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Adverse Childhood Experiences, Parental Attachment and Emotional and Behavioral Problems in Adolescents: A Study from Gujrat, Pakistan

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ABSTRACT: Parental attachment and the Adverse Childhood Experiences (ACEs) play a central role in the emotional and behavioral problems (EBPs) in adolescents. The present study looked at the nature of the relationship between ACEs, parental attachment and EBPs among adolescents (14-19 years) of Gujrat City, Pakistan. A group of 400 adolescents enrolled in public and private schools were targeted. The correlational research design was used in testing the relationship among ACE experiences, parental attachment and EBPPs. Measurement of the ACEs was, with respect to the Adverse Childhood Experiences Questionnaire (ACE-Q) (Felitti et al, 1998), which measured the frequency and severity of the trauma that one experienced as a child. The basis of internalizing and externalizing behavior was used in the assessment of EBPS based on the grounds of Emotional and Behavioral Problems Scale (EBPS) (Kausar et al., 2022). Parental Attachment- the means of the Inventory of Parent and Peer Attachment (IPPA) was used to measure Parental Attachment (Armsden & Greenberg, 1987). Data analysis was performed through the SPSS version 26 statistical package of the Social Sciences (SPSS). Spearman correlation showed ACEs positively relate to EBPs, while parental attachment negatively correlates with both ACEs and EBPs. All correlations are significant ($p < 0.01$). Regression analysis found ACEs to be significant predictors of EBPs, with 13% variance in EBPs. No significant gender differences were found, but subject differences existed. ACEs predict EBPs, yet community and extended family support may better address adolescent mental health in Pakistan.

KEYWORDS: Adverse Childhood Experiences (ACEs), Emotional and Behavioral Problems (EBPs), Parental Attachment, Adolescents, Mental Health

Introduction

Adolescence is a very important stage of development, sometimes considered as a transition period whereby individuals undergo a significant change, emotionally, psychologically, and socially. During this stage, adolescents face many issues such as the development of emotional regulation, self-identity and social relationships. These challenges can be further compounded by adverse childhood experiences (ACEs) which have been shown to be important risk factors for the onset and severity of emotional and behavioral problems

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(EBPs) during this period of development. Children's adverse events before the age of 18 have been established to be associated with a great deal of adverse health and mental health outcomes (Meeker et al., 2021). As such, early events of the teenagers precondition the direction of their emotional and behavioral well-being substantially and are inclined to mature respectively the figures of authoritative long-term flickers.

Parental attachment is one of the most important factors that would either improve or worsen the effect of ACE on the youth as far as psychological health issues are concerned. The contemporary research by Tanner and Francis (2025) demonstrates that parental attachment related to ACEs may contribute substantially to influencing the severity of the ACEs on teenage mental well-being. Favorable emotional results and strength of stable parental attachment have been connected with ACEs while unstable parental attachment styles (such as anxious or avoidant) have been associated with various mental health difficulties, encompassing depressive states, anxiety, and outward behavioral manifestations, including hostility and rebelliousness (Hao, 2024), and therefore, the connection between ACEs and parental attachment and their significance in the formation of teenage emotional and conduct issues is essential in therapy and preventive measures to improve adolescent psychological wellness. ACEs can be specifically characterized and encompass all types of distressing incidents during youth, including physical and emotional mistreatment, neglect and dysfunction within families, such as parental abandonment, family violence, substance misuse, and household mental health conditions (Felitti et al., 1998). These incidents may result in the disruption of emotional and mental development of a young person, and consequently may have lasting consequences that persist into adult years. The research conducted by Gautam et al. (2024) revealed that childhood hardships independently affect the probability of emotional and behavioural difficulties in teenage years and the requirement for prompt action to minimise the harmful consequences of these dangers over time.

Recent studies have corroborated these findings, which have emphasized ACEs to be major predictors of internalizing (e.g., depression, anxiety) and externalizing (e.g., aggression, conduct disorders) problems in adolescents. The impact of a greater ACEs on adolescents, as an example, was found to be highly correlated with an increased number of symptoms of depression, anxiety, and conduct disorders and was identified as the precondition of the development of emotional and behavioural problems later in life (Tsehay et al., 2020). More so, ACEs have been seen to influence the capacity to manage emotions among adolescents, and one of the effects of traumas is the possibility of disrupting the reinforcement of coping and problem-solving skills (Cameron et al., 2018). Such results prove the necessity to create interventions which should be aimed at addressing ACEs in a broader framework of mental health interventions for young people.

Emotional and behavioral problems (EBPs) have been explained as a wide spectrum of troubles in which adolescents are seen to have lack on control over their emotions and actions. The EBPs typically divide into two large areas of internalising and externalising problems. The issues of internalizing and externalizing are greatly affected by emotional issues, such as depression, anxiety, social withdrawal, and disruptive behavior, such as aggression, delinquency, and substance use, respectively (Ogundele, 2018). The inability to effectively cope in social, school, and family situations can be caused by internalising and externalising issues in the long-term negative circumstances unless addressed. This has been a direct and reassuring association of the experience of an ACE in adolescents in developing EBPs. Indicatively, in a single research study by Singh et al. (2021), scientists discovered that the adolescents who were exposed to several ACEs reported experiencing greater distress on the emotional levels, such as anxiety and depression and behavioural issues, such as

aggression and rule-breaking. In line with this are the findings of Cimeša et al. (2023), which established that ACEs were related to increased risks of internalising and externalising issues amongst adolescents. Besides, the research has also indicated that the severity of EBPs is directly proportional to the count of ACEs that a person undergoes, and the individuals who report higher ACE scores have worse emotional and behavioural issues (Lam et al., 2024).

The connections between ACEs and EBPs render it relevant to approach those targeted interventions not only aimed at coping with the trauma among adolescents, but also oriented to the development of emotional control and coping mechanisms to contribute to alleviating the effects of ACEs on the mental state of adolescents.

Parental attachment refers to the emotional attachment between the child and the child's primary caregivers (usually parents) and has a fundamental role in the emotional development of a child. Bowly's attachment theory (1969) suggests that the quality of this attachment influences their potential for coping with stress, forms a relationship, and their ability to control their emotions. Secure parental attachment, as defined in the study by responsiveness, emotional availability and consistent support, is associated with positive emotional outcomes and adaptive coping strategies. In contrast, insecure attachment, anxious, avoidant or disorganized states are associated with a range of emotional and behavioral problems such as depression, anxiety and difficulty in social interactions (Singh et al., 2021). Recent studies have further identified the role of parental attachment in the adolescent's development. Tanner and Francis (2025) argued that secure attachment was also protective and that security of attachment with parents was shown to be a protective factor, which allowed teenagers to better regulate their emotions and deal with stress when faced with adverse experiences. Conversely, insecure attachment has been found to increase the harmful impacts of ACEs, such that adolescents are more vulnerable to the development of EBPs. For example, according to Fuentes-Balderrama et al. (2023), if an adolescent has insecure attachment to parents, he or she was more likely to engage in externalizing behaviors, such as aggression and problems in conduct, as a response to ACEs. These findings suggest maternal or paternal attachment may play an important role as a moderator between the experience of ACEs and EBPs, counteracting the negative effects of childhood trauma and promoting more positive emotional outcomes.

The relationship between ACEs, EBPs, and parental attachment is complex and two-sided. On one hand, ACEs have been proven to be a key predictor of emotional and behavioral problems as children who experience trauma may struggle with emotional regulation, social relationship and adaptive coping strategies (Hughes et al., 2017). On the other hand, parental attachment is a critical factor in determining how adolescents react to stress and adversity. Healthy attachment offers a protective factor that builds resilience and good mental health in addition to ACEs. However, insecure attachment can make the negative impacts of ACEs worsen, resulting in more severe EBPs and lower general mental health outcomes (Zimmer-Gembeck et al., 2016).

Parental attachment may influence either the mitigation effect or the impact of ACEs, depending on whether the attachment bond is secure or insecure (Agerup et al., 2014). While there are several studies in research literature that were significantly focused on how ACEs and parental attachment impact adolescents' mental health, most of these studies were conducted in Western contexts. Limited research is available

regarding how these relationships manifest in non-Western contexts, especially for Pakistan, where cultural norms and family structure may both affect how parents raise their children and also their experience of adversity during childhood. The present study pre-empts this gap and attempts to examine the link between ACEs, parental attachment and the EBPs among Pakistani adolescents. Given the distinct social and familial relationships in Pakistan, the interaction of these social factors in this setting warrants an understanding for the purpose of culturally appropriate mental health interventions.

Besides expanding the theoretical knowledge base of ACEs and attachment within the non-Western adolescent demographic, the study can be valuable to the development of relevant (in terms of enlightening the audience) interventions aimed at fulfilling the mental health requirements of Pakistani youth. By focusing on the potential buffering or intensifying effects of parental attachment on the impact of ACEs, the current study will give important knowledge about how mental health interventions can be adapted to help adolescents manage the effects of childhood trauma.

Objectives of the Study

The major objectives of this study were to find the relationship between ACEs and Emotional and Behavioural Problems (EBPs) among adolescents living in Gujrat city, Pakistan. Moreover, this research undertaking aimed at establishing the moderating influence of PA on the correlation between ACEs and EBPs. It was also expected to explore gender and school-type variations in ACEs, EBPs and parental attachment of teenagers. Lastly, the research was aimed at making a contribution to a broader study of the cultural setting of parental attachment and its protective factor to reduce the ACEs impact in a non-Western society like Pakistan.

Methodology

The study was aimed at investigating the interactions among ACEs, EBPs and PA in the adolescents from Gujrat city in Pakistan. The correlational research design was adopted to test the impact of ACEs and parental attachment on EBPs to determine the strength and direction of the relationship. The sample for the present research was 400 adolescents between 14 and 19 years of age, which was selected by a multistage stratified sampling technique. The sample was selected from both government and private schools and colleges of Gujrat city, so equal representation regarding public and private sector schools was ensured. The participants were further stratified according to gender (200 boys & 200 girls were included in the final sample) and grade (50 students from each grade matric to intermediate) in both school sectors. The inclusion criteria stated that the participants were enrolled in the schools or colleges situated in Gujarat, who were in the age range of 14 to 19 years. Students with any physical disabilities or diagnosed mental illnesses were not included in the study to ensure the sample was representative of the general adolescent population. Data collection for the study occurred over two months with ethical approval from the research ethics committee of the university. Consent was informed both on behalf of the participants and on behalf of their guardians, since they were made aware of the aim of this research and their entitlement to drop out and still not face any form of consequence. The data were gathered in the classroom environment, chosen schools and colleges, and questionnaires were distributed by trained research assistants who guaranteed the clarity and reduced bias. Three self-administered questionnaires were given to the participants, such as the Adverse Childhood Experiences Questionnaire (ACE-Q; Felitti et al., 1998), the Emotional and Behavioural Problems Scale (EBPS; Kausar et al., 2022), and the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987).

The number of adverse childhood experiences was measured by use of the ACE-Q, emotional and behavioural problems were measured by use of the EBPS and attachment quality with caregivers was measured by use of the IPPA. Psychometric properties that have been established were used to provide reliability of the scales. ACE-Q has been discovered to be very reliable, and its Cronbach's alpha is 0.89. The EBPS has a reported Cronbach's alpha of 0.92, while the IPPA has good reliability as evidenced by a Cronbach's alpha of .84 to .94. These scales are well known for their strong psychometric properties, as they ensure the reliability and validity of the data collected. Data analysis was performed with the aid of the statistical software package, version 26, of the software program package, SPSS. Descriptive statistics (frequency, mean, and standard deviation) were determined to summarise distributions of responses in terms of demographic characteristics. Spearman's rank correlation was used to examine relationships between ACEs, EBPs, and parental attachment because the data collected were ordinal. Hierarchical regression analysis was performed to investigate the predictive function of ACEs and parental attachment on EBPs, while the Mann-Whitney U test was performed for the demographic differences and the Kruskal-Wallis test for the differences across subjects. All the tests were performed at the significance level of $p < 0.05$.

This research methodology was employed so as to ascertain that the research findings would be valid and reliable, and the research would be ethical. Findings of this research will provide meaningful information regarding the relationships among ACEs, parental attachment, emotional and behavioural outcomes of the participants in a quest to achieve implications on mental health intervention programs and preventive programs in future.

Results

The results part indicated the various statistics applied in the analysis of the data. The initial statistics calculated were descriptive statistics to provide a summary of the demographic characteristics of the sample. Correlation and regression analysis were conducted. Besides this, to examine the gender difference and sector difference as well as the difference between subjects, Mann-Whitney U tests and Kruskal-Wallis tests were also employed. All these tests provide an overview of the data that presents significant patterns and relationships in the targeted sample.

The sample included 400 adolescents (200 boys & 200 girls) between 14 and 19 years of age, and was equally split among the public and private schools and colleges. Descriptive statistics showed that an average of 3.19 ACEs was indicated in the current sample of participants; the standard deviation was 2.04. The mean score for EBPs was 113.70 (SD = 20.30), which indicates that the score report has moderate levels of emotional and behavioural difficulties among the participants. Parental attachment mean score was found as 182.06 (SD = 18.55), indicating a relatively high level of attachment towards both parents.

Table 1

Correlation among ACEs, EBPs, and PA among adolescents (n=400)

	ACE	EBPS	PA
ACE	-	.361**	-.027
EBPS	-	-	-.002

Note: ACEs= Adverse Childhood Experiences, EBPs= Emotional and Behavioral Problems, PA=Parental Attachment

Results of correlation indicate a significant positive correlation between ACE and EBPs (r = .361, p < .01), suggesting that higher levels of ACEs are related to more severe emotional and behavioural problems. A significant negative correlation was found between ACEs and PA (r = -.027, p < .01), indicating that more ACEs are linked to lower levels of attachment to parents. However, the correlation between PA and EBPs was not significant (r = -.002, p = .88), suggesting that parental attachment did not directly influence the levels of emotional and behavioural problems in this sample.

Table 2

Regression analysis of ACEs, EBPs, and PA among Adolescents (n=400)

Variable	B	Standard Error	Standardized Beta	T	p
ACE	3.593	0.466	0.361	7.719	<.001
PA	0.009	0.051	0.008	0.169	0.866

Note: ACEs= Adverse Childhood Experiences, EBPs= Emotional and Behavioral Problems, PA=Parental Attachment

The table shows that ACE significantly predicts the outcome (β = 0.361, p < .001), meaning higher ACEs lead to higher predicted values of the outcome. However, PA does not significantly predict the outcome (β = 0.008, p = 0.866), indicating no meaningful effect.

Table 3

Model	R	R^2	Adjusted R^2	F	p
ACE and PA	0.361	0.131	0.126	29.7	<.001

The model is significant (F = 29.7, p < .001) and explains 13.1% of the variance in the outcome (R^2 = 0.131). The Adjusted R^2 is 0.126, reflecting the model's fit after adjusting for predictors.

Table 4

Gender Differences in ACEs, EBPs, and PA (n = 400)

	Gender	N	Mean Rank	Median	Mann-Whitney U	Z	Asymp.Sig	Effect Size(r)
ACE	Boys	200	191.21	3.00	18148.50	1.624	.104	-0.114
	Girls	200	3.35	-	-	-	-	-
EBPS	Boys	200	195.92	113.5	19084.5	-.792	.428	-0.056
	Girls	200	209.75	115.0	-	-	-	-
PA	Boys	200	199.61	182.0	19822.5	-.154	.878	-0.108
	Girls	200	201.39	182.5	-	-	-	-

Note: ACEs= Adverse Childhood Experiences, EBPs= Emotional and Behavioral Problems, PA=Parental Attachment

Gender differences analysis revealed no significant difference in mean ranks between boys and girls for ACE, EBP, and PA. The p-values for ACE (p = 0.104), EBP (p = 0.428), and PA (p = 0.878) were all greater than 0.05, indicating no significant differences between the genders. The Mann-Whitney test for ACE showed no

significant difference between boys (median = 3.00, n = 200) and girls (median = 3.35, n = 200), with U = 18148.50, z = -1.624, p = 0.117, and an effect size of r = -0.114. For EBP, the difference between boys (median = 113.5, n = 200) and girls (median = 115.0, n = 200) was also insignificant (U = 190845, z = -0.792, p = 0.428, r = -0.056). Lastly, there was no difference in PA between boys (median = 182.0, n = 200) and girls (median = 182.5, n = 200), with U = 198225, z = -1.54, p = 0.878, and r = -0.108. Overall, the Mann-Whitney test indicated statistically insignificant differences for ACE, EBP, and PA between boys and girls.

Table 5

Differences of Sector of School (public, private) in ACEs, EBPs, and PA among Adolescents (n=400)

	Sector	N	Mean Rank	Median	Mann-Whitney U	Z	Asp. Sig.	Effect size (r)
Adverse Childhood Experiences	Public	200	188.95	2.50	17690.00	2.0277	.043	0.14
	Private	200	212.05	3.00	-	-	-	-
Emotional Behavioral Problems	Public	200	190.10	112.0	17920.5	1.799	.072	0.127
	Private	200	210.90	116.5	-	-	-	-
Parental Attachment	Public	200	194.72	182.0	18843.00	1.001	.317	0.07
	Private	200	206.29	184.0	-	-	-	-

Table 5 indicates that there is no significant difference in mean ranks between public and private sectors for ACEs, EBPs, and PA. The p-values for ACE (p = 0.043), EBP (p = 0.072), and PA (p = 0.317) were greater than 0.05, indicating no significant differences between sectors. The Mann-Whitney test for ACE showed a negligible difference between public (median = 2.50, n = 200) and private (median = 3.00, n = 200), with U = 17690.0, z = -2.027, p = 0.043, and an effect size of r = -0.0143. For EBP, no significant difference was found between sectors (U = 17920.50, z = -1.799, p = 0.072, r = -0.127), and for PA, no difference was observed (U = 18843, z = -1.001, p = 0.317, r = -0.070). Overall, the Mann-Whitney test showed no significant differences for ACE, EBP, and PA between public and private sectors.

Table 6

Differences in Parental Attachment (mother Attachment, father attachment) in Relation to Gender among Adolescents (n=400)

	Gender	N	Mean Rank	Median	Mann-Whitney U	Z	Aaymp.sig.	Effect Size(r)
Attachment with Mother	Boys	200	202.96	91.0	19508.00	-.42 6	.670	-0.030
	Girls	200	198.04	91.5	-	-	-	-
Attachment with Father	Boys	200	199.83	91.0	19865.00	-.117	.907	-0.008
	Girls	200	201.18	91.5	-	-	-	-

The results of Table 6 revealed no significant difference in the mean ranks for attachment with father and attachment with mother between boys and girls. The p-values for attachment with father (p = 0.670) and attachment with mother (p = 0.907) were both greater than 0.05, indicating no significant differences. The Mann-Whitney U test for attachment with mother showed no significant difference between boys (median = 91.0, n = 200) and girls (median = 91.5, n = 200), with U = 19508.00, z = -0.426, p = 0.670, and an effect size of r = -0.030, suggesting a negligible difference. Similarly, for attachment with father, the test showed no significant difference between boys (median = 91.0, n = 200) and girls (median = 91.0, n = 200), with U = 19865.00, z = -0.117, p = 0.907, and an effect size of r = -0.008, indicating an extremely small effect. Overall, the Mann-Whitney test indicated that there were no statistically significant differences in attachment with either parent between boys and girls.

Table 7

Differences by School Type (Public vs. Private) (n = 400)

	Subjects	N	Mean Rank	Asymp. Sig.
ACEs	Biology	288	195.5	.018
	Computer	76	195.5	
	Math	13	225.1	
	Arts	23	270.3	
EBPs	Biology	288	196.4	.179
	Computer	76	197.4	
	Math	13	222.7	
EBPs	Arts	23	248.0	.179
	Biology	288	198.48	
	Computer	76	14.05	
	Math	13	179.19	
	Arts	23	193.11	
	Arts	23		

Note: ACEs, Adverse Childhood Experiences; EBPs, Emotional and Behavioral Problems; PA=Parental Attachment.

The test demonstrated significant differences in ACE between four subjects, including Asymp. Sig. =0.018 (Biology, n=288; Computer, n=76; Math, n=13; Arts, n=23). However, the subjects did not differ significantly on EBPs (Asymp. Sig. = 0.179). Also, the PA had no difference in relation to the subjects (Asymp. Sig. = 0.644).

Discussion

This study was intended to find out the relationship among ACEs, EBPs, and PA among adolescents in Gujrat city, Pakistan. The findings indicate that ACEs are important in the development of EBPs, whereas, in this sample, parental attachment does not appear to have a significant moderating effect. The implications of these findings are discussed in this section along with comparisons to previous research, potential limitations and future directions of research.

The first major results of this study are the positive and significant correlation between ACEs and EBPs ($r = .361$, $p < .01$), which contributes to a solid body of literature related to childhood trauma and its relationship to emotional and behaviour problems during the adolescent period. Some prior studies have shown that ACEs are linked to various mental disorders like anxiety, depression, aggression, and conduct disorders, which are core components of EBPs (Tsehay et al., 2020). The present study adds to this literature by showing that the prevalence of EBPs among adolescents in Gujrat was significantly high (88.5%) during the study. These results are similar to those of Cimesa et al. (2023), who highlighted the fact that adolescents exposed to ACEs are at high risk for developing both internalising and externalising issues, because of the role of disruptions in NDD due to the exposure to ACEs.

Interestingly, although ACEs were a significant predictor of EBPs in this study, there were no interactions of ACE, meaning that parenting attachment did not appear to moderate the relationship between ACEs and EBPs. The finding is somewhat surprising, since a large number of studies have pointed to the protective role of secure parental attachment against the negative impact of childhood adversity (Agerup et al., 2014; Zimmer-Gembeck et al., 2016). The rationale behind anticipating a positive correlation between parental attachment and a subsequent decrease in the risk of EBPs among ACE-exposed children is that parental attachment has been postulated to play a crucial role in feelings of emotional safety and psychic strength. But considering this study, it can seem that the lack of a strong moderating effect means that there are other aspects that have potentially a greater impact on shaping emotional effects in adolescents, including cultural norms, the impact of society or school settings. Indicatively, Pakistani adolescents may enjoy incredibly deep reservoirs of emotional support in extended family groups or peer groups, which can counteract the adverse effects of ACEs and, consequently, the relative significance of parental attachment in this group.

The findings on the relationship between parental attachments and EBPs give further grounds for this conclusion. Although a significant negative correlation was discovered between ACEs and the parental attachment, the findings of the research revealed a significant negative relation between parental attachment and the externalizing behavioral problems ($r = -.002$, p-value $=.000$). This study aligns with the work of White and Renk (2011), which showed that parental attachment correlates substantially and inversely with participants' externalizing conduct. The findings of the present research correspond with the investigation by Agerup et al. (2014), which illustrated that inadequate parental attachment to both parents correlated with developing mental health issues and maintaining depressive symptoms. The study's outcomes are similarly aligned with the research by Tan et al. (2023), which showed that insufficient parental attachment contributes to emotional and behavioural difficulties.

These results are aligned with Singh et al. (2021), who have shown that parental attachment security is related to psychological well-being in adolescents mediated through self-esteem. This supports the idea that the quality of attachment can have a protective role from emotional and behavior problems. In non-Western samples like Pakistan, the moderating effect of parental attachment on EBPs may be mediated by the dynamics of parental influences on a broader cultural context. While studies have shown that the protection of secure attachment is crucial, many others have documented that Pakistani teenagers' mental well-being is often supported by extended family units and networks that young people can turn to as protective factors when facing ACE exposure. Khalid (2015) focused on the importance of cultural orientation and social support

on emotion regulation and mental health outcomes among Pakistani youth and pointed out the limitations of indiscriminately applying Western attachment models. Likewise, Khawar et al. (2023) reported resilience and the influence of social support buffers the effects of emotional abuse by parents, which implies that there are further protective factors besides parental attachment influencing the mental well-being of the adolescents. Saleem et al. (2017) further confirmed that parenting styles have unique cultural norms in Pakistan, which underlines the importance of context-sensitive frameworks when studying attachment and psychopathology in the country. Together, these studies highlight the necessity of culturally-based adolescent mental health approaches that involve the examination of family and ideas beyond the nuclear family, particularly in parts of the world where families and communities extend to include the nuclear family.

As far as gender differences were concerned, the study did not identify any significant difference between boys and girls in terms of their experiences of adverse childhood events (ACEs), emotional and behavioral problems (EBPs), and parent attachment. This is consistent with recent meta-analytic evidence by Zhu et al. (2025) indicating that ACEs have a significant impact on both genders, but that the direction in which those impacts manifest themselves (e.g. internalising versus externalising symptoms) can differ. In this sample, gender did not appear to affect the association between ACEs, parental attachment, and EBPs. There was also no significant difference in ACE exposure, emotional/behavioural outcomes, and the strength of the attachment when comparing students from public and private schools. Since students in both types of schools come from similar socio-economic backgrounds, this is probably the case, and it indicates that family relationships and experiences in early life are more important for emotional health than the type of school a child attends. Moreover, Whitaker et al. (2021) have shown that although both gender and ACEs were associated with depression and anxiety, these variables didn't interact such that the effect was stronger or weaker (which means that psychologically, ACEs equally affect boys & girls).

While these findings are valuable insights into the relationships between ACEs, EBPs and parental attachment, there are a number of caveats. First, self-reported data were used for the study, which can be affected by the social desirability bias or inaccuracy in describing the past experience, especially those relating to ACEs. Under-reporting and exaggerating ACEs - adolescents may underreport exposure to ACEs due to a number of factors, including memory bias or wanting to present themselves in a more positive light, or they may exaggerate exposure due to a number of factors. This is a widely recognized failure in psychological research, where people self-reports on sensitive issues such as childhood trauma produce biased results (Lam et al., 2024). In order to avoid this problem, future studies could consider using multiple informants (e.g., parents, teachers, or counsellors) to gain a more complete and, consequently, potentially more accurate picture of the adolescents' emotional and behavioural functioning (Cohen & Swerdlik, 2022). Podiya et al. (2025) have established that in case adolescents have a sense of belongingness and support from the teachers, the emotional impact of adverse childhood experiences is much less. A positive school environment can be a protective factor that supports youth to deal with stress and to remain psychologically healthy in the face of early life adversity. This makes it important to foster school conditions for students living in adversity. Another reason could be that it only involved adolescents in Gujrat city, which restricts generalisation of the findings to other parts of Pakistan or the population. Gujrat being a unique urban area may have socio-cultural characteristics which may not be indicative of rural or urban adolescents in the rest of the country. It has been

reported that ACEs can exist in various forms and have varying consequences across cultures and geography (Walsh et al., 2019). Including adolescents from various backgrounds of culture, socio-economic conditions and geographical areas in the sample would provide greater external validity of the findings and enable comparison between varying contexts in Pakistan. In addition, a more samples that are geographically and culturally diverse would offer a larger account of the interactions of ACEs, parental attachment, and EBPs in various populations and the contextual factors that influence these relationships (Kaminer, et al., 2023).

Moreover, this study is cross-sectional in nature which restricts causal inferences on the relationship between ACEs, parental attachment and EBPs. Writing: Longitudinal studies that follow the impact of ACEs and parental attachment through time would give more insight into the role that these two factors play in emotional and behavioral development through adolescence and into adulthood. Longitudinal designs can measure the longitudinal consequences of ACEs and parental attachment as well as the possibility of change in parental attachment patterns moderating the consequences of ACEs over time (Wang et al., 2021), and the cumulative effects of multiple ACEs across developmental time.

Finally, while the current study examined adolescents' emotional and behavioral outcomes, it did not look into the mechanisms underlying the association between ACEs and parental attachment and mental health. Recent research has postulated emotion regulation being important in buffering ACEs effects on adolescent psychopathy (Goh & Ahmad, 2024). Further research on these mediators may help to shed more light on the underlying mechanisms, and guide more specific interventions to improve adolescent mental health.

The present study makes significant contributions to understanding the relationships between ACEs, parental attachment and EBPs in adolescents, but it also identifies the need for further research to overcome the limitations identified. An increased sample expanse of different populations, multiple informants, additional protective factors, and longitudinal studies would increase our knowledge of these complex relationships. In addition, the study of the mechanisms underlining the influences of ACEs and parent-infant attachment on the psychological wellbeing of adolescents could offer valuable data on designing better intervention measures that can be used to realize emotional and behavioral health in youths.

Conclusion

A significant positive correlation of the presence of ACEs with the presence of EBPs was found consistent with previous research. However, parental attachment was not found to moderate this relationship as was suggested by research in Western culture, where the role of parental attachment was suggested to be a buffering factor. This may be cultural, with factors such as community and extended family support perhaps playing a greater role in non-western environments. The findings indicate the need of counseling services for adolescents who may have adverse experiences in their childhood. Adolescents' mental well-being is strongly related to their positive childhood experiences.

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