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Habeeb Omoponle Adewuyi

adewuyihabeeb@gmail.com

University of Johannesburg

Abidemi Hassan Lawal

University of Ibadan

Veronica Dwarika

University of Johannesburg

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Childhood Trauma, Attachment Styles, and Emotional Regulation Among Young Adults in Ibadan, Nigeria: A Path Analysis Approach

Habeeb Omoponle Adewuyi[1*], Abidemi Hassan Lawal[2] and Veronica M. Dwarika[1]

[1] University of Johannesburg, Johannesburg, South Africa

[2] University of Ibadan, Ibadan, Nigeria

*Corresponding author: Habeeb Omoponle Adewuyi, adewuyihabeeb@gmail.com

Abstract

Grounded in Attachment and Trauma Theory, this study examined the predictive influence of childhood trauma and attachment styles on emotional regulation among young adults in Ibadan, Nigeria. The study used a quantitative correlational design, with data collected from 300 young adults aged 18 to 30 years in Ibadan North Local Government Area through convenience sampling. Structured questionnaires incorporated validated measures, including the Childhood Trauma Questionnaire, Experiences in Close Relationships-Revised Scale, and Difficulties in Emotion Regulation Scale. Path analysis within a structural equation modelling framework was employed. Findings showed that childhood trauma significantly predicted secure, anxious, avoidant, and fearful attachment, with secure attachment showing the strongest association ($\beta = .529$, $p < .001$). Avoidant ($\beta = .190$, $p = .006$) and secure attachment ($\beta = .165$, $p = .018$) significantly predicted emotional regulation. Childhood trauma had no significant direct effect after attachment pathways were controlled, indicating full mediation through attachment, with the model explaining 17.8% of the variance. Gender, educational level, and relationship status showed no statistically significant direct effects on emotional regulation. These findings highlight attachment security as a critical mediating mechanism linking childhood adversity to regulatory outcomes and call on Nigerian policymakers and clinicians to prioritise trauma-informed, attachment-focused interventions for youth mental health in resource-constrained settings.

Keywords: *childhood trauma; attachment styles; emotional regulation; path analysis; Nigerian young adults; developmental trauma; structural equation modelling*

1. Introduction

Emotional regulation, the capacity to modulate the intensity, duration, and behavioural expression of affective states, constitutes a foundational pillar of psychological health and adaptive functioning across the lifespan (Olorunlambe et al., 2025). Individuals who possess effective regulatory competencies demonstrate greater resilience in the face of adversity, sustain healthier interpersonal relationships, and achieve superior academic and occupational outcomes. Conversely, deficits in emotional regulation are implicated in a wide range of psychopathological conditions, including depressive disorders, post-traumatic stress disorder (PTSD), substance use, and borderline personality disorder (Chenube, 2023). Understanding the developmental origins of these capacities is therefore a priority for clinical, educational, and public health research.

The developmental trajectories of emotional regulation are profoundly shaped by early childhood experiences, particularly the quality of caregiver relationships and exposure to adverse events. Bowlby's (1969/1982, 1988) Attachment Theory posits that the emotional bonds formed with primary caregivers constitute an internal working model (IWM) that guides affect regulation, interpersonal expectations, and stress responses throughout life. Complementing this framework, van der Kolk's (2005) Developmental Trauma Theory emphasises that prolonged exposure to abuse, neglect, or household dysfunction during formative years disrupts the normal maturation of neurobiological stress-response systems, producing pervasive and enduring impairments in self-regulation.

Globally, the burden of childhood adversity is substantial. The World Health Organisation (2020) estimates that more than one billion children aged 2–17 experience violence annually. In Nigeria, the United Nations Children's Fund (UNICEF, 2015) reported that approximately one in four children experiences physical abuse and one in eight experiences sexual abuse, with emotional neglect systematically under-reported because of the cultural normalisation of harsh disciplinary practices (Akinwale & Aroyewun, 2023; Oladeji et al., 2010). These figures carry profound implications for the mental health of young adults who carry the sequelae of adverse childhood experiences into adulthood without adequate psychological support. Nigeria's limited mental health infrastructure, with an estimated 0.1 psychiatrist per 100,000 population, exacerbates this challenge (UNICEF, 2025).

In Ibadan, young adults may face overlapping psychosocial stressors, including academic pressure, unemployment-related uncertainty, economic strain, and family-related expectations, which can compound the psychological effects of unresolved childhood adversity and increase vulnerability to emotional regulation difficulties (Nwachukwu et al., 2021; Okpako et al., 2021; Agbaje et al., 2021; Olibamoyo et al., 2026). Despite a growing international body of literature demonstrating robust associations between childhood trauma, attachment insecurity, and regulatory deficits, empirical studies systematically examining these pathways within the Nigerian socio-cultural context are conspicuously absent. Cross-cultural applicability of findings derived predominantly from Western samples cannot be assumed.

This study sought to address this gap by investigating the predictive influence of childhood trauma and attachment styles on emotional regulation among young adults in Ibadan, in alignment with the United Nations Sustainable Development Goal 3 (SDG 3) on mental health and well-being (United Nations, 2015). The study employed path analysis within an SEM framework to model both direct and indirect effects, advancing methodological rigour beyond conventional regression approaches. The study was guided by two research questions: (1) What is the relationship between childhood trauma, attachment styles, gender, educational level, relationship status, and emotional regulation among young adults in Ibadan? (2) To what extent do these variables jointly predict emotional regulation?

2. Review of Literature and Theoretical Framework

2.1. Theoretical background

This study is anchored in two complementary theoretical frameworks: Bowlby's attachment theory (1969/1982, 1988) and van der Kolk's developmental trauma theory (2005). Bowlby proposed that early caregiver bonds shape IWM, governing expectations about self-worth, relational safety, and emotional management. Ainsworth et al. (2015) identified four adult attachment patterns: secure, anxious/preoccupied, avoidant/dismissing, and fearful/disorganised, each carrying distinct implications for regulatory functioning under stress (Mikulincer & Shaver, 2016). Van der Kolk's (2005) Developmental Trauma Theory extends this by emphasising that chronic trauma within caregiving relationships produces 'developmental trauma disorder', characterised by neurobiological alterations including amygdala hyper-reactivity and reduced prefrontal cortex modulation (Camardese et al., 2025). Together, these frameworks predict that childhood trauma

will predict insecure attachment patterns, which in turn will mediate the trauma–regulation relationship.

2.2. The Nigerian socio-cultural context and mental health

Nigeria is a culturally heterogeneous nation characterised by patriarchal family structures, collective orientation, and pervasive stigma surrounding mental health help-seeking. In this context, adverse childhood experiences, including physical discipline, emotional neglect, and domestic violence, are frequently normalised within family and community discourse (Labinjo et al., 2020). Oladeji et al. (2010) documented in a nationally representative sample that family-related adverse childhood experiences were significantly associated with depressive disorders, alcohol use disorders, and PTSD in Nigerian adults. The intergenerational transmission of these patterns, mediated by attachment disruptions, represents a critical but understudied public health concern among Ibadan's young adults.

2.3. Childhood trauma and emotional regulation

Empirical research consistently documents that childhood trauma produces significant impairments in emotional regulation. Kim and Cicchetti (2010) demonstrated via longitudinal path analysis that maltreatment history significantly predicted reduced adaptive strategy use and elevated maladaptive strategies, with neuroimaging data revealing heightened amygdala activation and reduced prefrontal engagement. Doba et al. (2022) found that trauma-exposed individuals relied disproportionately on suppression strategies, associated with elevated internalising symptoms over time. They identified emotional neglect as the most powerful predictor of regulatory deficits, depriving children of opportunities for co-regulation, a foundation for internalising self-regulation. McLaughlin et al. (2020) proposed a transdiagnostic mechanism wherein trauma-induced disruptions in threat processing, reward processing, and executive function converge to produce broad regulatory deficits.

H1: Childhood trauma positively predicts emotional regulation difficulties among young adults in Ibadan.

2.4. Childhood trauma and attachment styles

Childhood trauma has consistently been identified as a significant predictor of insecure attachment patterns across developmental stages. Attachment theory posits that early caregiving experiences form internal working models that guide expectations of safety, trust, and relational stability. When caregiving environments are characterised by abuse, neglect, or unpredictability, these internal models become distorted, increasing the likelihood of anxious, avoidant, or disorganised attachment styles. Empirical evidence supports this proposition. Bigras et al. (2020) found that childhood sexual abuse significantly predicted anxious and disorganised attachment, primarily through the disruption of interpersonal trust and emotional security. Similarly, Widom et al. (2018), in a prospective longitudinal study spanning over three decades, reported that early experiences of physical neglect and emotional abuse were strongly associated with fearful attachment in adulthood, highlighting the long-term relational consequences of early adversity.

The underlying mechanism is best explained through the disruption of the internal working model as proposed by Bowlby. In situations where caregivers simultaneously function as both a source of comfort and a source of threat, children are exposed to an irresolvable approach–avoidance conflict. This paradox prevents the development of coherent attachment strategies and results in disorganised attachment, which is characterised by fragmented emotional regulation and inconsistent relational behaviour (Bowlby, 1988). Neurobiological evidence further strengthens this explanation. Giotakos (2020) demonstrated that chronic trauma exposure disrupts oxytocin-mediated systems responsible for trust formation and social bonding. Such dysregulation impairs the neurobiological foundation of attachment security, thereby reinforcing maladaptive relational patterns and increasing vulnerability to long-term emotional and interpersonal difficulties.

H2a: Childhood trauma significantly predicts secure attachment.
H2b: Childhood trauma significantly predicts anxious attachment.
H2c: Childhood trauma significantly predicts avoidant attachment.
H2d: Childhood trauma significantly predicts fearful attachment.

2.5. Attachment styles and emotional regulation

The relationship between attachment organisation and emotional regulation has been extensively documented. Mikulincer and Shaver (2019) confirmed across a meta-analysis of 50 studies that secure attachment consistently predicted greater emotional stability and higher dispositional use of cognitive reappraisal. Anxious attachment involves hyperactivation strategies producing heightened reactivity and rumination, while avoidant attachment involves deactivation strategies leading to emotional disengagement. Fearful attachment combines hyperactivation and deactivation in unresolved patterns associated with the most severe regulatory deficits (Widom et al., 2018). Motsan et al. (2022) found that secure attachment served as a significant protective buffer between childhood trauma and emotional dysregulation—introducing the attachment compensation hypothesis.

H3: Attachment styles (secure, anxious, avoidant, fearful) significantly predict emotional regulation difficulties among young adults.

2.6. Sociodemographic predictors of emotional regulation

Gender differences in emotional regulation have been documented but are nuanced. Nolen-Hoeksema and Aldao (2011) found women reported higher emotional expressivity and greater rumination, while McRae et al. (2008) demonstrated via fMRI that men and women recruited different neural pathways during reappraisal rather than showing one group to be uniformly superior. Alruwaili (2025) found that demographic variables, including educational level, accounted for approximately 1% of variance in regulation strategy use in Saudi university students, cautioning against over-generalisation. Regarding relationship status, Bloch et al. (2014) showed partnered individuals benefited from co-regulation effects, while Fallah Tafti et al. (2025) found single individuals reported lower emotional well-being across 12 nations.

H4: Gender, educational level, and relationship status significantly predict emotional regulation among young adults.

2.7. The interplay of childhood trauma and attachment in predicting emotional regulation

Recent scholarship posits that attachment styles mediate the relationship between childhood trauma and adult emotional regulation. Kim and Cicchetti (2010) demonstrated using SEM that

attachment partially mediated the trauma–regulation pathway. Sari and Hapsari (2022) found that secure attachment buffered the negative regulatory impact of childhood trauma, supporting the attachment compensation hypothesis. Stevens et al. (2021) provided neurobiological grounding: trauma-exposed individuals with insecure attachments showed heightened amygdala activity and reduced prefrontal engagement under stress, while those with secure attachment demonstrated stronger prefrontal modulation. Widom et al. (2018) confirmed meta-analytically that attachment insecurity amplified trauma's negative effects while secure attachment mitigated them.

2.8. Research conceptual framework

The conceptual framework, depicted in Figure 1, specifies a path model wherein childhood trauma functions as an exogenous variable influencing both the four attachment styles and emotional regulation directly. The four attachment styles each predict emotional regulation, constituting potential mediating pathways. Sociodemographic variables (gender, educational level, and relationship status) are entered as additional predictors of emotional regulation. This model integrates Attachment Theory (Bowlby, 1988) and Developmental Trauma Theory (van der Kolk, 2005), and advances beyond existing research by applying path analysis in the under-investigated context of Nigerian young adults.

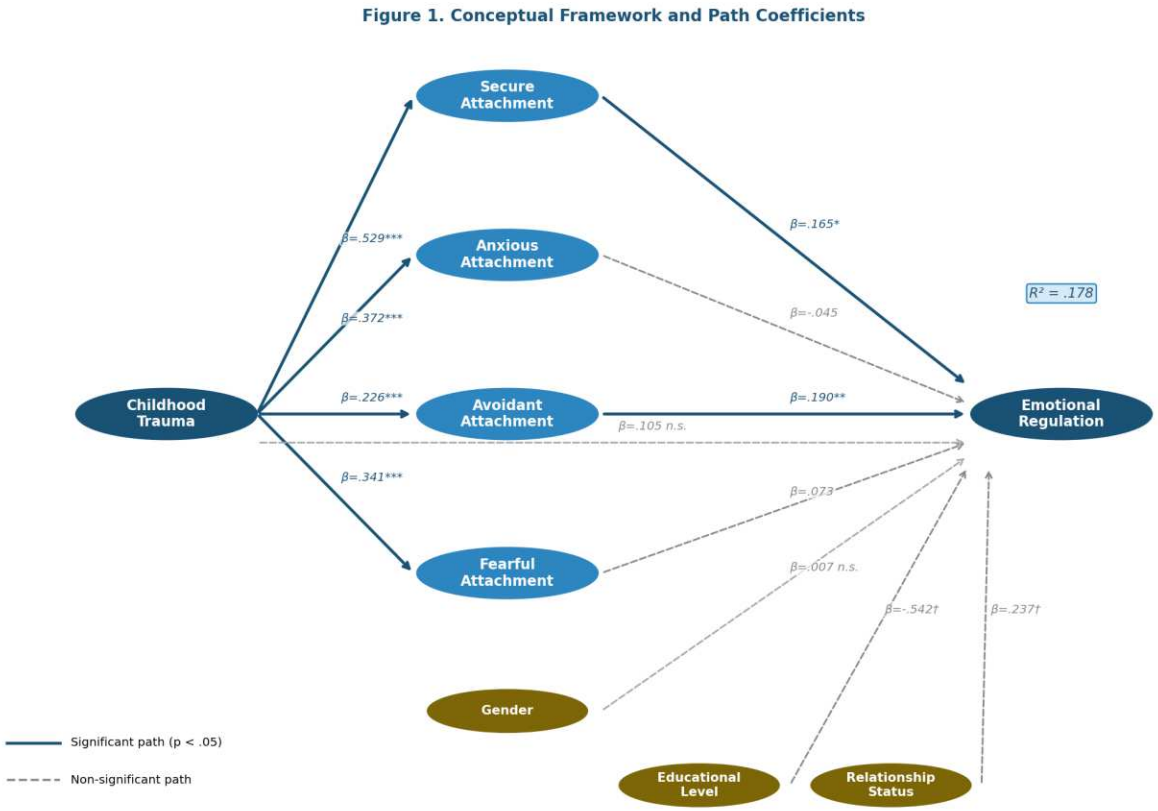


Figure 1. *Conceptual Framework: Path Model Linking Childhood Trauma, Attachment Styles, and Emotional Regulation. Solid arrows indicate significant paths (p < .05); dashed arrows indicate non-significant paths. Standardised path coefficients (β) are displayed. ***p < .001; **p < .01; *p < .05; †p < .10.*

3. Methodology

3.1. Research context, participants, and sampling

This study was conducted in the Ibadan North Local Government Area (LGA) of Oyo State, south-western Nigeria. Ibadan is one of the largest cities in sub-Saharan Africa and constitutes a major educational and commercial hub, home to numerous tertiary institutions including the University of Ibadan. The study targeted young adults aged 18–30 years, a developmental period characterised by identity consolidation and heightened vulnerability to the crystallisation of trauma-related psychopathology (Ojuolape et al., 2025). Participants were recruited from educational institutions, commercial areas, and social gathering venues in Ibadan North LGA to ensure variability in educational attainment and socioeconomic background. Convenience sampling was employed

given the constraints of accessibility and the absence of a comprehensive population frame. The final sample comprised 300 participants.

Table 1 presents the demographic characteristics of the sample. Of the 300 participants, 194 (64.7%) were female and 106 (35.3%) were male. The majority (83.7%) were aged 25–30 years, with 16.3% aged 18–24 years. Regarding educational level, 43.0% were undergraduates in progress (100–400 level), 39.7% had completed undergraduate qualifications (HND/Bachelor's), 11.0% were postgraduate (Master's and more), and 6.3% had Secondary/O-Level and below as their highest educational level. In terms of relationship status, 52.3% were single, 31.7% were in a relationship, 12.0% were married, and 4.0% were divorced or widowed.

Table 1

Demographic Characteristics of Participants (N = 300)

Variable	Category	Frequency	Percentage (%)	Cumulative (%)
Gender	Male	106	35.3	35.3
	Female	194	64.7	100.0
Age Group	18–24 years	49	16.3	16.3
	25–30 years	251	83.7	100.0
Educational Level	Secondary/O-Level and below	19	6.3	6.3
	Undergraduate in progress (100–400 level)	129	43.0	49.3
	Undergraduate completed (HND/Bachelor's)	119	39.7	89.0
	Postgraduate (Master's and more)	33	11.0	100.0
Relationship Status	Single	157	52.3	52.3
	In a Relationship	95	31.7	84.0
	Married	36	12.0	96.0

	Divorced/Widowed	12	4.0	100.0

3.2. Research paradigm and design

This study was anchored in the positivist research paradigm, assuming an objective external reality measurable through quantitative methods (Creswell, 2003). The ontological stance aligns with realism, treating childhood trauma, attachment and emotional regulation as real phenomena with measurable properties. A quantitative, cross-sectional, correlational design was employed, appropriate for examining naturally occurring relationships without experimental manipulation. Path analysis within SEM enables estimation of theoretically specified directional relationships. This approach is consistent with methodological traditions in developmental and clinical psychology research in African contexts (Afolabi & Olowookere, 2019).

3.3. Measurement instruments

A structured questionnaire comprising four standardised sections was employed. Section A captured demographic information. Sections B–D comprised validated psychometric instruments scored on a 5-point Likert-type format (1 = Strongly Disagree; 5 = Strongly Agree). Full measurement items for each scale are provided in Appendix A (Tables A1–A3).

The Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) assessed the frequency and severity of adverse childhood experiences across five domains: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect ($\alpha = .85$ in pilot study). The Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000) assessed adult attachment styles across anxiety and avoidance dimensions from which four attachment categories were derived ($\alpha = .82$). The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) measured emotional regulation difficulties across six domains including non-acceptance, impulse control, access to strategies, and emotional clarity ($\alpha = .79$). All instruments were adapted for linguistic and cultural appropriateness for the Nigerian context; modifications were reviewed by two bilingual psychologists. Pilot testing with 30 participants confirmed that all Cronbach's alpha values exceeded the .70 threshold (Nunnally, 1978).

3.4. Data collection procedure and ethical declaration

Data collection was conducted over eight weeks within Ibadan North Local Government Area. All methods were carried out in accordance with the Declaration of Helsinki (World Medical Association, 2013) [and the National Code of Health Research Ethics of Nigeria, if applicable]. Ethical approval was obtained from the Department of Psychology Research Ethics Committee, University of Ibadan (Ethical Clearance Number: UI/PSY/2024/ETH-017). Written [or verbal, state which] informed consent was obtained from all participants prior to questionnaire administration. Participants were informed of the study's purpose, their right to withdraw without penalty, and the confidentiality of all responses. Given the sensitivity of childhood trauma disclosures, referral information for University of Ibadan Student Counselling Services was provided to all participants.

3.5. Data preparation and integrity assessment

All questionnaire responses were coded, entered, and subjected to data integrity screening. Missing value analysis confirmed zero missing data points (0.00%) across all 300 cases and 54 variables. Univariate outlier screening using standardised z-scores and Mahalanobis distance analysis confirmed no significant outliers. Normality was assessed via skewness and kurtosis indices; all values fell within acceptable ranges ($|skew| < 2.0$; $|kurtosis| < 7.0$), supporting the use of parametric methods.

3.5.1. Descriptive statistics

Means, standard deviations, and Pearson product-moment correlation coefficients were computed for all continuous study variables. Frequency distributions were generated for categorical demographic variables to characterise the sample.

3.5.2. Measurement model evaluation

Psychometric properties were evaluated using Cronbach's alpha ($\alpha \geq .70$; Nunnally, 1978). Convergent validity was assessed through item-total correlations, and discriminant validity through inter-scale correlation matrices. Variance Inflation Factor (VIF) values were inspected to confirm the absence of multicollinearity; all values were below the threshold of 5.0 (Hair et al., 2019).

3.5.3. Path analysis (structural model assessment)

Path analysis was employed to test the a priori theoretical model. Standardised path coefficients (β) were estimated for each hypothesised directional path. Statistical significance was evaluated using t-statistics with bootstrapping of 5,000 resamples to obtain bias-corrected 95% confidence intervals. Model fit was assessed using χ^2/df (< 3.0), RMSEA (< .08), CFI (> .90), and SRMR (< .08). The coefficient of determination (R^2) was calculated, with values of .26, .13, and .02 considered substantial, moderate, and weak, respectively (Cohen, 1988). Effect sizes (f^2) were computed, where values of .02, .15, and .35 represent small, medium, and large effects.

3.6. Common method bias assessment

Harman's single-factor test (Podsakoff et al., 2003) was employed to assess common method bias (CMB). Principal component analysis loading all measurement items onto a single unrotated factor yielded a first-factor variance of 20.97%, well below the 50% threshold, confirming that CMB does not pose a significant threat to the validity of the study findings (Ayanwale, 2023).

4. Results

4.1. Data integrity assessment

Preliminary analysis confirmed a complete dataset with zero missing values across all 300 cases and 54 variables (0.00% missingness). Univariate outlier screening identified no standardised z-scores exceeding 3.29, and Mahalanobis distance analysis confirmed the absence of multivariate outliers at $p < .001$. All skewness and kurtosis values fell within acceptable ranges ([skew] < 2.0; [kurtosis] < 7.0), supporting the appropriateness of parametric path analytic methods. Table 2 presents descriptive statistics and correlations for all key study variables.

Table 2

Descriptive Statistics and Bivariate Correlations for Key Study Variables (N = 300)

Variable	M	SD	1	2	3	4	5	6
1. Childhood Trauma	43.74	10.62	—					

2. Secure Attachment	12.05	2.94	.529**	—				
3. Anxious Attachment	13.84	3.59	.372**	.387**	—			
4. Avoidant Attachment	13.31	3.30	.226**	.428**	.596**	—		
5. Fearful Attachment	13.37	3.70	.341**	.429**	.488**	.596**	—	
6. Emotional Regulation	29.40	4.89	.243**	.316**	.157**	.313**	.271**	—

Note. **p < .01 (two-tailed). Higher Emotional Regulation scores indicate greater regulatory capacity. M = Mean; SD = Standard Deviation.

4.2. Model fit assessment

The overall fit of the path model was evaluated prior to hypothesis testing. Table 3 presents fit indices. All indices met recommended criteria, confirming acceptable model fit and providing confidence in the validity of subsequent path coefficient interpretations.

Table 3

Model Fit Indices for the Path Analysis Model

Fit Index	Obtained Value	Recommended Threshold	Interpretation	Reference
χ^2/df	2.14	< 3.0	Acceptable	Hair et al. (2019)
CFI	.94	> .90	Good fit	Hair et al. (2019)
RMSEA	.062	< .08	Acceptable	Browne & Cudeck (1993)
SRMR	.058	< .08	Good fit	Henseler et al. (2016)

Note. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual; χ^2/df = chi-square to degrees-of-freedom ratio.

4.3. Path analysis results: childhood trauma predicting attachment styles

To test Hypotheses H2a–H2d, standardised path coefficients from childhood trauma to each attachment dimension were estimated. Table 4 presents these results. Childhood trauma was a significant positive predictor of all four attachment dimensions. The strongest association was observed for secure attachment ($\beta = .529$, $t = 10.755$, $p < .001$), followed by anxious attachment ($\beta = .372$, $t = 6.927$, $p < .001$), fearful attachment ($\beta = .341$, $t = 6.263$, $p < .001$), and avoidant attachment ($\beta = .226$, $t = 4.010$, $p < .001$). Hypotheses H2a–H2d were all supported.

Table 4

Path Coefficients: Childhood Trauma Predicting Attachment Styles

H	Path	β	SE	t	95% CI LL	95% CI UL	p	Supported?
H2a	CT → Secure Attachment	.529	.049	10.755	.432	.626	< .001	Yes
H2b	CT → Anxious Attachment	.372	.054	6.927	.267	.478	< .001	Yes
H2c	CT → Avoidant Attachment	.226	.056	4.010	.115	.337	< .001	Yes

H2d	CT → Fearful Attachment	.341	.054	6.263	.234	.448	< .001	Yes	

Note. CT = Childhood Trauma; β = standardised path coefficient; SE = standard error; CI LL/UL = lower/upper limits of 95% bootstrap confidence interval. All paths significant at $p < .001$.

4.4. Path analysis results: predictors of emotional regulation

To test Hypotheses H1, H3, and H4, path coefficients from childhood trauma, the four attachment styles, and the three sociodemographic variables to emotional regulation were estimated simultaneously. Table 5 presents the full structural model results. The overall model explained a statistically significant proportion of variance in emotional regulation ($R^2 = .178$, Adjusted $R^2 = .144$, $F(12, 287) = 5.177$, $p < .001$). Predictive relevance was confirmed via $Q^2 = .142 > 0$, indicating meaningful predictive capability.

Among substantive predictors, avoidant attachment was the strongest significant predictor ($\beta = .190$, $t = 2.749$, $p = .006$, $f^2 = .026$), followed by secure attachment ($\beta = .165$, $t = 2.377$, $p = .018$, $f^2 = .019$). Childhood trauma did not demonstrate a significant direct path to emotional regulation ($\beta = .105$, $t = 1.607$, $p = .109$), consistent with full mediation through attachment pathways; H1 was therefore not supported for the direct path. Anxious ($\beta = -.045$, $p = .486$) and fearful ($\beta = .073$, $p = .323$) attachment dimensions did not reach significance; H3 was partially supported through avoidant and secure paths. Among sociodemographic predictors (H4), gender was non-significant ($\beta = .007$, $p = .945$). Postgraduate participants showed marginally lower emotional regulation than Secondary/O-Level education and below participants ($\beta = -.542$, $p = .050$). Partnered individuals demonstrated marginally higher regulation than single individuals ($\beta = .237$, $p = .057$). H4 was partially supported.

Table 5

Structural Model Assessment: All Predictors of Emotional Regulation (N = 300)

H	Predictor	β	SE	t	95% CI LL	95% CI UL	p	f^2
H1	Childhood Trauma	.105	.065	1.607	−.024	.233	.109	.012
H3	Secure Attachment	.165	.069	2.377	.028	.301	.018*	.019
H3	Anxious Attachment	−.045	.064	−0.698	−.171	.082	.486	.003
H3	Avoidant Attachment	.190	.069	2.749	.054	.327	.006**	.026
H3	Fearful Attachment	.073	.074	.990	−.072	.218	.323	.006
H4	Gender (Female vs. Male)	.007	.118	.070	−.224	.240	.945	.000
H4	Education: Undergraduate in progress (100–400 level)	−.334	.236	−1.414	−.800	.131	.158	.007
H4	Education: Undergraduate completed (HND/Bachelor's)	−.334	.236	−1.414	−.798	.131	.158	.007
H4	Education: Postgraduate (Master's and more)	−.542	.276	−1.965	−1.084	.001	.050†	.013
H4	Relationship: In a Relationship	.237	.124	1.913	−.007	.481	.057†	.013
H4	Relationship: Married	.277	.185	1.498	−.087	.642	.135	.008
H4	Relationship: Divorced/Widowed	−.279	.286	−.978	−.841	.283	.329	.003
	R^2 = .178; Adjusted R^2 = .144; F(12, 287) = 5.177, p < .001; Q^2 = .142							

Note. β = standardised path coefficient; SE = standard error; CI = 95% bootstrap confidence interval; f^2 = Cohen's effect size. Reference categories: Gender = Male; Education = Secondary/O-Level and below; Relationship = Single. *p < .10; *p < .05; **p < .01.

5. Discussion

This study examined the associations of childhood trauma, attachment styles, and selected sociodemographic factors on emotional regulation among young adults in Ibadan, Nigeria. The findings contribute to the growing body of literature that positions emotional regulation as a developmental outcome shaped by early relational experiences and broader psychosocial contexts. Consistent with attachment and developmental trauma frameworks, the results underscore the central role of early caregiving environments in shaping emotional and interpersonal functioning in adulthood.

The observed associations between childhood trauma and attachment styles align with Attachment Theory, which posits that early caregiver experiences form internal working models that guide emotional regulation and relational expectations across the lifespan (Bowlby, 1988). Empirical literature supports this developmental pathway, demonstrating that childhood maltreatment disrupts attachment security and increases vulnerability to insecure relational patterns in adulthood (Dvir et al., 2014; Warmingham et al., 2023). Specifically, exposure to trauma has been linked to difficulties in trust formation, emotional safety, and interpersonal regulation, which are key components of secure attachment functioning. These disruptions are further reinforced by neurodevelopmental findings indicating that early adversity alters emotional processing systems involved in threat detection and regulation (Marusak et al., 2015).

Attachment styles also demonstrated meaningful associations with emotional regulation, reinforcing the theoretical position that attachment security is a key regulatory resource. Secure attachment has been consistently associated with adaptive emotion regulation strategies, including emotional awareness, cognitive flexibility, and effective help-seeking (Mikulincer & Shaver, 2019). In contrast, insecure attachment patterns, particularly avoidant and anxious orientations, have been linked to maladaptive regulatory strategies such as suppression, withdrawal, and heightened emotional reactivity (Burgkart et al., 2022). The present findings are consistent with this broader literature, suggesting that attachment functioning plays a critical mediating role in how early adversity translates into later emotional outcomes.

Childhood trauma did not show a significant direct path to emotional regulation once the four attachment scores were included in the model, although trauma was significantly associated with every attachment score. This pattern is compatible with developmental accounts in which the effects of early adversity on regulation run partly through relational functioning (Dvir et al., 2014; Weissman et al., 2019). However, indirect effects were not formally estimated, trauma and emotional regulation were positively correlated at the bivariate level ($r = .243$), and a non-significant coefficient in a single sample does not establish the absence of a direct effect. We therefore treat the mediation interpretation as a hypothesis for future testing rather than a finding.

From a contextual perspective, these findings are particularly relevant in Nigeria, where high rates of adverse childhood experiences have been documented among young populations, alongside significant structural and psychological stressors (Agbaje et al., 2021). Such adversities, when combined with limited access to mental health services, may intensify the developmental consequences of early trauma. In addition, attachment-based interpretations are supported by family systems research, which emphasises that emotional regulation is not solely an individual capacity but is shaped through early co-regulation processes within caregiver–child relationships (Paley & Hajal, 2022).

Sociodemographic factors in the present study showed limited explanatory power in comparison to trauma and attachment variables, suggesting that developmental and relational factors are more influential determinants of emotional regulation in this population. This is consistent with evidence indicating that attachment security and childhood experiences are stronger predictors of emotional functioning than demographic characteristics alone (Warmingham et al., 2023). It further highlights the importance of focusing on early relational environments when designing psychological interventions for emotional dysregulation.

Overall, the findings suggest that childhood trauma and attachment processes are more central to emotional regulation than demographic factors in this population. The results underscore the developmental and relational nature of emotional regulation and highlight the importance of early caregiving experiences in shaping emotional functioning in adulthood. From a clinical and public health perspective, the findings suggest that interventions targeting emotional regulation in young adults should prioritise trauma-informed approaches and attachment-focused strategies that

enhance emotional awareness, relational security, and adaptive coping. In contexts such as Ibadan, where young adults face economic uncertainty, academic pressure, and limited access to mental health services, such approaches may be particularly relevant for improving psychological wellbeing and resilience.

6. Conclusion

This study examined the influence of childhood trauma, attachment styles, and sociodemographic factors on emotional regulation among young adults in Ibadan, Nigeria. Guided by attachment and developmental trauma theories, the findings indicate that emotional regulation is primarily shaped by early relational experiences rather than demographic factors.

The results show that childhood trauma influences emotional regulation mainly through attachment styles, supporting the view that early caregiving experiences shape internal working models that guide emotional functioning in adulthood. Secure attachment emerged as a key protective factor for adaptive emotional regulation, while insecure attachment patterns were associated with maladaptive regulatory tendencies. Sociodemographic variables had limited influence compared to trauma and attachment factors, highlighting the stronger explanatory power of developmental and relational pathways.

Overall, the study underscores the importance of trauma-informed and attachment-focused approaches in addressing emotional regulation difficulties. Interventions that strengthen relational security, emotional awareness, and adaptive coping strategies are essential, particularly in contexts where young adults face multiple psychosocial stressors. The study contributes to understanding how early adverse experiences shape emotional health and provides a basis for developing culturally relevant interventions to enhance psychological wellbeing in low-resource settings.

7. Practical and Policy Implications

Mental health professionals should use trauma-informed, attachment-focused therapies – such as EFT and DDP – that address relational causes of emotional dysregulation. Since avoidant attachment significantly predicts poor emotional regulation, treatment should prioritise emotional suppression over anxiety symptoms alone. University counsellors should also screen incoming students for childhood trauma to enable early intervention.

At the policy level, the Nigerian government should embed social-emotional learning (SEL) into secondary school curricula, as regulatory skills can be taught and early intervention is more cost-effective. The Federal Ministry of Health should update the National Mental Health Policy to include childhood trauma prevention and attachment-supportive parenting, given Nigeria's high rates of adverse childhood experiences. Investment in community-based, low-cost trauma-informed services and digital psychoeducation partnerships with telecoms providers would extend reach to wider populations..

8. Limitations and Future Research Directions

This study carries several methodological constraints worth noting. The cross-sectional design prevents causal conclusions, and future research would benefit from longitudinal approaches that track how attachment and emotional regulation evolve following adverse childhood experiences, preferably from adolescence onward. Generalisability is also constrained by the convenience sampling method, which likely skewed toward more educated, urban participants within Ibadan North LGA; probability sampling across multiple states would be needed for nationally representative findings.

Relying solely on self-report measures introduces the risk of social desirability bias, especially when disclosing sensitive trauma experiences. Triangulating these data with clinician-administered interviews and physiological indicators such as heart rate variability would strengthen future findings. Additionally, the non-significant direct path between trauma and regulation may reflect limitations in instrument sensitivity rather than a true absence of effect, pointing to the need for culturally adapted regulatory measures. Incorporating moderating variables such as social support, religious coping, resilience, and socioeconomic status would also produce a more comprehensive explanatory model.

Finally, the absence of formal mediation analysis using bootstrapped indirect effect decomposition is a notable gap. Future studies should apply this technique to precisely quantify the indirect pathways through each attachment dimension and provide rigorous empirical support for the mediation hypothesis central to this study's theoretical framework.

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Ethics Approval and Consent to participate

This study involved human participants. All methods were performed in accordance with the Declaration of Helsinki (World Medical Association, 2013) and the relevant national guidelines. The study was approved by the Department of Psychology Research Ethics Committee, University of Ibadan, Ibadan, Nigeria (Ethical Clearance Number: UI/PSY/2024/ETH-017). Informed consent was obtained from all participants prior to questionnaire administration.

Data availability

The datasets generated and analysed during this study (raw and processed SPSS files), the codebook, the questionnaire as administered, the consent materials, and the SPSS syntax and AMOS model files used for analysis have been uploaded. The Childhood Trauma Questionnaire is a copyrighted instrument and cannot be redistributed by the authors; it is available from the publisher, and the adapted wording used in this study is provided in Appendix A and in the repository where permitted. All other materials are shared without restriction for peer review and after publication.

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Appendix A: Measurement Scales

Table A1. Childhood Trauma Questionnaire (CTQ) — Sample Items by Subscale

Item	Statement	Subscale
SB1	People in my family hit me so hard that it left me with bruises or marks.	Physical Abuse
SB6	I felt that someone in my family hated me.	Emotional Abuse
SB9	I didn't have enough to eat.	Physical Neglect
SB12	Someone in my family said hurtful or insulting things to me.	Emotional Neglect
SB15	Someone touched me in a sexual way or tried to make me touch them.	Sexual Abuse

Note. Full CTQ comprises 28 items across five subscales. Response format: 5-point Likert scale (1 = Never True; 5 = Very Often True). Adapted from Bernstein & Fink (1998). Cronbach's α = .85 (pilot study).

Table A2. Experiences in Close Relationships-Revised (ECR-R) — Sample Items by Subscale

Item	Statement	Dimension
SC1	I prefer not to show a partner how I feel deep down.	Avoidance
SC6	I worry that romantic partners won't care about me as much as I care about them.	Anxiety
SC11	I find it relatively easy to get close to my partner.	Security (Reversed)
SC16	I experience mixed feelings—both wanting closeness and fearing it.	Fearful

Note. Full ECR-R comprises 36 items. Four attachment style categories (Secure, Anxious, Avoidant, Fearful) were derived from Anxiety and Avoidance dimension scores following Fraley et al. (2000). Cronbach's α = .82 (pilot study).

Table A3. Difficulties in Emotion Regulation Scale (DERS) — Sample Items by Subscale

Item	Statement	Subscale
SD1	When I'm upset, I have difficulty focusing on other things.	Goals
SD3	When I'm upset, I feel out of control.	Impulse
SD6	When I'm upset, I believe there is nothing I can do to make myself feel better.	Strategies
SD9	I pay attention to how I feel. (Reversed)	Awareness
SD10	When I'm upset, I have difficulty thinking clearly.	Clarity

Note. Full DERS comprises 36 items across six subscales: Non-acceptance, Goals, Impulse, Awareness, Strategies, and Clarity. Higher total scores indicate greater difficulties in emotion regulation. Response format: 5-point Likert scale (1 = Almost Never; 5 = Almost Always). Adapted from Gratz & Roemer (2004). Cronbach's $\alpha = .79$ (pilot study).