

The relationship between adverse childhood experiences and adult attachment dimensions among young adults in Bangladesh

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Abstract

This study examined the association between the unpleasant early life experiences and adult attachment's dimensions (close, depend and anxiety) among Bangladeshi young adults. Using a correlational research design, data were collected from 213 participants through self-report measures-Adverse Childhood Experiences Questionnaire (ACE-10) and Revised Adult Attachment Scale (RAAS). The analysis revealed 66.2% participants faced at least one type of abuse in their childhood. Sexual abuse was most reported abuse type (31.9%). Mann-Whitney U test showed a significant gender disparity in the ACEs score and in the "Close" attachment dimension ($p < .05$) and no significant gender disparities in either the "Depend" or "Anxiety" attachment dimensions ($p > .05$). Spearman's Rank-order correlation revealed a significant positive relation between the ACEs and the "Depend" attachment dimension ($r = .265, p < .01$). Furthermore, a significant negative association between the ACEs and the "Close" attachment dimension ($r = -.222, p < .01$) and "Anxiety" attachment dimension ($r = -.259, p < .01$) were found. This suggests an increase in the ACEs score results in higher dependency and lower closeness, lower anxiety in the close relationships. This study would provide a new perspective of ACEs and adult attachment dimensions, creating a scope of dealing with mental health aspects of the young adults in the non-Western context of Bangladesh.

Introduction

Childhood is a foundational period in life, when humans develop attachments that are essential for feelings of safety, belonging, and stability across different aspects of life. Attachment formation begins after birth, with the first five years playing a crucial role through caregiver interactions (Bowlby, 1982a, 1982b). During difficult moments, children

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usually seek shelter from the primary attachment figures. If caregivers are consistently available and responsive to children, children develop secure attachment. On the other hand, if caregivers are neglectful, emotionally absent, inconsistent, and threatening, children develop insecure attachment and enduring mental wounds (Spinazzola et al., 2018; Wittkowski et al., 2025). Over time, this may continue to hinder long-term relationships with others in adulthood too (Rees, 2008).

Although a safe childhood is crucial for healthy attachment development, not all children experience this security. The "adverse childhood experiences" (ACEs) is a generic phenomenon that implies the potentially tragic incidents (abuse, neglect and household dysfunction) one has faced in his or her childhood, especially during the developmental years or since birth up to 18 years (Boullier & Blair, 2018). ACEs are highly prevalent across the globe. Worldwide around 60% people go through one kind of traumatic experience at the very least that contributes to their overall physical and mental well-being (Madigan et al., 2023a, 2023b). A gender disparity was found in recent global literatures and local literatures in Bangladesh across different ACEs types where women were typically found to experience more accumulated ACEs than males (Akter et al., 2025; Hamilton et al., 2024).

Adult attachment operates across three dimensions: "anxiety", "depend", and "close" (Collins & Read, 1990). The "anxiety" dimension reflects preoccupation with the fears of abandonment and rejection (Bowlby, 1982a, 1982b; Mikulincer & Shaver, 2016). The "close" dimension involves comfort with close bonding and emotional closeness (Ainsworth et al., 1978; Collins & Read, 1990). The "depend" dimension concerns perceptions of others' dependability and accessibility during times of need (Mikulincer & Shaver, 2016). Gender differences in adult attachment patterns have also been observed across international studies. Women usually exhibited more attachment anxiety and comfort with closeness, whereas men were more likely to show more discomfort with dependence and less comfort with closeness (Del Giudice, 2019). Although the global literature has shown clear gender differences in adult attachment dimensions, localized data from Bangladesh are currently lacking.

The theoretical base of this study that connects the adverse childhood experiences (ACEs) with the adult attachment dimensions is basically rooted in the "attachment theory" (Bowlby, 1988), especially with the concept of "internal working models" and "trauma theory" (Herman, 1992). This model implies a cognitive representation that a child constructs on the basis of their dynamics with their primary caregivers. It serves as a lens through which the individual perceives and internalizes themselves and others in a specific manner (Méndez-Méndez et al., 2021). These early-life adversities threaten the child's sense of security, fostering mental patterns in which the world feels unreliable or unsafe to the child (Lopez et al., 2021; Méndez-Méndez et al., 2021). Trauma theory suggests that recurrent exposure to trauma in childhood disrupts emotional regulation, safety perception and relational functioning, leading to maladaptive coping in later relationships (Herman, 1992; Ross et al., 2022). Within this framework, ACEs represent traumas that contribute to adult attachment patterns.

When addressing the gaps in global literature, most of the studies on ACEs and adult attachment have centered on broader attachment insecurity, especially attachment anxiety and avoidance (Ross et al., 2022). Analyzing the multidimensional structure of adult attachment (close, depend, and anxiety) using the “Revised Adult Attachment Scale” (RAAS) is underrepresented in global literature, which represents a gap (Watters et al., 2025). The majority of studies have been focusing on Western populations, which limits the cross-cultural generalizability of findings. So, there is a need for understanding the non-Western young adult populations who have faced different experiences as attachment also varies across cultures (Sakman et al., 2023). Although most of the recent studies have examined ACEs and adult attachment in clinical samples or specialized populations (Méndez-Méndez et al., 2021; Almeida & Costa, 2023), comparatively fewer studies have focused specifically on community-based young adult samples. Therefore, a correlational study in Bangladesh, where a collectivist culture and strong connections within the family and society are typically observed (Ahmed, 2025), can address an important global gap by providing South Asian culturally contextualized evidence on how ACEs relate to the adult attachment dimensions and improving the cross-cultural applicability of attachment theory and ACE research.

The emerging literature in Bangladesh shows a widespread prevalence of ACEs using the ACE-10 scale mostly used among medical clinical samples- individuals with diagnosed physical illnesses (Barman et al., 2024), student samples of university (Akter et al., 2025), and school-going adolescent samples (Khan et al., 2020; Al-Mamun et al., 2025). Existing ACE prevalence studies in Bangladesh are centered on institutionalized samples of young adults limiting the understanding of the wider picture of the young-adult demographic that this would be addressing as a population gap in local context. These studies focus on the fact that childhood trauma is associated with severe psychological consequences, different emotional issues-depression, anxiety and stress among young adults of university (Akter et al., 2025), its relationship with adult attachment patterns is still underexplored here and not empirically established, although the global literature shows a strong link between ACEs and adult attachment dimensions (Watters et al., 2025). The expression of attachment insecurity in young adulthood in Bangladesh may also be shaped by the normalization of many early childhood difficulties (Akter et al., 2025). Systematic research is needed in this domain in Bangladesh. Hence, this study will also address this knowledge, empirical and contextual gaps in local context.

ACEs are found to be strongly correlated with psychological disorders, somatic symptoms, behavioral issues, and long-term health issues (Felitti et al., 1998; Hughes et al., 2017; Bellis et al., 2019). Children and adolescents exposed to ACEs can develop “Developmental Trauma Disorder” and often exhibit profound social reactivity, behavioral issues, problems in relationships later in adulthood too (van der Kolk, 2005; Lowe et al., 2016; Cruz et al., 2022). Research shows that people with ACEs typically exhibit struggles with unstable adult relationships and jobs (Shonkoff et al., 2012). Understanding how

prevalent these ACEs are among young adults in Bangladesh, and how they contribute to a person's attachment functioning across the young adult phase, will further contribute to an individual's lifelong mental well-being, affect management, relationship dynamics, psychological adjustment, and psychological diathesis. This creates the scope for adult attachment patterns may reflect a conceptual bridge between ACEs and subsequent psychopathology (Felitti et al., 1998; Mikulincer & Shaver, 2016). Therefore, theoretically, this study would further expand the empirical literature on developmental traumatology and attachment theory in the Bangladeshi context. Practically, this study would aid the mental health practitioners in implementing culture-sensitive trauma-informed care and attachment interventions in adulthood based on this empirical basis.

The main objectives of the current study were:

1. To assess the prevalence and patterns of ACEs among young adults.
2. To examine if there are any gender-based differences in the ACEs level and adult attachment dimensions (close, depend and anxiety).
3. To examine the correlation between ACEs and adult attachment dimensions (close, depend and anxiety).
4. To investigate whether ACEs scores predict adult attachment dimensions (close, depend and anxiety).

Materials and Methods

Design

A correlational, cross-sectional survey design was followed in this study.

Participants

A prior power analysis for bivariate correlation (two-tailed) with Bonferroni-adjusted $\alpha = .0167$ (three RAAS-B subscales) (Camelia et al., 2023) indicated that detecting $r = .30$ with 90% power requires $n = 145$. Keeping 15% data attrition in mind, we targeted $n = 170$ (Faul et al., 2009). Therefore, 213 young adults aged 18-40 years ($M = 24.75$; $SD = 3.77$) (Erikson, 1993) were selected for this study. Table 1 shows the demographic characteristics of the study samples. Among them, 50.2% were male and 49.3% female. A convenience sampling technique was utilized to collect participants.

Table 1. Socio-demographic Characteristics of the Study Participants

Variables Categories	Frequency (n)	Percent (%)
Gender		
Male	107	50.23
Female	105	49.29
Others	1	.50
Relationship Status		
Married	53	24.88
Unmarried have relationship	49	23.00
Unmarried no relationship	111	52.11
Occupation		
Entrepreneur	8	3.76
Govt. job	6	2.82
Private job	32	15.02
Homemaker	10	4.69
Student	138	64.79
Unemployed	19	8.92
Childhood Spent		
Rural area	56	26.42
Suburban area	33	15.57
Urban area	124	58.02
Types of Family		
Joint family	42	19.72
Nuclear family	166	77.93
Others	5	2.35

Instruments

Adverse Childhood Experiences Questionnaire (ACE-10): The ACE-10 is a self-report questionnaire originally developed by the “Centers for Disease Control and Prevention” (CDC) and the Kaiser Permanente ACE Study in 1998 (Felitti et al., 1998), aimed at measuring experiences of childhood mistreatment before age 18. Utilizing a 10-item questionnaire to measure 10 types of childhood trauma, which taps into three domains: “abuse” (emotional, physical, sexual), “neglect” (emotional, physical), and “household dysfunction” (parental separation or divorce, domestic violence, household substance abuse, household mental illness, incarcerated household member). Participants responded to each item with “Yes/No/Don’t want to answer” regarding their experiences. Each “Yes”

response was assigned 1 point, and the total ACE score was computed by summing the scores for each item. Higher scores indicate more exposure to childhood adversity. The Bangla version of ACE-10 was linguistically adapted using forward and backward translations by Haque et al. (2021). ACE scores have been classified into three groups: 0 ACEs ("no exposure"), 1 – 3 ACEs ("moderate exposure"), and ≥ 4 ACEs ("high exposure") (Johnsen et al., 2023). To establish the structural construct validity of the ACE-10 within the current sample ($N = 213$), an Exploratory Factor Analysis (Principal Component Analysis extraction) was performed. The Kaiser-Meyer-Olkin (KMO) measure verified sampling adequacy with an index of .694, and Bartlett's Test of Sphericity was highly ($\chi^2 (45) = 356.01, p < .001$). Factor extraction yielded three underlying components that match the original scale, although the analysis uses a unidimensional total score to suit the primary correlational model of this study which cumulatively accounted for 52.54% of the total item variance. The scale demonstrated an acceptable internal reliability coefficient Cronbach's alpha $\alpha = .677$.

Revised Adult Attachment Scale (RAAS): This is a self-report questionnaire developed by Collins (1996). This 18-item scale contained three subscales; Cronbach's alpha (α) for the close, depend, and anxiety subscales were .77, .78, and .85, respectively. RAAS Bangla was linguistically (forward translation) and culturally adapted (expert panel review) tool and is a 15-item 5-point Likert scale ranging from 1 = not very characteristic of me to 5 = very characteristic of me, with five items reverse-scored. Ordinal alpha (α) for the close, depend, and anxiety subscales were .71, .67, and .90, respectively. Scores were recorded on three different dimensions: Close (items 1,4,6*,10,11*), Depend (items 2,3,7,8,9,13) and Anxiety (items 5*,12,14*,15*). The higher the dimension score, the more this attachment pattern is present in an individual. Based on the current sample ($N = 213$), the scale yielded a Cronbach's alpha (α) of .73, .85, and .54, and structural validation was performed independently across the three subscales to support their dimension-wise application yielding a KMO index of .776, Bartlett's $\chi^2 (10) = 210.81, p < .001$, for close, a KMO index of .855 Bartlett's $\chi^2 (15) = 486.03, p < .001$, for depend, and a KMO index of .600 Bartlett's $\chi^2 (6) = 71.07, p < .001$, for anxiety. Accounting for 48.74%, 56.96%, and 67.68% of the cumulative variance, respectively.

Procedure

Data were collected in accordance with the "CHERRIES Guidelines" for internet-based research. Participants were recruited via various social media platforms, and a "Google Form" was distributed there. Volunteered participants were provided with an informed consent form that explained the study's objectives, their rights to participate and withdraw, and the confidentiality of their responses. Electronic informed consent was obtained from all participants. Participants who had given consent were directed to the questionnaires. Data was kept safely, protected by a password. Helsinki's ethical principles were followed

* Reverse items

in this study, as outlined by the World Medical Association (WMA, 2013). We also followed a protection protocol for participants, especially for the trauma-exposed vulnerable populations, to reduce the risk and to protect the participants from any further psychological or emotional harm (Beauchamp & Childress, 1979). They were informed that five free online counseling sessions with a supervised trainee psychologist would be offered if any severe emotional distress were experienced. But no such case was reported.

Data Analysis

This study used R to clean, code, and analyze the data. Descriptive statistics, including frequency distributions and percentages, were used to summarize the participants' demographic information. Since the normality assumption was violated, non-parametric tests were incorporated in this study. A Mann-Whitney U test was used to examine gender differences in ACE scores and adult attachment dimensions. A Spearman's Rank-Order correlation and bootstrap regression analysis were employed to assess the relationship between the ACEs score and adult attachment dimensions. Bootstrap regression with 5000 samples was used to generate robust standard errors and bias-corrected accelerated (BCa) confidence intervals. The p -value $< .05$ was considered statistically significant in this study.

Results and Discussion

Assumptions Test

Prior to conducting the parametric tests, the underlying assumptions were evaluated. The assumptions of normality, homogeneity of variances, linearity, homoscedasticity, normality of residuals, and independence of observations were systematically examined. All assumptions were satisfied except the normality assumption.

Prevalence of ACE

From the descriptive analysis of ACE exposure, we found a mean score of 1.69 and SD of 1.83. Approximately one-third of respondents reported no ACEs. Among them, most fell into the 1 to 3 ACEs exposure category, and the rest faced 4 or more ACEs exposures (Table 2).

Table 2. Distribution of ACE scores (N = 213)

ACE Category	Frequency (n)	Percent (%)
No ACE Exposure	72	33.8
1 to 3 ACEs Exposure	104	48.8
4 or more ACEs Exposure	37	17.4

Table 3 shows that sexual abuse and emotional abuse were reported as the most prevalent adversities faced by the respondents, indicating the abuse dimension as the most prevalent. Physical neglect was the least severe experience here.

Table 3. Prevalence of ACE types among participants (N = 213)

ACE Type	Sub-type	Frequency (n)	Percent (%)
Abuse	Emotional abuse	64	30
	Physical abuse	53	24.9
	Sexual abuse	68	31.9
Neglect	Emotional neglect	45	21.1
	Physical neglect	12	5.6
Household Dysfunction	Parental separation or divorce	15	7
	Household substance abuse	13	6.1
	Household mental illness	39	18.3
	Incarcerated household member	26	12.2

Gender-based Differences in ACE Scores and Adult Attachment Dimensions

A Mann-Whitney U test was utilized to examine gender differences in ACEs and adult attachment dimensions. There is a significant gender difference in the ACEs score ($p < .05$). Females experience greater ACEs (MR = 116) than males (MR = 97.17). In the close attachment dimension, a significant gender difference was observed ($p < .05$), with males having a greater level in close dimension (MR = 121.30) than females (MR = 91.42) in attachment. Conversely, the analysis indicated that there were no significant gender differences in either the depend or anxiety attachment dimensions ($p > .05$) (Table 4).

Table 4. Differences in Gender across ACE and Adult Attachment Dimensions

Measure variable	Gender	N	Mean Rank	Sum Rank	r	U	Z	p
ACE Score	Male	107	97.17	10397.19				
	Female	104	116.00	12180	.153	4619.5	-2.234	.021
Close Attachment	Male	107	121.30	12979.10				
	Female	104	91.42	9599.1	.243	7201	3.545	.021
Depend Attachment	Male	107	112.67	12055.69				
	Female	104	100.21	10522.05	.101	6277	1.477	.138
Anxiety Attachment	Male	107	99.33	10628.31				
	Female	104	113.81	11950.05	.118	4850	-1.718	.0855

Relationship between ACE Scores and Adult Attachment Dimensions

A Spearman's rank-order correlation was conducted to assess the relationship between ACEs and three dimensions of adult attachment. ACEs scores showed a significant negative correlation with the "Close" and "Anxiety" dimensions ($r = -.222$; $r = -.259$, $p < .001$), and a significant positive relationship with the "Depend" dimension ($r = .265$, $p < .001$). This indicates that higher ACEs scores are associated with less comfort with closeness, less anxiety and more dependency in close relationships.

Table 5. Spearman's Rank-Order Correlation between ACE Scores and Adult Attachment Dimensions (N = 213)

	Close	Depend	Anxiety
ACEs Score	-.222*	.265*	-.259*

Note. * $p < .01$ (two-tailed)

Three separate simple regressions with bootstrap were conducted for 5000 samples with BCa. The regression model indicated that the ACEs score was a statistically significant predictor of all three dimensions of adult attachment (Table 6). The model showed a significant negative association with the close attachment dimension ($\beta = -.213$, $p < .05$). Consistent with the following finding, the regression analysis was also statistically significant for the depend attachment dimension ($\beta = .220$, $p < .05$). Additionally, the model showed a statistically significant effect for the anxiety attachment dimension ($\beta = -.252$, $p < .05$).

According to Cohen's guidelines (1988), the standardized coefficients for this study sample indicate relatively small effect sizes. The p -values demonstrate that these relationships are robust and reliable rather than random variation. These small-to-moderate effect sizes are conceptually accepted in psychological and behavioral research when investigating complex human phenomena (Götz et al., 2022).

Table 6. Simple Linear Regression between ACE Score and Adult Attachment Dimensions

	β	R^2	F	t	p	95% CI BCa
Close	-.213	.045	10.044	-3.169	.002	[-.889, -.166]
Depend	.220	.048	10.691	3.270	.001	[.225, 1.375]
Anxiety	-.252	.063	14.282	-3.779	.001	[-.716, -.241]

Note. $p < .05$.

This study found that a large proportion of the participants (66.2%) faced at least one aversive incident in childhood, aligning with recent global and regional literature by Madigan et al. (2023a, 2023b) and Akter et al. (2025). Mostly interpersonal and direct traumas were faced by this study sample, and they faced lesser household instability compared to these. The study also found that the majority of the participants faced sexual abuse (31.9%), followed by emotional abuse (30%) and the least reported was physical neglect (5.6%), suggesting that most participants faced a less neglectful environment. Previous literature suggests an increased risk of chronic health conditions with higher ACE scores (Hughes et al., 2017).

This study revealed a notable gender-based disparity in ACEs, with females experiencing greater adverse childhood experiences compared to males, similar to previous studies in Bangladesh and internationally (Madigan et al., 2023a, 2023b; Akter et al., 2025). Females

reported slightly higher attachment anxiety than males in this study although no significant gender difference was observed but aligns with global literature (Del Giudice, 2019). On the other hand, males reported significantly greater closeness but slightly higher but not significant dependency in their attachment patterns, whereas the global literature from individualistic culture shows the opposite attachment patterns for males (Weber et al., 2022).

The study outcomes fully supported the hypothesis that early childhood adversity is a significant predictor of all the three adult attachment patterns. This study's findings indicate that individuals who experienced traumatic childhood are significantly prone to avoid "closeness" and less comfortable with intimacy as an adult, which aligns with attachment theory, postulating that early childhood adversities can lead to avoidant attachment patterns. Recent studies also found a negative correlation between adverse childhood experiences and attachment dimensions (Widom et al., 2018; Jaiswal & Srivastava, 2024). This reluctance to get close to others in adult relationships may serve as a protection against rejection or potential threats.

Generally, a vast amount of empirical research suggests a positive correlation between "anxiety" attachment dimension and ACEs (Shaver et al., 2016), but in contrast, among Bangladeshi youths, we found a negative correlation of childhood adversity with anxiety, such that individuals who experienced a high level of adversity as a child were found to be less anxious in their close relationships as an adult. "Deactivating strategies" from attachment theory and psychodynamic perspective explain this as a tendency to suppress distressing feelings- like anxiety. This made the humans adapt and shield themselves against more damage by using defense mechanisms so this low anxiety not necessarily means emotional security but emotional suppression resulting in this negative association (Freud, 1936; Mikulincer & Shaver, 2016).

While childhood adversity often leads to avoidance, in this specific sample, higher scores also correlate with a greater expressed need for support from others. Conversely, we found a significant positive association between ACEs and the "depend" attachment dimension, suggesting that greater exposure to adversity during childhood predicts increased dependency in close relationships. If we examine global patterns of the consequences of ACEs on attachment, we notice a different tendency among Bangladeshi samples. In accordance with attachment theory and empirical evidences that links insecure attachment to childhood adversity, people who had gone through a lot of ACEs may shut down their need for intimacy and suppress attachment anxiety as a self-protective coping mechanism, but they may also show increased interpersonal reliance stemming from unfulfilled attachment or relational needs, in a practical or survival-focused manner consistent with Dynamic-Maturational Model (Crittenden, 2006; Shaver et al., 2016).

A limitation of the study is that it is a cross-sectional study. A longitudinal study may yield more feasible outcomes and may be subject to self-report and memory bias, as participants may intentionally respond in line with socially accepted norms or may fail to

recall childhood events accurately. Another limitation is that the measures we used in this study. The measure of ACE was a translated tool. Especially the modest reliability index of ACE-10 and low reliability index of anxiety dimension of RAAS-B may lead to measurement errors. We also did not consider participants' resilience and positive childhood experiences (PCEs) can reduce the negative effects of ACEs (Kuhar et al., 2024). We did not consider the specific "type of abuse" and its correlation with attachment dimensions. Lastly, the sample size and the subsequent choice of statistical analyses, the small sample size and use of nonparametric tests here constrain the generalizability of the results which reflect an important study limitation.

The strength of this study is that it provides localized data that addresses a gap in psychological research in the non-western Bangladeshi context, a population that is often demographically underrepresented in global psychological literature. The study opens the door to comparisons between Eastern and Western literature.

These findings help mental health professionals to consider ACE screenings as an important part in assessing adult attachment issues. As the study reports, females experienced more adversity compared to males, educational institutions and workplaces may need to implement gender sensitive trauma-informed counseling services to provide assistance to navigate the social and emotional demands in education and the workforce.

Conclusion

Overall, this study reinforces the significant and persistent influence of childhood adversity on adult attachment functioning. Recognizing these links may help clinicians and educators design interventions that foster resilience, promote secure relational patterns, and address the lingering effects of early trauma.

Authors' Contributions

Sanemoon Fatema Camelia: Conceptualization, Methodology, Formal Analysis and Investigation, Writing – Original Draft Preparation, Writing – Review & Editing, Supervision; **Irfat Sharmin Humayra:** Formal Analysis and Investigation, Resources, Writing – Original Draft Preparation, Writing – Review & Editing; **Mydul Islam:** Formal Analysis and Investigation, Writing – Original Draft Preparation; **Antara Das Antu:** Writing – Original Draft Preparation.

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