in the descriptive analyses; however, the primary substance-misuse index emphasized alcohol and nonmedical or illicit drug involvement because these behaviors were most consistent with the study's conceptualization of substance misuse. Substance-specific scores were also examined to identify the substances most frequently used by participants and to ensure that the overall results were not driven exclusively by one substance category.

All measures were administered in English because English is the official language of instruction in the participating educational and community settings. Nevertheless, the questionnaire battery was reviewed by Nigerian psychologists and behavioral-science researchers to evaluate cultural appropriateness, clarity, and comprehensibility. A pilot assessment was conducted with 30 emerging adults who met the general eligibility criteria but were not included in the final sample. Participants in the pilot assessment were asked to identify confusing, culturally

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inappropriate, or ambiguous expressions. Minor contextual clarifications were made to the instructions without changing the substantive content or scoring structure of the standardized instruments. In the main study, the internal consistency of each measure was evaluated using both Cronbach's alpha and McDonald's omega. Coefficients of .70 or higher were considered indicative of acceptable internal consistency.

2.3. Data Analysis

Data were analyzed using IBM SPSS Statistics and the PROCESS macro for mediation analysis. Before testing the study hypotheses, the dataset was screened for data-entry errors, duplicate responses, missing values, univariate outliers, and multivariate outliers. The frequency and pattern of missing responses were examined for all study variables. Questionnaires containing more than 10% missing data were excluded before the final dataset was established. For questionnaires with a small number of randomly missing responses, missing values were estimated using person-mean substitution only when at least 80% of the items belonging to the relevant scale had been completed. Univariate outliers were examined using standardized scores, with absolute values greater than 3.29 considered potentially influential. Multivariate outliers were assessed using Mahalanobis distance at a conservative probability level of $p < .001$. Potentially influential observations were reviewed individually rather than removed automatically.

Descriptive statistics, including the mean, standard deviation, minimum, maximum, frequency, and percentage, were calculated to summarize the demographic characteristics and principal study variables. The normality of continuous variables was evaluated by examining skewness, kurtosis, histograms, normal probability plots, and standardized residuals. Absolute skewness values below 2 and kurtosis values below 7 were regarded as acceptable for the planned regression-based analyses. Linearity and homoscedasticity were evaluated using scatterplots of standardized predicted values against standardized residuals. Multicollinearity was assessed through tolerance statistics and variance inflation factors. Tolerance values below .10 and variance inflation factor values above 10 were considered indicative of serious multicollinearity. Because the mediating variables were conceptually related, their intercorrelations were examined carefully before the mediation model was estimated. Common-method bias was explored by examining the unrotated factor structure of the principal questionnaire items and determining whether a single factor accounted for a disproportionate percentage of the total variance.

Pearson product–moment correlation coefficients were calculated to examine the bivariate relationships among childhood emotional neglect, alexithymia, experiential avoidance, loneliness, and substance misuse. The direction, magnitude, and statistical significance of the coefficients were interpreted before testing the mediation model. Independent-samples tests and one-way analyses of variance were used, when appropriate, to determine whether the principal variables differed across demographic groups. Variables that demonstrated theoretically meaningful and statistically significant relationships with substance misuse or the proposed mediators were considered for inclusion as covariates. Age, sex, educational status, employment status, and current psychological treatment were initially evaluated as potential covariates.

A parallel multiple-mediation analysis was performed using Model 4 of the PROCESS macro. Childhood emotional neglect was entered as the independent variable, substance misuse was entered as the dependent variable, and alexithymia, experiential avoidance, and loneliness were simultaneously entered as parallel mediators. Entering the mediators simultaneously made it possible to estimate the unique indirect effect associated with each mediator while statistically controlling for the effects of the other mediators. The total effect of childhood emotional neglect on substance misuse was estimated before the mediators were introduced. The direct effect was then calculated while controlling for alexithymia, experiential avoidance, and loneliness. The indirect effect through each proposed mediator was estimated as the product of the path from childhood emotional neglect to the mediator and the path from the mediator to substance misuse. The total indirect effect represented the combined contribution of all three mediating pathways.

The statistical significance of indirect effects was evaluated using nonparametric bootstrapping with 5,000 resamples. Bias-corrected 95% bootstrap confidence intervals were calculated for the specific and total indirect effects. An indirect effect was regarded as statistically significant when its confidence interval did not include zero. Bootstrapping was selected because the sampling distribution of an indirect effect is frequently non-normal, making conventional significance tests less appropriate. Pairwise contrasts between the indirect effects were also examined to determine whether alexithymia, experiential

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avoidance, or loneliness represented a comparatively stronger mediating pathway. All continuous variables included in the mediation model were mean-centered to facilitate interpretation and reduce nonessential multicollinearity.

Standardized regression coefficients, unstandardized coefficients, standard errors, t values, probability values, and 95% confidence intervals were reported for the principal paths. The proportion of variance explained in each mediator and in substance misuse was reported using the coefficient of determination. Statistical significance was established at $p < .05$ using two-tailed tests. However, interpretation was not based solely on probability values; the magnitude, direction, confidence intervals, and theoretical relevance of the direct and indirect effects were also considered. Complete mediation was inferred when the indirect effect was statistically significant and the direct effect became nonsignificant after the mediators were included. Partial mediation was inferred when both the indirect effect and the remaining direct effect were statistically significant. Because the study used a cross-sectional design, mediation findings were interpreted as evidence of statistically consistent indirect associations rather than definitive proof of temporal or causal mechanisms.

3. Findings and Results

The final analyses included 412 emerging adults from Nigeria, ranging in age from 18 to 29 years, with a mean age of 23.46 years and a standard deviation of 3.12 years. Of the participants, 221 were women, representing 53.6% of the sample, and 191 were men, representing 46.4%. Regarding educational status, 248 participants, or 60.2%, were undergraduate university students, 46 participants, or 11.2%, were enrolled in postgraduate programs, 73 participants, or 17.7%, were attending vocational or technical institutions, and 45 participants, or 10.9%, were not enrolled in an educational institution at the time of data collection. In relation to employment status, 244 participants, representing 59.2%, identified themselves as full-time students or unemployed, 96 participants, representing 23.3%, were employed on a part-time basis, and 72 participants, representing 17.5%, were employed full-time. Most participants were single, with 300 respondents accounting for 72.8% of the sample. A further 86 participants, representing 20.9%, reported that they were in a dating relationship, whereas 26 participants, representing 6.3%, were married or cohabiting with a partner. In terms of place of residence, 281 participants, or 68.2%, lived in urban areas, while 131 participants, or 31.8%, resided in semi-urban communities. Thirty-four participants, representing 8.3%, reported having previously received psychological or psychiatric treatment, and 16 participants, representing 3.9%, reported current use of prescribed psychoactive medication. Lifetime substance-use reports indicated that alcohol was the most commonly used substance, followed by tobacco products, cannabis, nonmedically used sedatives, stimulant substances, and opioids. Preliminary screening of the data revealed no substantial violations of normality, linearity, homoscedasticity, or multicollinearity. Absolute skewness values ranged from 0.18 to 0.89, and absolute kurtosis values ranged from 0.11 to 0.74. Variance inflation factor values in the final regression model ranged from 1.09 to 1.68, while tolerance values ranged from .60 to .92, indicating that multicollinearity did not threaten the stability of the estimated regression coefficients.

Table 1

Descriptive Statistics, Internal Consistency Coefficients, and Correlations among the Study Variables

Variable	Possible range	Observed range	Mean	SD	Skewness	Kurtosis	Cronbach's α	McDonald's ω	1	2	3	4	5
1. Childhood emotional neglect	5–25	5–25	13.84	4.62	0.42	−0.31	.88	.89	—				
2. Alexithymia	20–100	27–91	57.63	11.48	0.18	−0.24	.86	.87	.48***	—			
3. Experiential avoidance	7–49	8–48	26.91	8.06	0.36	−0.11	.89	.90	.42***	.46***	—		
4. Loneliness	20–80	22–78	46.78	10.57	0.27	−0.38	.92	.92	.51***	.49***	.41***	—	
5. Substance misuse	0–72	0–58	15.36	9.44	0.89	0.74	.91	.91	.				

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As presented in Table 1, all measurement instruments demonstrated satisfactory internal consistency. Cronbach's alpha coefficients ranged from .86 for alexithymia to .92 for loneliness, while McDonald's omega coefficients ranged from .87 to .92. These findings indicated that the items within each instrument consistently measured their intended constructs. Participants reported a mean childhood emotional neglect score of 13.84, suggesting considerable variation in the extent to which they recalled insufficient emotional support, affection, responsiveness, and validation during childhood. The mean alexithymia score was 57.63, while the mean experiential avoidance score was 26.91 and the mean loneliness score was 46.78. The average substance-misuse score was 15.36, although the comparatively large standard deviation and positively skewed distribution indicated that substance involvement was low among some participants and substantially elevated among others. Pearson correlation analysis showed that childhood emotional neglect was positively and significantly associated with alexithymia, $r = .48$, $p < .001$, experiential avoidance, $r = .42$, $p < .001$, loneliness, $r = .51$, $p < .001$, and substance misuse, $r = .39$, $p < .001$. Thus, participants who reported more severe emotional neglect during childhood also tended to report greater difficulty identifying and describing emotions, a stronger tendency to avoid unwanted internal experiences, greater subjective social disconnection, and more extensive substance misuse. Substance misuse was also positively related to alexithymia, $r = .43$, $p < .001$, experiential avoidance, $r = .40$, $p < .001$, and loneliness, $r = .45$, $p < .001$. The correlations among the three proposed mediators ranged from .41 to .49, indicating that they were meaningfully related but sufficiently distinct to be entered simultaneously in a parallel multiple-mediation model.

Table 2

Regression Coefficients for the Parallel Multiple-Mediation Model

Outcome variable	Predictor	B	SE	Standardized β	t	p	95% CI for B	Model R^2
Alexithymia	Childhood emotional neglect	0.96	0.09	.386	10.67	<.001	[0.78, 1.14]	.247
	Age	−0.04	0.14	−.011	−0.29	.773	[−0.32, 0.24]	
	Sex	−0.72	0.88	−.031	−0.82	.414	[−2.45, 1.01]	
	Higher-education enrolment	−1.04	1.00	−.041	−1.04	.299	[−3.01, 0.93]	
	Current psychological treatment	3.12	1.64	.073	1.90	.058	[−0.10, 6.34]	
Experiential avoidance	Childhood emotional neglect	0.62	0.06	.355	10.33	<.001	[0.50, 0.74]	.205
	Age	0.08	0.10	.030	0.80	.426	[−0.12, 0.28]	
	Sex	0.54	0.62	.034	0.87	.385	[−0.68, 1.76]	
	Higher-education enrolment	−0.67	0.70	−.037	−0.96	.338	[−2.05, 0.71]	
	Current psychological treatment	2.11	1.15	.070	1.83	.068	[−0.15, 4.37]	
Loneliness	Childhood emotional neglect	1.05	0.08	.459	13.13	<.001	[0.89, 1.21]	.301
	Age	−0.10	0.13	−.030	−0.77	.442	[−0.36, 0.16]	
	Sex	1.26	0.79	.060	1.59	.113	[−0.29, 2.81]	
	Higher-education enrolment	−1.48	0.89	−.063	−1.66	.098	[−3.23, 0.27]	
	Current psychological treatment	3.82	1.47	.098	2.60	.010	[0.93, 6.71]	
Substance misuse	Childhood emotional neglect	0.28	0.08	.137	3.50	.001	[0.12, 0.44]	.384
	Alexithymia	0.17	0.04	.207	4.25	<.001	[0.09, 0.25]	
	Experiential avoidance	0.20	0.05	.171	4.00	<.001	[0.10, 0.30]	
	Loneliness	0.19	0.04	.213	4.75	<.001	[0.11, 0.27]	
	Age	0.18	0.10	.060	1.80	.073	[−0.02, 0.38]	
	Sex	−0.91	0.62	−.048	−1.47	.143	[−2.13, 0.31]	
	Higher-education enrolment	−1.32	0.70	−.063	−1.89	.060	[−2.70, 0.06]	
	Current psychological treatment	2.74	1.15	.082	2.38	.018	[0.48, 5.00]	

Table 2 presents the regression paths constituting the parallel mediation model. After controlling for age, sex, higher-education enrolment, and current psychological treatment, childhood emotional neglect significantly and positively predicted each proposed mediator. A one-unit increase in childhood emotional neglect was associated with a 0.96-point increase in alexithymia, $B = 0.96$, $SE = 0.09$, $\beta = .386$, $t = 10.67$, $p < .001$. The alexithymia model accounted for 24.7% of the variance in participants' scores. Childhood emotional neglect also significantly predicted experiential avoidance, $B = 0.62$, $SE = 0.06$, $\beta = .355$, $t = 10.33$, $p < .001$, with the model accounting for 20.5% of the variance in

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experiential avoidance. The strongest standardized association was observed between childhood emotional neglect and loneliness, B = 1.05, SE = 0.08, β = .459, t = 13.13, p < .001. The loneliness model explained 30.1% of the variance in loneliness scores. These results indicated that participants who recalled greater emotional unavailability and insufficient emotional responsiveness from caregivers were more likely to experience impaired emotional awareness, avoid distressing internal experiences, and feel socially and emotionally isolated during emerging adulthood.

When substance misuse was entered as the outcome variable, childhood emotional neglect, alexithymia, experiential avoidance, and loneliness all made significant unique contributions to the model. Alexithymia significantly predicted substance misuse, B = 0.17, SE = 0.04, β = .207, t = 4.25, p < .001, indicating that difficulty identifying and verbally communicating emotional states was associated with more extensive substance involvement. Experiential avoidance also had a significant positive association with substance misuse, B = 0.20, SE = 0.05, β = .171, t = 4.00, p < .001. This result suggested that participants who were more likely to suppress, avoid, or attempt to control distressing internal experiences were also more likely to report substance misuse. Loneliness emerged as the strongest mediator-level predictor of substance misuse in standardized terms, B = 0.19, SE = 0.04, β = .213, t = 4.75, p < .001. Childhood emotional neglect remained significantly related to substance misuse after the three mediators and demographic covariates had been entered, B = 0.28, SE = 0.08, β = .137, t = 3.50, p = .001. The persistence of this direct association indicated that the mediators did not completely account for the relationship. The complete outcome model explained 38.4% of the variance in substance misuse, indicating substantial combined explanatory power. Among the covariates, current psychological treatment was positively associated with substance misuse, B = 2.74, p = .018, whereas age, sex, and educational enrolment did not make statistically significant unique contributions at the .05 level.

Table 3

Total, Direct, and Indirect Effects of Childhood Emotional Neglect on Substance Misuse

Effect	Estimate	SE or bootstrap SE	95% confidence interval	Proportion of total effect	Statistical conclusion
Total effect of childhood emotional neglect	0.767	0.090	[0.590, 0.944]	100.0%	Significant
Direct effect of childhood emotional neglect	0.280	0.080	[0.123, 0.437]	36.5%	Significant
Total indirect effect	0.487	0.077	[0.347, 0.647]	63.5%	Significant
Indirect effect through alexithymia	0.163	0.041	[0.089, 0.251]	21.3%	Significant
Indirect effect through experiential avoidance	0.124	0.037	[0.061, 0.205]	16.2%	Significant
Indirect effect through loneliness	0.200	0.046	[0.119, 0.298]	26.1%	Significant

As shown in Table 3, childhood emotional neglect had a statistically significant total effect on substance misuse, B = 0.767, SE = 0.090, 95% CI [0.590, 0.944]. Before the proposed mediators were included, each one-unit increase in emotional-neglect scores was associated with an estimated 0.767-point increase in substance-misuse scores. After alexithymia, experiential avoidance, and loneliness were entered simultaneously, the direct effect was reduced to B = 0.280, SE = 0.080, 95% CI [0.123, 0.437], but remained statistically significant. This reduction indicated partial rather than complete mediation. The combined indirect effect through the three mediators was B = 0.487, with a bootstrap standard error of 0.077 and a 95% bootstrap confidence interval extending from 0.347 to 0.647. Because this confidence interval did not include zero, the overall indirect association was statistically significant. Approximately 63.5% of the total association between childhood emotional neglect and substance misuse was statistically transmitted through the combined effects of alexithymia, experiential avoidance, and loneliness, whereas approximately 36.5% remained as a direct association or was attributable to mechanisms not represented in the model.

Each specific indirect pathway was statistically significant. The indirect effect through alexithymia was B = 0.163, bootstrap SE = 0.041, 95% CI [0.089, 0.251], accounting for approximately 21.3% of the total effect. This

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finding indicated that childhood emotional neglect was associated with increased substance misuse partly because emotionally neglected participants experienced greater difficulty identifying, differentiating, and describing their feelings. The indirect effect through experiential avoidance was B = 0.124, bootstrap SE = 0.037, 95% CI [0.061, 0.205], accounting for approximately 16.2% of the total effect. Thus, avoidance of distressing emotions, thoughts, memories, and bodily sensations represented another statistically significant pathway connecting childhood emotional neglect with substance misuse. The indirect effect through loneliness was B = 0.200, bootstrap SE = 0.046, 95% CI [0.119, 0.298], accounting for approximately 26.1% of the total association. Of the three specific indirect effects, loneliness accounted for the largest proportion of the total relationship. Nevertheless, the statistical significance of differences between the indirect effects required examination through pairwise bootstrap contrasts.

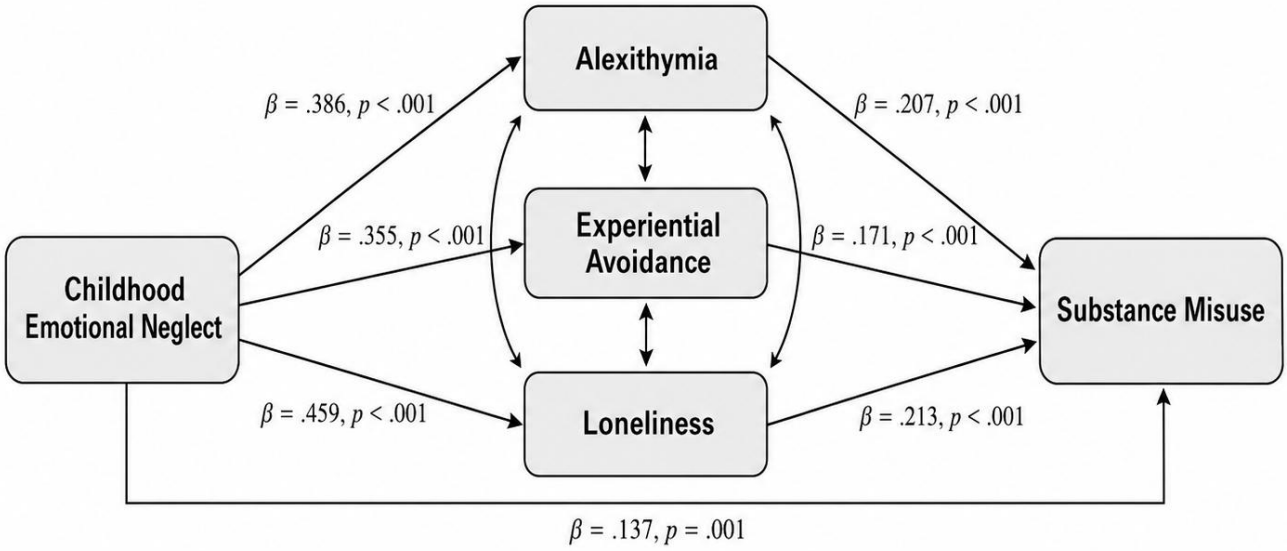
Table 4

Bootstrap Pairwise Contrasts between the Specific Indirect Effects

Comparison of indirect effects	Contrast estimate	Bootstrap SE	95% bootstrap confidence interval	Conclusion
Alexithymia minus experiential avoidance	0.039	0.037	[−0.032, 0.115]	Not significantly different
Loneliness minus alexithymia	0.037	0.047	[−0.056, 0.129]	Not significantly different
Loneliness minus experiential avoidance	0.076	0.040	[0.002, 0.158]	Loneliness pathway significantly stronger

Figure 1

Parallel Multiple-Mediation Model Linking Childhood Emotional Neglect to Substance Misuse through Alexithymia, Experiential Avoidance, and Loneliness



The pairwise contrasts reported in Table 4 were used to determine whether the magnitudes of the three indirect effects differed significantly from one another. The indirect effect through alexithymia was numerically greater than the indirect effect through experiential avoidance by 0.039 units. However, the bootstrap confidence interval for this contrast ranged from −0.032 to 0.115 and included zero, indicating that the alexithymia and experiential-avoidance pathways were not statistically different in magnitude. Similarly, the indirect effect through loneliness exceeded the indirect effect through alexithymia by 0.037 units, but the confidence interval ranged from −0.056 to 0.129. Consequently, the loneliness and alexithymia pathways could not be regarded as significantly different from one another. In contrast, the indirect effect through loneliness was 0.076 units greater than the indirect effect through experiential avoidance, and the 95% bootstrap confidence interval ranged from 0.002 to 0.158. Because this interval did not contain zero, the

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mediating effect of loneliness was significantly stronger than the mediating effect of experiential avoidance. Collectively, these comparisons indicated that all three mediators were relevant, but subjective social and emotional isolation represented a particularly influential pathway linking childhood emotional neglect to substance misuse. The results did not establish that loneliness was stronger than alexithymia, although its estimated indirect effect was numerically larger.

Figure 1 summarizes the estimated standardized pathways in the parallel multiple-mediation model. Childhood emotional neglect significantly predicted alexithymia, $\beta = .386$, experiential avoidance, $\beta = .355$, and loneliness, $\beta = .459$. In turn, alexithymia, $\beta = .207$, experiential avoidance, $\beta = .171$, and loneliness, $\beta = .213$, significantly predicted substance misuse after the effects of childhood emotional neglect, the other mediators, and the demographic covariates had been controlled. The standardized total effect of childhood emotional neglect on substance misuse was positive and statistically significant. After the three mediators were entered, the standardized direct effect was reduced but remained significant, confirming a pattern of partial parallel mediation. The reduction in the direct pathway, together with the significant total indirect effect, demonstrated that the relationship between childhood emotional neglect and substance misuse was explained to a substantial extent by emotional-processing difficulties, avoidance-oriented regulation of internal experiences, and perceived social disconnection. Nevertheless, the remaining direct effect indicated that other psychological, interpersonal, environmental, or behavioral mechanisms may also contribute to the association between childhood emotional neglect and substance misuse among Nigerian emerging adults.

4. Discussion

The present study examined the relationship between childhood emotional neglect and substance misuse among Nigerian emerging adults and investigated whether alexithymia, experiential avoidance, and loneliness mediated this relationship. The findings showed that childhood emotional neglect was positively associated with substance misuse and with each of the three proposed mediators. Emerging adults who reported greater emotional neglect during childhood also reported more difficulty identifying and describing emotions, a stronger tendency to avoid unwanted internal experiences, greater loneliness, and higher levels of substance misuse. Alexithymia, experiential avoidance, and loneliness each independently predicted substance misuse when they were entered simultaneously into the mediation model. The total indirect effect was significant, and all three specific indirect pathways were supported. Nevertheless, childhood emotional neglect retained a significant direct association with substance misuse after the mediators and demographic covariates were controlled, indicating partial rather than complete mediation. Approximately two-thirds of the total association was explained collectively by the three mediators. Loneliness produced the largest estimated indirect effect and was significantly stronger than experiential avoidance, although it did not differ significantly from alexithymia.

The positive association between childhood emotional neglect and substance misuse supports the view that inadequate emotional caregiving can have long-lasting behavioral consequences. Emotional neglect differs from more visible forms of maltreatment because it is defined primarily by the absence of emotional responsiveness, validation, comfort, and protection. Children who repeatedly receive little acknowledgment of their emotional needs may have limited opportunities to learn how to recognize distress, seek interpersonal support, and regulate difficult affective states. These developmental deficits can remain influential during emerging adulthood, a period in which individuals face multiple academic, occupational, relational, and identity-related pressures. Substance use may consequently become an accessible means of reducing emotional discomfort, escaping painful memories, creating temporary emotional numbing, or facilitating social participation. This interpretation is consistent with broader trauma perspectives emphasizing that adverse childhood experiences affect beliefs about the self, emotional organization, interpersonal safety, and later patterns of coping (Paivio & Pascual-Leone, 2023).

The current results also correspond with evidence that childhood emotional neglect may influence both psychological functioning and neurodevelopment. Young adults with histories of emotional neglect have demonstrated alterations in brain white matter, suggesting that the effects of emotional deprivation may extend to systems involved in emotional integration, self-regulation, and social processing (Jin et al., 2025). Childhood trauma has also been related to disturbances in the embodied sense of self, assumptions about the world, and feelings of social disconnection (Henriques et al., 2025). Such changes may make substances particularly reinforcing because psychoactive effects can

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temporarily modify bodily arousal, mood, self-awareness, and interpersonal discomfort. The continuing direct effect observed in the present study suggests that emotional neglect may influence substance misuse through additional mechanisms not included in the model, such as impulsivity, depressive symptoms, shame, low self-worth, poor distress tolerance, insecure attachment, peer influence, or altered reward sensitivity.

The first supported mediating pathway involved alexithymia. Childhood emotional neglect significantly predicted greater alexithymia, which in turn was associated with increased substance misuse. This finding is theoretically plausible because emotional awareness develops largely through interpersonal processes. Caregivers help children name feelings, distinguish one emotion from another, connect bodily sensations with emotional meaning, and communicate distress in socially understandable ways. In emotionally neglectful environments, these learning opportunities may be absent or inconsistent. Children may learn to suppress emotional expression or may grow up with only a vague awareness that they feel distressed. As adults, they may experience diffuse tension, emptiness, agitation, or discomfort without being able to identify its emotional source. Substance use may then serve as a relatively immediate method of altering an internal state that the individual cannot adequately understand or verbalize.

The association between childhood neglect and alexithymia is consistent with meta-analytic evidence showing elevated alexithymia among individuals exposed to childhood and adolescent maltreatment (Khan & Jaffee, 2022). Research among university students has similarly demonstrated close relationships among childhood trauma, alexithymia, and emotion-regulation difficulties (Akpinar, 2024). Childhood adversity, internalized shame, limited cognitive flexibility, low distress tolerance, and alexithymia have also been associated with impaired social-emotional competence (Farahani et al., 2022). These findings suggest that alexithymia may represent a developmental consequence of environments in which emotions are ignored, invalidated, or poorly modeled. In the present study, its mediating role indicates that emotional-processing deficits help explain why childhood emotional neglect is associated with later substance misuse.

The link between alexithymia and substance misuse may reflect several mechanisms. Individuals who have difficulty identifying feelings may be unable to recognize early signs of anxiety, sadness, anger, loneliness, or shame and may therefore fail to use adaptive coping strategies before emotional distress intensifies. Difficulty describing emotions may also reduce the likelihood of obtaining support from friends, family members, counselors, or health professionals. An externally oriented thinking style may encourage action-based rather than reflective responses to discomfort, making substance use more likely when rapid relief is desired. Alexithymia has been implicated as a mediator between childhood maltreatment and other harmful behaviors, including nonsuicidal self-injury (Shi et al., 2025). It has also been examined alongside impulsivity and alcohol use in pathways linking early trauma with later victimization among college women (Mullet et al., 2021). The present results extend this literature by indicating that alexithymia also contributes to the association between childhood emotional neglect and broader substance misuse among emerging adults.

Alexithymia may additionally affect substance misuse by impairing interpersonal functioning. Adolescents with higher alexithymia have shown greater social withdrawal, indicating that difficulties in understanding and expressing feelings can interfere with relationship formation and social engagement (Iannattone et al., 2021). Emotional-processing impairments may also involve difficulty interpreting affective information across different sensory channels, not merely an inability to describe feelings verbally (Suslow & Kersting, 2021). Consequently, individuals with alexithymic characteristics may experience both intrapersonal confusion and interpersonal misunderstanding. These difficulties may increase reliance on substances as private methods of emotional regulation or as social tools that reduce self-consciousness in interpersonal settings. The importance of alexithymia is further supported by evidence that improvements in this construct during trauma therapy are associated with reductions in posttraumatic stress, dissociation, and interpersonal problems (Zorzella et al., 2020).

Experiential avoidance also significantly mediated the relationship between childhood emotional neglect and substance misuse. Participants who reported greater childhood emotional neglect were more likely to avoid unwanted thoughts, emotions, memories, and bodily sensations, and this avoidance was associated with increased substance misuse. Emotionally neglectful environments may teach children that distress should be hidden, ignored, or managed alone. When expressions of fear, sadness, anger, or need are repeatedly dismissed, the child may come to view emotional experiences as intolerable or unacceptable. Over

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time, attempts to suppress or escape internal experiences may become habitual. During emerging adulthood, substance use can perform the function of short-term experiential avoidance by reducing awareness of distress, blunting emotional pain, or interrupting unwanted thoughts.

The mediating role of experiential avoidance is compatible with research showing that beliefs about the capacity to regulate negative mood can alter the effects of childhood maltreatment on compulsive behavior (Kaur & Mearns, 2021). When individuals do not expect that they can manage negative emotional states adaptively, they may turn to behaviors that provide immediate but temporary relief. This pattern is not unique to substance misuse. Adverse childhood experiences have been associated with maladaptive eating styles and other rigid behaviors that may function as attempts to control distress or establish a sense of safety (Rzeszutek et al., 2024). Problematic gaming and related behavioral disorders have likewise been explained through models integrating emotional dysregulation, psychological vulnerability, and social factors (Chang et al., 2023). The current findings suggest that substance misuse may similarly function as an avoidance-based response to emotional states that were never adequately recognized or regulated within childhood relationships.

Although experiential avoidance had the smallest of the three indirect effects, it remained a significant independent mediator after alexithymia and loneliness were controlled. This finding is important because alexithymia and experiential avoidance are related but conceptually distinct. Alexithymia concerns limited emotional awareness and communication, whereas experiential avoidance concerns the unwillingness to remain in contact with distressing experiences. A person may understand an emotion but still attempt to suppress it, or may have difficulty identifying an emotion while also engaging in avoidance. Their simultaneous significance suggests that both emotional confusion and avoidance-oriented coping contribute to substance misuse. Substance-use interventions may therefore be incomplete when they teach only emotional identification without addressing the tendency to escape or control unpleasant internal experiences.

Loneliness was the third and strongest estimated mediator. Childhood emotional neglect was strongly associated with loneliness, and loneliness independently predicted substance misuse. This result indicates that the effects of emotional neglect are not limited to internal emotional deficits but also include enduring interpersonal consequences. Children who experience emotional unavailability may develop expectations that others will not respond to their needs or understand their feelings. These expectations can inhibit trust, emotional disclosure, and the formation of close relationships. Emerging adults may therefore remain socially active while experiencing a lack of meaningful emotional connection. In this context, substances may be used to reduce the pain of isolation, facilitate social interaction, create a temporary sense of belonging, or cope with rejection and emptiness.

The strong role of loneliness is consistent with longitudinal evidence showing that perceived loneliness among college students is closely associated with psychological distress and can intensify when social contact and ordinary routines are disrupted (Conti et al., 2022, 2023). Childhood trauma has also been linked to loneliness through changes in world assumptions and the embodied sense of self (Henriques et al., 2025). Furthermore, alexithymia and loneliness have jointly mediated the relationship between childhood emotional abuse and nomophobia, suggesting that early emotional adversity can promote dependence on external sources of comfort and connection through both emotional and interpersonal pathways (Saladino, 2025). The current findings extend this pattern to substance misuse and show that loneliness remains influential even when alexithymia and experiential avoidance are statistically controlled.

The significantly larger indirect effect of loneliness compared with experiential avoidance may reflect the developmental importance of belonging during emerging adulthood. Young adults are expected to establish independent social networks, romantic relationships, educational identities, and occupational roles. Those who enter this stage with expectations of emotional unavailability may find these transitions particularly difficult. Substance-using environments may offer immediate social inclusion, shared rituals, or temporary relief from interpersonal insecurity. However, repeated misuse can subsequently damage relationships, intensify withdrawal, and create additional stigma, producing a reciprocal cycle between loneliness and substance-related problems. Broader reviews of psychosocial risk among young people have identified family dysfunction, social isolation, emotional distress, and inadequate support as important contributors to severe behavioral and mental-health outcomes (Gelvez-Gafaro & Medina-Duarte, 2022).

The finding that the three mediators collectively accounted for a substantial proportion of the relationship supports a multidimensional explanation of substance

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misuse. Childhood emotional neglect appears to create vulnerability through deficits in emotional understanding, rigid avoidance of distress, and impaired social connectedness. These processes are likely to interact in everyday life. An individual who cannot identify sadness or shame may avoid internal discomfort, withdraw from emotionally demanding relationships, feel increasingly lonely, and use alcohol or drugs to obtain temporary relief. Conversely, substance misuse may worsen emotional awareness, reduce opportunities for authentic communication, and intensify isolation. The significant correlations among the mediators in the present study are consistent with this interdependence, although the parallel mediation model estimated their unique statistical contributions.

The findings also have implications for understanding emerging forms of psychopathology. Contemporary clinical presentations often involve overlapping symptoms, behavioral dependencies, social withdrawal, and emotional disconnection rather than neatly isolated disorders (Chiappini et al., 2025). Clinical case approaches emphasizing metacognition and interpersonal understanding demonstrate the value of helping young people recognize mental states and relationship patterns (Inchausti et al., 2025). Existential–humanistic psychotherapy similarly emphasizes working directly with emotions and helping clients develop greater openness to internal experience (Varisco, 2025). Recovery-oriented approaches further highlight connection, meaning, agency, and adaptive coping as central elements of prevention and rehabilitation (Ramamurthy & Gregory, 2025). The present results support an integrated clinical perspective in which substance misuse is understood not merely as a behavioral problem but as a possible response to emotional deprivation, avoidance, and loneliness.

5. Conclusion

The results should also be interpreted within the Nigerian social and cultural context. Family relationships may provide substantial practical and social support, yet emotional needs may not always be openly discussed or recognized. Norms emphasizing endurance, obedience, family privacy, or emotional restraint may make emotional neglect difficult to identify. Emerging adults may also face unemployment, financial pressure, educational uncertainty, urban migration, and limited access to psychological services. These conditions may amplify the impact of early emotional vulnerabilities. Cross-cultural research has demonstrated that childhood trauma can shape later social anxiety through culturally influenced pathways (Gök et al., 2026). Family correlates have also been shown to play an important role in behavioral problems among African adolescents (Harerimana et al., 2025). Therefore, culturally responsive interpretations are needed rather than assuming that models developed in Western populations apply without modification.

6. Limitations & Suggestions

The findings should be considered in light of several limitations. First, the cross-sectional design did not establish temporal or causal relationships among childhood emotional neglect, the proposed mediators, and substance misuse. Although the mediation model was theoretically ordered, reverse or reciprocal associations remain possible. Second, all variables were assessed using self-report measures, which may have introduced shared-method variance, social desirability, and inaccurate reporting. Retrospective reports of childhood neglect may be affected by memory limitations or current emotional states, while substance misuse may have been underreported because of stigma or fear of judgment. Third, the use of convenience and purposive recruitment from educational and community settings may have limited the representativeness of the sample. Emerging adults with severe substance-related problems, limited literacy, unstable housing, or no connection to institutions may have been underrepresented. Fourth, the overall substance-misuse index combined different substances that may have distinct predictors, functions, and consequences. Finally, potentially relevant variables such as depression, anxiety, impulsivity, attachment insecurity, peer substance use, family substance-use history, and socioeconomic adversity were not included.

Future studies should use longitudinal designs beginning in adolescence or earlier to determine the temporal ordering of emotional neglect, alexithymia, experiential avoidance, loneliness, and substance misuse. Prospective assessments would reduce dependence on retrospective memory and clarify whether the mediators precede the onset or escalation of substance use. Researchers should recruit participants from multiple Nigerian regions and include rural, nonstudent, unemployed, and treatment-seeking emerging adults to improve generalizability. Substance-specific models should be tested because alcohol, cannabis, sedatives, stimulants, and opioids may serve different

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psychological functions. Future research should also examine sequential mediation, moderated mediation, and reciprocal models to determine whether alexithymia promotes experiential avoidance and loneliness or whether social disconnection further intensifies emotional-processing difficulties. The inclusion of clinical interviews, behavioral measures, informant reports, and biological indicators would strengthen validity. Intervention studies should test whether reductions in alexithymia, experiential avoidance, or loneliness are followed by meaningful decreases in substance misuse.

Prevention and treatment programs for emerging adults should assess childhood emotional neglect even when there is no reported history of overt physical or sexual abuse. Screening should include emotional awareness, avoidance-based coping, loneliness, and the functional reasons for substance use. Interventions should help participants identify and label emotions, connect bodily sensations with emotional meanings, communicate needs, and develop alternatives to substance-based regulation. Acceptance-based strategies can teach individuals to tolerate distress without immediately attempting to suppress or escape it. Group-based and community interventions may reduce loneliness by promoting safe disclosure, mutual support, belonging, and healthy peer relationships. Universities, vocational institutions, primary-care services, and youth organizations should establish confidential referral pathways for substance-related and emotional difficulties. Practitioners should use culturally sensitive language and avoid framing emotional neglect in ways that automatically blame families, while still validating the long-term impact of unmet emotional needs.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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