

Adolescent Anxiety and Its Links with Self-Esteem Emotional Intelligence and Aggression

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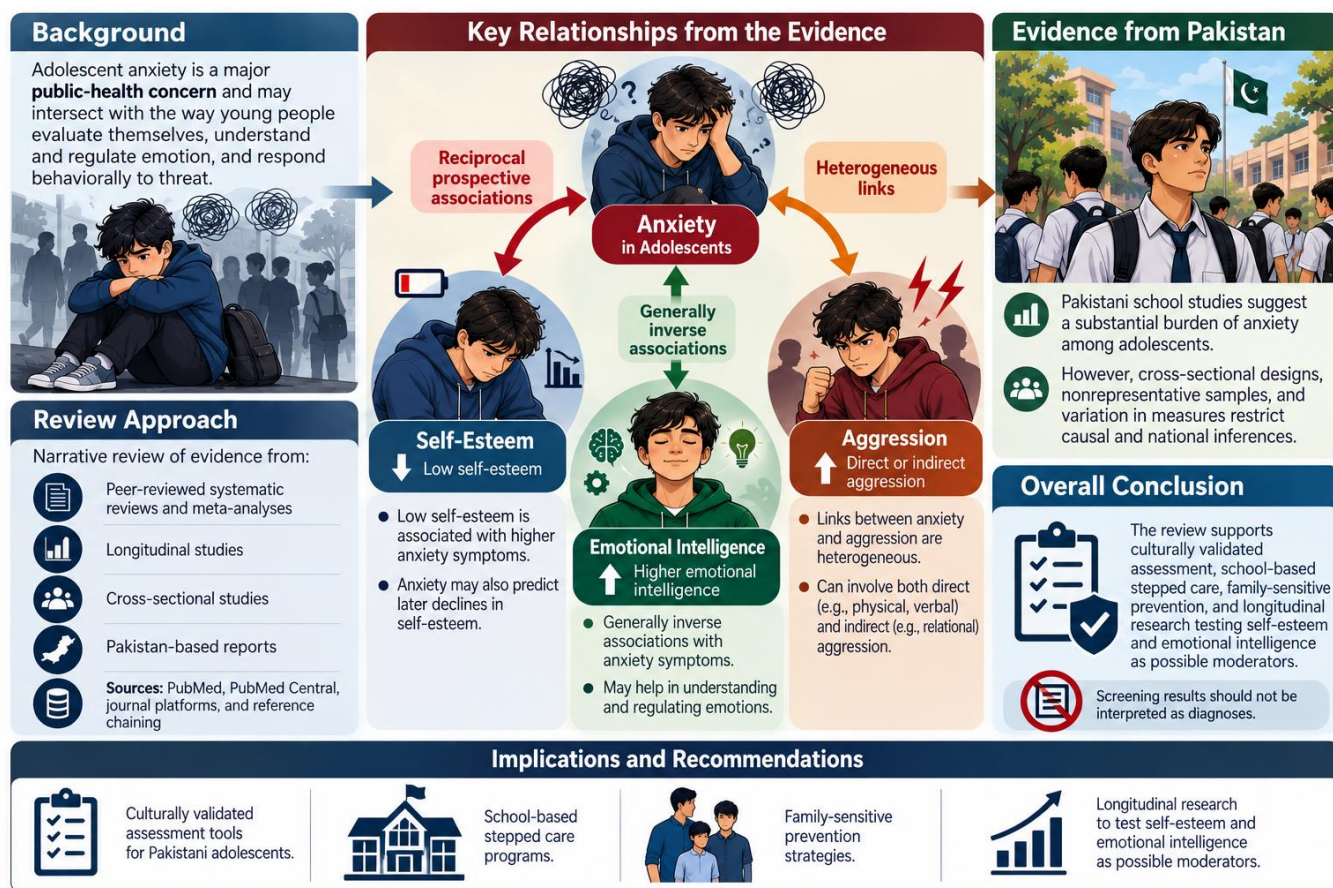
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Graphical Abstract



Abstract

Adolescent anxiety is a major public-health concern and may intersect with the way young people evaluate themselves, understand and regulate emotion, and respond behaviorally to threat. This narrative review synthesizes evidence on anxiety in relation to self-esteem, emotional intelligence,

and aggression, with particular attention to Pakistani adolescents. Peer-reviewed systematic reviews, meta-analyses, longitudinal studies, cross-sectional studies, and Pakistan-based reports identified through PubMed, PubMed Central, journal platforms, and reference chaining were prioritized. Evidence indicates reciprocal prospective associations between low self-esteem and anxiety, generally inverse associations between emotional intelligence and anxiety symptoms, and heterogeneous links between anxiety and direct or indirect aggression. Pakistani school studies suggest a substantial burden, but cross-sectional designs, nonrepresentative samples, and variation in measures restrict causal and national inferences. The review supports culturally validated assessment, school-based stepped care, family-sensitive prevention, and longitudinal research testing self-esteem and emotional intelligence as possible moderators. Screening results should not be interpreted as diagnoses.

Keywords: adolescence, anxiety, self-esteem, emotional intelligence, aggression

Introduction

Adolescence is a period of rapid biological, cognitive, emotional, and social change. Greater autonomy, changing family relationships, academic demands, peer evaluation, and identity development create new opportunities but also new forms of uncertainty. Anxiety is not inherently pathological: temporary fear, worry, and physiological arousal can help a young person detect danger and prepare for demanding situations. Clinical concern increases when anxiety is excessive, persistent, difficult to control, or accompanied by meaningful impairment in education, relationships, sleep, daily routines, or participation. It is therefore important to distinguish ordinary anxiety, elevated questionnaire scores, and a disorder established through a qualified diagnostic assessment. The public-health importance of adolescent anxiety is clear. The World Health Organization (2025) estimates that approximately one in seven people aged 10–19 years experiences a mental health condition. Anxiety disorders are the most prevalent mental health conditions in this age range, affecting an estimated 4.1% of 10–14-year-olds and 5.3% of 15–19-year-olds. Analyses of Global Burden of Disease data also show that the number of incident anxiety disorder cases among people aged 10–24 years increased between 1990 and 2021, although population growth, changing detection, social conditions, and pandemic-era disruption complicate interpretation of time trends (Bie et al., 2024). Anxiety can interfere with attendance, concentration, school performance, friendships, and family life; its effects should nevertheless be understood within the young person’s developmental and cultural context.

Research commonly studies adolescent anxiety alongside psychological resources and behavioral difficulties. Self-esteem concerns the evaluative aspect of the self and may influence how setbacks, rejection, and uncertainty are interpreted. Emotional intelligence refers broadly to the perception, understanding, use, and regulation of emotion, although ability-based and trait or self-report models are not interchangeable. Aggression includes physical and verbal behavior, anger, hostility, and indirect or relational forms; reactive aggression should also be distinguished from planned, proactive aggression. Treating each construct as multidimensional prevents overly simple conclusions.

These relationships matter in Pakistan, where adolescents may encounter academic competition, socioeconomic pressure, limited access to youth mental health services, stigma, and wide variation in family and school contexts. Local evidence is growing, but much of it is cross-sectional and concentrated in urban school samples. A focused synthesis can clarify what is reasonably supported, what remains uncertain, and how future Pakistani research can avoid converting associations into causal claims.

Objectives

This narrative review has three objectives: (a) to summarize the burden and assessment of anxiety among adolescents, with emphasis on Pakistani evidence; (b) to synthesize research linking anxiety with self-esteem, emotional intelligence or emotion regulation, and aggression; and (c) to identify implications for culturally appropriate assessment, prevention, intervention, and future research. The review is guided by three questions: How consistently are these constructs associated? What designs and measurement choices limit interpretation? Which relationships are sufficiently plausible to justify prospective moderation studies in Pakistani adolescents?

Method

A narrative review design was used because the purpose was integrative and conceptually focused rather than the calculation of a pooled effect. Searches were conducted through September 2026 using PubMed, PubMed Central, publisher journal platforms, official public-health sources, and reference chaining. Search combinations included adolescent or youth with anxiety, self-esteem, selfhood, emotional intelligence, emotion regulation, aggression, Pakistan, school, screening, cognitive behavioral therapy, and Urdu. Priority was given to systematic reviews and meta-analyses, followed by longitudinal research, larger cross-sectional adolescent studies, instrument-validation studies, and Pakistan-based feasibility or epidemiological reports.

Studies were considered when they addressed adolescents or included a clearly relevant youth age range and reported anxiety symptoms, anxiety disorders, or closely specified social anxiety outcomes. Adult-only studies, opinion pieces, and sources that did not identify anxiety separately from broad distress were not used as primary evidence for the construct relationships. Pakistani studies were retained even when their designs were preliminary because local context was a central purpose of the review. Evidence was organized by construct, design, sample, and inferential strength. Because the search was not a preregistered systematic review and no formal risk-of-bias instrument was applied, the synthesis emphasizes consistency, design limitations, and alternative explanations rather than claiming exhaustive coverage. No human participants or new individual-level data were involved.

Results

Burden and Context of Adolescent Anxiety

Global estimates and school surveys answer different questions. Population estimates of diagnosed anxiety disorders are not directly comparable with the proportion of students who score above a symptom-screening threshold. The WHO figures describe estimated disorders, whereas many school studies report current symptoms on self-report measures. The distinction is especially important after the COVID-19 pandemic, when short-term distress and disruption could raise symptom scores without establishing a persistent disorder. Bie et al. (2024), using data from 204 countries and territories, found a 52% increase in incident cases among 10–24-year-olds from 1990 to 2021 and higher prevalence in females. Their ecological and modeled estimates are useful for burden planning, but they do not identify causes in individual adolescents.

Pakistan-based findings indicate substantial need while also illustrating the limits of available evidence. Seemi et al. (2023) surveyed 544 school-going adolescents aged 10–19 years in three peri-urban Karachi areas using the Generalized Anxiety Disorder-7 (GAD-7); 33% had scores in the moderate-to-severe range. Female sex and several family, behavioral, and lifestyle characteristics were associated with higher symptom levels. Because the study was cross-sectional and geographically restricted, neither temporal direction nor national prevalence can be inferred. Ibbad et al. (2022) also reported a high burden of anxiety and depression among 400 Karachi high-school students assessed during 2020. Its combined focus on anxiety and depression, school sampling, and pandemic timing likewise require caution. Adolescent aggression is influenced by a combination of

psychological, interpersonal, and social factors. Research has examined the psychological correlates of aggression and highlighted the importance of understanding individual and contextual factors associated with aggressive behaviour (Lone, 2013). Cross-cultural research has further demonstrated that aggression may vary across different regional and cultural contexts (Lone, 2016). Research on adolescent mental health also emphasizes the importance of personal and social resources in promoting psychological well-being and supporting positive development among young people (Wani & Lone, 2024). Together, these studies highlight the need for school-based approaches that address psychological well-being, social relationships, emotional regulation, and contextual influences when understanding and addressing adolescent aggression.

The local literature points to heterogeneity rather than a single Pakistani adolescent experience. Urban and rural settings, school attendance, language, socioeconomic position, gender norms, family structure, exposure to adversity, and access to support may influence both symptoms and disclosure. A review of social anxiety among Asian adolescents emphasized parenting and psychosocial correlates, but the authors also noted substantial methodological variation across studies (Ilyas & Khan, 2023). Nationally representative, multilingual, longitudinal research remains necessary before firm prevalence or causal statements can be made.

Anxiety and Self-Esteem

Self-esteem may shape anxiety through threat appraisal and coping. Adolescents who evaluate themselves negatively may expect rejection, underestimate their capacity to manage uncertainty, or interpret ordinary mistakes as evidence of personal inadequacy. Conversely, persistent anxiety can restrict exploration, participation, and social engagement, potentially reducing opportunities for competence and belonging. The relationship is therefore plausibly reciprocal rather than a one-directional pathway.

Longitudinal synthesis supports this cautious interpretation. Sowislo and Orth (2013) meta-analyzed prospective studies and found that lower self-esteem predicted later anxiety and anxiety predicted later lower self-esteem, with relatively balanced effects after controlling prior levels. Although the included samples spanned a broad age range and the effects were modest, the result argues against describing self-esteem only as a consequence or only as a cause. In a population-based cohort of 821 participants, Maldonado et al. (2013) found that anxiety disorders in early adolescence were linked to less favorable self-esteem development through young adulthood. Diagnostic assessment and repeated self-esteem measurement strengthened temporal inference, although observational data still cannot eliminate all confounding.

Broader youth evidence reaches a similar conclusion. Yeo et al. (2023) synthesized 298 studies of self-related constructs and depression or anxiety, showing that facets such as self-esteem, self-concept, self-compassion, and self-awareness are related but not equivalent. This matters because combining them can obscure which evaluative or regulatory process is most relevant. Cross-sectional studies also commonly find lower self-esteem among adolescents reporting greater anxiety; for example, Nguyen et al. (2019) observed this pattern in 1,149 Vietnamese secondary-school students. Such findings are consistent with the longitudinal literature but cannot establish direction on their own.

Self-esteem is therefore a credible candidate protective or vulnerability factor, but evidence that it specifically moderates the association between emotional intelligence, aggression, and anxiety is not yet established. A moderator changes the strength or direction of a relationship; it is not demonstrated merely because self-esteem correlates with both variables. Pakistani studies testing moderation should state an a priori interaction, use a temporally defensible model where possible, and avoid interpreting a cross-sectional interaction as developmental protection.

Anxiety, Emotional Intelligence, and Emotion Regulation

Emotional intelligence and emotion regulation overlap but should not be treated as synonyms. Emotional intelligence models address emotional perception, understanding, use, and management. Trait emotional intelligence is typically measured through self-perceptions, whereas ability models use performance tasks. Emotion regulation refers to processes that influence which emotions occur, when they occur, and how they are experienced or expressed. A young person may, for example, recognize anxiety accurately yet rely on avoidance; emotional knowledge alone does not guarantee flexible coping.

Systematic reviews generally report that higher emotional intelligence is associated with fewer internalizing symptoms and better well-being in adolescence. Resurrección et al. (2014) found consistent inverse associations between emotional intelligence and psychological maladjustment, while highlighting heterogeneity in constructs and instruments. Mancini et al. (2024) similarly concluded that trait emotional intelligence was generally linked with adolescent psychological well-being and lower distress. These patterns support emotional competencies as potential resources, but self-report measures of trait emotional intelligence can share evaluative content and method variance with symptom questionnaires.

Individual studies offer more specific evidence. Cejudo et al. (2018) reported that emotional intelligence was related to social anxiety and stress in adolescents. Gómez-Baya and Mendoza (2018) found that trait emotional intelligence predicted more adaptive responses to positive and negative affect across adolescence. The strongest causal claims should nevertheless be reserved for prospective or experimental designs, because mood, personality, social desirability, and common response formats can partly account for cross-sectional correlations.

Evidence on emotion-regulation strategies provides a complementary mechanism. Schäfer et al. (2017) meta-analyzed 35 youth studies and found that anxiety and depressive symptoms were more strongly associated with avoidance and rumination and inversely associated with adaptive strategies such as acceptance. The size and consistency of associations varied by strategy and study. This suggests that interventions should promote flexible, context-sensitive regulation rather than teach a single technique as universally beneficial. It also suggests that a study of emotional intelligence should measure actual regulation strategies or behavior when feasible, rather than assume that a global score captures the full process.

Anxiety and Aggression

The anxiety–aggression association is heterogeneous because both constructs contain multiple pathways. Heightened threat sensitivity and physiological arousal may contribute to irritability, anger, or reactive aggression when an adolescent perceives provocation. Avoidance, inhibition, or fear of consequences may instead reduce overt aggression. Aggression can also generate interpersonal conflict, punishment, peer rejection, or victimization that subsequently increases anxiety. Associations are therefore likely to differ for physical, verbal, reactive, proactive, and indirect aggression.

Cross-sectional evidence supports co-occurrence but not direction. In a large Korean adolescent sample, Chung et al. (2019) found higher aggression—particularly anger and hostility—among adolescents with higher anxiety, and higher odds of anxiety among those with elevated aggression. The design could not determine whether anxiety preceded aggression, aggression preceded anxiety, or both reflected shared factors such as adversity, poor emotion regulation, or comorbid depressive symptoms. Using a single total aggression score could also conceal opposing relations across subtypes.

Longitudinal studies reveal developmental movement that a cross-sectional snapshot cannot show.

Meeus et al. (2016) followed adolescents across five waves and identified heterogeneous trajectories of direct aggression and generalized anxiety. Their results included evidence consistent with an “acting out” transition for some vulnerable subgroups, but not a universal sequence. Farrell and Vaillancourt (2023), following 700 young people annually from ages 11 to 16, reported that within-person increases in anxiety predicted later indirect aggression. The study usefully separated within-person change from stable between-person differences; however, its demographic and cultural context limits direct generalization to Pakistan.

Taken together, aggression should not be presented as a typical or inevitable sign of anxiety. The evidence instead supports assessment of anger, perceived threat, emotion regulation, victimization, and context when anxiety and aggression co-occur. Future studies should distinguish reactive from proactive motives and direct from indirect behavior. They should also consider whether self-esteem or emotional intelligence alters specific pathways, rather than testing an undifferentiated interaction with total aggression.

Integrative Developmental Interpretation

The reviewed evidence is compatible with a transactional model. Individual sensitivity, family relationships, peer experiences, school climate, and socioeconomic conditions influence how an adolescent appraises threat. Self-esteem may affect perceived competence and expectations of evaluation. Emotional knowledge and regulation may influence whether arousal is labeled accurately and managed flexibly. Behavioral responses can range from problem solving and support seeking to avoidance, rumination, or reactive aggression. The consequences of those responses then feed back into self-evaluation, relationships, and subsequent anxiety.

This model does not assign a fixed role to any one variable. High self-esteem is not uniformly protective if it is unstable or defensive, and a high self-rated emotional intelligence score may partly reflect confidence rather than demonstrated ability. Aggression may be an outcome, a contributor, or a correlate depending on timing and subtype. The most defensible conclusion is that self-esteem and emotional competencies are plausible resources within a broader developmental system, not guarantees against anxiety.

The synthesis is summarized in Table 1. Across domains, the strongest evidence concerns association and reciprocal development rather than a single causal chain. A Pakistani moderation study can make a useful contribution if it treats moderation as a testable hypothesis, uses culturally appropriate measures, reports uncertainty, and situates results within family, school, and social contexts.

Table 1

Summary of Evidence Linking Anxiety With Key Constructs

Domain	Evidence pattern	Representative evidence	Main caution
Burden and context	Anxiety is common in adolescence; Pakistani school samples report substantial symptom burden.	WHO (2025); Bie et al. (2024); Seemi et al. (2023); Ibbad et al. (2022)	Disorder estimates, screening thresholds, and combined distress outcomes are not interchangeable; local samples are not nationally representative.

Domain	Evidence pattern	Representative evidence	Main caution
Self-esteem	Lower self-esteem and anxiety show modest reciprocal prospective associations.	Sowislo and Orth (2013); Maldonado et al. (2013); Yeo et al. (2023)	Self-related constructs differ; correlation with two variables does not establish moderation.
Emotional intelligence	Higher emotional intelligence is generally associated with lower anxiety or maladjustment and better well-being.	Resurrección et al. (2014); Cejudo et al. (2018); Mancini et al. (2024)	Ability and trait models differ; shared self-report method can inflate associations.
Emotion regulation	Avoidance and rumination show positive associations with symptoms; adaptive strategies tend to show inverse associations.	Schäfer et al. (2017); Gómez-Baya and Mendoza (2018)	No single strategy is universally adaptive; context and flexibility matter.
Aggression	Anxiety can co-occur with anger, hostility, direct aggression, or indirect aggression, but developmental paths vary.	Chung et al. (2019); Meeus et al. (2016); Farrell and Vaillancourt (2023)	Separate direct, indirect, reactive, and proactive aggression; do not infer causality from cross-sectional data.
Pakistan interventions	Small feasibility studies support further evaluation of school group CBT and Urdu guided self-help.	Ijaz et al. (2024); Khalid et al. (2022)	Small samples and limited settings do not establish effectiveness at population scale.

Note. Patterns summarize the reviewed literature and do not imply that associations are causal or uniform across adolescents.

Assessment and Methodological Considerations

Measurement quality is central to inference. The GAD-7 is a brief measure originally developed to assess generalized anxiety symptoms (Spitzer et al., 2006). Ahmad et al. (2017) reported strong internal consistency and a one-factor structure for an Urdu translation in Pakistani primary-care participants. This supports local usability but does not by itself validate every cutoff, age group, administration mode, or school context. In adolescent research, the GAD-7 should be described as a symptom screener; elevated scores require clinical follow-up and should not be relabeled as diagnosed anxiety disorders.

The same principle applies to the other constructs. The Buss–Perry Aggression Questionnaire distinguishes physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992), and the Schutte Self-Report Emotional Intelligence Test was developed as a global self-report emotional

intelligence measure (Schutte et al., 1998). A translation should not be presumed equivalent because its words are understandable. Researchers should document permission or licensing, forward and back translation, cognitive interviewing, pilot testing, internal consistency, factor structure, and measurement invariance across relevant language and gender groups. The Rosenberg Self-Esteem Scale is widely used, but local adolescent evidence and wording should likewise be checked before inference.

Design choices also affect conclusions. Cross-sectional correlations cannot determine temporal direction and may be inflated by common-method variance when all variables are self-reported in one sitting. Multi-wave designs can separate stable differences between adolescents from changes within the same adolescent. Multi-informant assessment, carefully selected behavioral indicators, and school-level variables can reduce dependence on a single perspective. Analyses should address missing data, clustering within schools, preregistered covariates, multiple testing, and confidence intervals rather than rely only on statistical significance.

Moderation requires particular care. The interaction term should be specified before analysis, continuous variables should be handled consistently, and simple slopes or regions of significance should be reported when an interaction is supported. Power should be calculated for the interaction rather than only for a main effect. If the data are cross-sectional, the language should remain associative. Longitudinal moderation, ideally with repeated measures and a theoretically justified time order, would provide a stronger test of whether self-esteem changes the link between emotional intelligence or aggression and later anxiety.

Discussion

This review indicates that adolescent anxiety is meaningfully related to self-evaluation, emotional functioning, and some forms of aggression, but the relationships are neither simple nor uniform. The most consistent longitudinal evidence for self-esteem suggests reciprocal prospective effects. Emotional intelligence and adaptive regulation are generally associated with lower anxiety, although conceptual and measurement overlap constrains interpretation. Anxiety and aggression co-occur in some adolescents, especially through anger, hostility, reactive behavior, or indirect aggression, yet developmental trajectories vary. These findings favor a transactional account over a linear model in which one variable is always the cause and another always the outcome.

For Pakistan, the key message is not that all adolescents with worry need treatment or that a screening score establishes a disorder. Rather, school studies identify groups who may benefit from confidential assessment, supportive environments, skills-based prevention, and clear referral pathways. Screening should be paired with information about purpose, consent and assent, privacy, data handling, functional impairment, and available follow-up. Schools should avoid using mental health questionnaires for discipline or labeling. Family engagement can improve acceptability, but confidentiality and the adolescent's safety must remain central.

Intervention evidence is encouraging but should be matched to need. A Cochrane review concluded that cognitive behavioral therapy (CBT) is more effective than no treatment for anxiety disorders in children and adolescents, while comparisons with other active treatments and longer-term outcomes were less certain (James et al., 2020). In Pakistan, Ijaz et al. (2024) reported promising results from an eight-session school-based group CBT feasibility randomized trial involving 34 students in Rawalpindi. Khalid et al. (2022) also found an Urdu guided self-help program feasible for secondary-school adolescents with low mood and anxiety. These small studies support further culturally adapted trials; they do not justify assuming identical effects across provinces, school systems, languages, or levels of clinical severity.

A stepped approach is appropriate. Universal school activities can strengthen emotional literacy, problem solving, healthy routines, supportive peer and adult relationships, and help-seeking

knowledge. Targeted group programs may suit students with elevated symptoms who do not require intensive care. Adolescents with persistent impairment, severe symptoms, safeguarding concerns, or risk of harm need timely evaluation by appropriately qualified professionals. Emergency or crisis pathways should remain separate from educational screening and research procedures.

The findings also suggest a research agenda. First, Pakistani studies should sample beyond a single urban school type and describe nonparticipation. Second, validated Urdu and regional-language measures should be tested for adolescent factor structure and measurement invariance. Third, anxiety domains and aggression subtypes should be analyzed rather than collapsed into totals without justification. Fourth, longitudinal studies should examine whether self-esteem and emotional intelligence predict changes in anxiety, whether anxiety changes these resources, and whether interactions replicate across gender and context. Finally, qualitative work can identify culturally meaningful expressions of anxiety, barriers to disclosure, and acceptable school or online support.

Limitations

This article is a narrative rather than a preregistered systematic review. Searches were targeted, no formal study-level risk-of-bias tool was applied, and a pooled effect was not calculated; relevant studies may therefore have been missed. The literature uses varied definitions of adolescence, anxiety, emotional intelligence, self-esteem, and aggression, which limits direct comparison. Much of the evidence is cross-sectional and based on self-report. Pakistani studies are relatively few and often restricted to selected schools or cities, so local findings cannot be treated as nationally representative. The synthesis consequently identifies plausible patterns and research priorities rather than definitive causal mechanisms.

Future Perspectives

Future research on adolescent anxiety in Pakistan should place greater emphasis on contextual, multidisciplinary, and population-sensitive approaches. Although the present review focuses on anxiety, self-esteem, emotional intelligence, and aggression, future investigations could benefit from examining these psychological constructs alongside broader social, educational, nutritional, and healthcare determinants. Recent work involving Pakistani populations has addressed socioeconomic conditions, nutritional status, educational environments, healthcare access, and health inequities, suggesting potentially useful contextual domains for future adolescent mental-health research (Riaz et al., 2026; Riaz et al., 2026; Riaz et al., 2026). In particular, socioeconomic circumstances and unequal access to healthcare warrant greater attention because adolescents may experience psychological difficulties within broader systems of material and service-related disadvantage.

A major priority should be the development of larger and more diverse adolescent samples. Future Pakistani studies should include adolescents from different educational settings, socioeconomic backgrounds, and geographical regions rather than relying predominantly on single-school or single-city samples. The inclusion of specific adolescent subgroups may also be informative. For example, research involving adolescent athletes demonstrates the feasibility of investigating health-related characteristics within adolescent populations (Butt et al., 2026). Similar population-specific approaches could be extended to adolescents exposed to academic pressure, nutritional disadvantage, chronic health conditions, displacement, or other contextual stressors. Research should nevertheless avoid assuming that these factors cause anxiety unless supported by appropriate longitudinal or experimental evidence.

The educational environment represents another important direction for future research. Recent studies have examined artificial-intelligence-assisted learning, academic performance, critical thinking, and adaptive personalized learning environments (Faizi et al., 2026; Amanat & Butt, 2026; Kamal et al., 2026). Future adolescent mental-health research could therefore investigate whether

rapidly changing educational technologies, personalized learning systems, academic demands, and technology-mediated educational experiences interact with psychological well-being. Such studies could examine whether educational environments function as sources of stress or as potential platforms for delivering psychological education, emotional-skills training, or early support. These possibilities should be evaluated empirically rather than assuming that educational technology is inherently beneficial or harmful.

Future work should also investigate digital and technology-enabled approaches to mental-health support. The growing application of artificial intelligence across educational and healthcare settings provides a basis for exploring digitally supported screening, psychoeducation, referral systems, and personalized support for adolescents (Kamal et al., 2026; Arif et al., 2026; Saboor et al., 2026). Research should prioritize privacy, informed consent, cultural appropriateness, transparency, and appropriate human oversight. AI-based approaches should complement rather than automatically replace qualified professionals, particularly when screening identifies substantial psychological distress or possible clinical needs.

Another important direction is a broader social and cultural understanding of adolescent psychological experiences. Research addressing gendered subjectivities, language, power, and identity demonstrates the relevance of sociocultural processes to how young people understand themselves and their environments (Fatima et al., 2026). Future anxiety research in Pakistan could therefore examine how cultural expectations, identity, family roles, educational norms, and social pressures shape the expression, interpretation, and reporting of anxiety and related behaviors. Qualitative and mixed-methods studies may be particularly valuable for identifying experiences that standardized questionnaires may not fully capture.

Healthcare accessibility should similarly become a more explicit component of future research. Evidence addressing migration, displacement, and health inequities highlights the importance of examining differences in access to healthcare services (Riaz et al., 2026). Future adolescent studies could investigate whether geographical location, socioeconomic position, displacement, or other structural barriers influence the recognition and management of psychological difficulties. Research involving pediatric and special-needs populations may also encourage greater attention to adolescents whose psychological needs occur alongside other health or developmental considerations (Khan et al., 2026). This would support a more inclusive approach to adolescent mental-health research.

Finally, future studies should move toward integrated and longitudinal research designs capable of examining psychological variables together with educational, social, health, and technological contexts. Rather than treating anxiety, self-esteem, emotional intelligence, and aggression as isolated variables, researchers could develop models that examine how individual characteristics interact with the environments in which adolescents live, study, communicate, and seek healthcare. The additional literature on nutrition and socioeconomic circumstances in Pakistani student populations, educational technologies, healthcare access, and adolescent health provides several contextual domains that could be incorporated into such models (Butt et al., 2026; Riaz et al., 2026; Faizi et al., 2026; Amanat & Butt, 2026). Future research should use culturally appropriate measures, transparent sampling procedures, longitudinal follow-up where feasible, and clearly defined outcomes to determine which factors are associated with adolescent anxiety and which may represent modifiable intervention targets.

Conclusion

Adolescent anxiety is a significant developmental and public-health concern. Evidence indicates that low self-esteem and anxiety may influence one another over time, emotional intelligence and flexible emotion regulation are generally linked with lower anxiety symptoms, and anxiety–aggression associations depend on subtype, context, and timing. Pakistani school studies signal important need but do not yet provide national or causal estimates. Progress requires culturally validated assessment,

Careful separation of screening from diagnosis, school and family systems that support help seeking, and longitudinal designs capable of testing reciprocal and moderating processes. Self-esteem and emotional intelligence are reasonable candidates for further study, but their protective roles should be demonstrated empirically rather than assumed.

Ethical Considerations

This narrative review used published and publicly available sources and involved no recruitment, intervention, or new individual-level data collection. Institutional ethical approval and participant consent were therefore not applicable to the present review. Any later empirical study based on the proposed relationships would require prior ethics review, parental consent and adolescent assent as appropriate, confidentiality safeguards, and clear referral procedures.

Data Availability Statement

No new dataset was generated or analyzed for this narrative review. All sources discussed are identified in the reference list.

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