

## PARENTING, LIFE EVENTS, AND CLASSROOM ANXIETY: PATHWAYS TO GROWTH MINDSET IN INDIAN ADOLESCENTS

Deepa

Research Scholar, Desh Bhagat University

Vipul

Assistant Professor, Desh Bhagat University

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### ABSTRACT

#### Background

Adolescence is a critical developmental stage in which beliefs about ability and potential are shaped by social and psychological factors. This study examined how parenting styles and stressful life events were associated with adolescents' growth mindset, with classroom anxiety examined as a potential mediator and socioeconomic status (SES) as a potential moderator.

#### Methods

A cross-sectional design was employed with a stratified random sample of 652 adolescents aged 13–18 years from schools in Delhi NCR, with representation across EWS/Non-EWS and male/female groups. Standardized instruments included the Perceived Parenting Style Scale (PPSS), Adolescents' Self-Rating Life Events Checklist (ASLEC), Classroom Anxiety Scale (CAS), and a Growth Mindset Scale. Data were analyzed using descriptive statistics, bivariate correlations, structural equation modeling (SEM), indirect-effect testing, and SES-based multi-group SEM.

#### Results

Authoritarian and permissive parenting significantly predicted higher classroom anxiety, whereas life events did not significantly predict classroom anxiety. Direct and indirect pathways to growth mindset were largely nonsignificant. Classroom anxiety did not mediate the relationship between life events and growth mindset. SES also did not significantly moderate the focal structural pathways,  $\Delta\chi^2(9) = 6.98$ ,  $p = .639$ . A small direct SES association with growth mindset was observed in the primary model, but this was distinct from the nonsignificant moderation effect.

#### Findings

The findings indicate that the hypothesized pathways linking parenting styles, stressful life events, classroom anxiety, and adolescents' growth mindset were generally weak or nonsignificant in this sample. The results highlight the complexity of growth mindset development and suggest that additional contextual and individual factors may need to be examined. Future intervention research could investigate whether directly targeting growth mindset and resilience offers benefits beyond approaches focused primarily on parenting practices or classroom anxiety.

**Keywords:** Parenting Styles, Life Events, Classroom Anxiety, Growth Mindset, Adolescents, Socioeconomic Status

## INTRODUCTION

Adolescence represents a critical developmental stage marked by rapid physical, emotional, and cognitive changes. During this period, individuals form beliefs about their abilities and potential that can have long-term implications for academic achievement, self-concept, and overall well-being. One such belief is the growth mindset, the conviction that intelligence and abilities can be developed through effort and perseverance (Dweck, 2006). Growth mindset has been linked to resilience, school engagement, and well-being (Zeng et al., 2016; Zhao et al., 2024). Although originally conceptualized in Western contexts, growth mindset has important implications for adolescents across diverse cultural and socioeconomic environments, including India, where educational pressures and family dynamics strongly shape developmental experiences.

Among the social and psychological factors that may shape adolescent growth mindset, parenting practices and life experiences are particularly important. Parenting styles, commonly categorized as authoritative, authoritarian, permissive, or neglectful, provide a central context in which adolescents encounter expectations, feedback, and support. Research has often associated authoritative parenting, characterized by warmth, structure, and responsiveness, with adaptive academic outcomes (Pinquart, 2016; Spera, 2005). In contrast, authoritarian or neglectful parenting has been linked to stress, reduced self-esteem, and less adaptive beliefs about ability. However, the pathways through which parenting is associated with adolescent outcomes remain complex and may also be shaped by external stressors.

Adolescents also experience numerous life events, both positive and negative, that can shape their coping strategies and worldviews. Stressful events such as academic pressure, interpersonal conflict, or loss may undermine confidence and motivation, whereas reframing challenges as opportunities for growth may foster resilience. The Adolescents' Self-Rating Life Events Checklist (ASLEC) provides a structured approach to assessing the frequency and perceived impact of such events. However, the interplay between life events and parenting in relation to growth mindset remains underexplored, particularly in non-Western contexts.

A further factor of concern is classroom anxiety, a common psychological barrier that can impede learning and self-expression. High anxiety in academic settings may affect performance and may represent one pathway through which parenting and life events are associated with adolescents' beliefs about their potential. Socioeconomic status (SES) may also shape these relationships and was therefore examined as a potential moderator in the present study. Recent Indian evidence has identified a significant association between perceived parenting style and classroom anxiety among adolescents (Prasad & Khan, 2025).

Despite extensive global research on growth mindset, relatively few studies have examined these interacting pathways among Indian adolescents. Examining these relationships in an Indian school sample is important because associations established in other settings may not generalize uniformly across cultural and socioeconomic contexts. The present study therefore evaluates how parenting styles, life events, and classroom anxiety are related to growth mindset among adolescents in Delhi NCR.

### Problem Statement

This study investigates the relationships of parenting styles and life events with adolescents' growth mindset, with classroom anxiety examined as a mediator, and evaluates whether the structural pathways among parenting styles, life events, classroom anxiety, and growth mindset differ across socioeconomic status (EWS vs. Non-EWS) groups.

## Objectives

1. To examine the direct impact of different parenting styles on adolescents' growth mindset.
2. To investigate the mediating role of life events in the relationship between parenting styles and classroom anxiety.
3. To analyze the mediating role of classroom anxiety in the relationship between life events and growth mindset.
4. To examine whether the structural pathways among parenting styles, life events, classroom anxiety, and growth mindset differ across socioeconomic status (EWS vs. Non-EWS) groups.

## Hypotheses

### *Mediation Hypotheses*

1. Life events mediate the relationship between parenting styles and classroom anxiety.
2. Classroom anxiety mediates the relationship between life events and growth mindset.
3. Parenting styles influence growth mindset indirectly through life events and classroom anxiety.

### *Moderation Hypothesis*

4. The structural pathways among parenting styles, life events, classroom anxiety, and growth mindset differ significantly between EWS and Non-EWS adolescents.

## METHODOLOGY

### Research Design

This study adopted a cross-sectional survey design to examine the relationships among parenting styles, life events, classroom anxiety, and growth mindset in adolescents. The design allowed simultaneous measurement of the study variables and supported correlational, mediation, structural pathway, and multi-group analyses of the hypothesized relationships.

### Participants

The sample consisted of 652 adolescents aged 13–18 years, recruited through stratified random sampling from schools in Delhi NCR. Stratification ensured representation across gender (male and female) and socioeconomic status (EWS vs. Non-EWS) groups. Inclusion criteria required participants to be enrolled in school and within the target age range. Adolescents with diagnosed learning disabilities or psychiatric conditions that could confound self-reported outcomes were excluded.

### Instruments

*Perceived Parenting Style Scale (PPSS)*: The PPSS (Divya & Manikandan, 2013) assesses adolescents' perceptions of authoritative, authoritarian, and permissive parenting styles. The scale has been used in the Indian context and was considered suitable for the present study.

*Adolescents' Self-Rating Life Events Checklist (ASLEC)*: Developed by Liu et al. (1997), the ASLEC assesses the frequency and perceived stress associated with 27 life events across domains such as interpersonal relationships, academic stress, punishment, loss, and health/adaptation. Responses are given on a 5-point Likert scale, with higher scores indicating greater perceived negative impact.

**Classroom Anxiety Scale (CAS):** This instrument measures anxiety specific to classroom settings, including test-related stress, participation anxiety, and teacher-student interactions. Higher scores indicate greater classroom-related anxiety.

**Growth Mindset Scale:** Adapted from Dweck's (2006) framework on implicit theories of intelligence, the scale measures the extent to which adolescents believe that abilities can be developed through effort, strategy, and persistence. Higher scores indicate stronger endorsement of a growth mindset.

## **Procedure**

Prior to data collection, approval was obtained from the Institutional Ethics Committee of Desh Bhagat University. Permission was obtained from school authorities, informed consent was secured from parents/guardians, and assent was obtained from the adolescents. Data were collected in classroom settings using standardized instructions to ensure uniform administration. Participants were assured of anonymity and confidentiality. On average, the survey required approximately 10 minutes to complete.

## **Statistical Analysis**

Descriptive statistics and bivariate correlations were examined before hypothesis testing. Structural equation modeling (SEM) was used to estimate the hypothesized direct and indirect pathways among parenting style, life events, classroom anxiety, and growth mindset. Authoritative parenting served as the reference category in the reported parenting-style comparisons. Hypothesis 4 was tested using SES-based multi-group SEM. A model in which the focal structural pathways were freely estimated across EWS and Non-EWS groups was compared with a model in which those pathways were constrained to equality. Age and gender were retained as covariates and their effects were allowed to vary across groups. The models were estimated using WLSMV because growth mindset was treated as an ordered outcome, and the scaled chi-square difference test was used to evaluate whether the equality constraints significantly worsened model fit. Statistical significance was evaluated at  $p < .05$ . Unstandardized coefficients (B), standard errors (SE), z statistics, 95% confidence intervals, p values, and standardized coefficients ( $\beta$ ) are reported.

## **RESULTS**

### **Preliminary Analyses**

Descriptive statistics indicated that age ranged from 13 to 18 years ( $M = 15.5$ ,  $SD \approx 1.2$ ). The mean ASLEC score was 47.98 ( $SD \approx 17$ ), and the mean classroom anxiety score was 56.09 ( $SD \approx 12.4$ ). No significant bivariate correlations were observed among age, ASLEC scores, and classroom anxiety (all  $p > .05$ ).

The sample included 342 males (52.5%) and 310 females (47.5%); 336 participants belonged to the EWS group (51.5%) and 316 to the Non-EWS group (48.5%). Parenting styles were distributed as authoritative (58.7%), authoritarian (21.0%), and permissive (20.2%). Growth mindset was categorized as low (31.0%), mid (27.0%), and high (42.0%).

### **Hypothesis Testing**

The SEM results indicated a positive but nonsignificant association between authoritarian parenting and life events ( $B = 2.998$ ,  $SE = 1.60$ ,  $p = .060$ ). Permissive parenting was also not significantly associated with life events ( $B = -0.356$ ,  $SE = 1.53$ ,  $p = .816$ ). Life events were not a significant predictor of classroom anxiety ( $B = -0.024$ ,  $SE = 0.029$ ,  $p = .402$ ). In contrast, authoritarian ( $B = 4.583$ ,  $SE = 1.03$ ,  $p < .001$ ) and permissive parenting ( $B = 2.526$ ,  $SE = 1.14$ ,  $p = .026$ ) significantly predicted higher classroom anxiety.

**Table 1**

*Structural equation model results for Parenting styles, life events, and classroom anxiety (N = 652)*

| Predictor → Outcome                         | B     | SE    | z    | p     | 95% CI (LL, UL) | β (std) |
|---------------------------------------------|-------|-------|------|-------|-----------------|---------|
| <b>Parenting Styles → Life Events</b>       |       |       |      |       |                 |         |
| Authoritarian → Life Events                 | 2.998 | 1.60  | 1.88 | .060  | -0.13, 6.13     | .081    |
| Permissive → Life Events                    | 0.356 | 1.53  | 0.23 | .816  | -3.36, 2.64     | -.009   |
| <b>Life Events → Classroom Anxiety</b>      |       |       |      |       |                 |         |
|                                             | 0.024 | 0.029 | 0.84 | .402  | -0.08, 0.03     | -.033   |
| <b>Parenting Styles → Classroom Anxiety</b> |       |       |      |       |                 |         |
| Authoritarian → Anxiety                     | 4.583 | 1.03  | 4.44 | <.001 | 2.56, 6.61      | .172    |
| Permissive → Anxiety                        | 2.526 | 1.14  | 2.22 | .026  | 0.30, 4.76      | .093    |
| <b>Indirect Effects via Life Events</b>     |       |       |      |       |                 |         |
| Authoritarian → Life Events → Anxiety       | 0.004 | 0.007 | 0.60 | .552  | -0.018, 0.010   | -.002   |
| Permissive → Life Events → Anxiety          | 0.000 | 0.002 | 0.22 | .828  | -0.004, 0.005   | .000    |

Note. B = unstandardized coefficient; SE = standard error; z = z-statistic; p = p-value; CI = confidence interval; β = standardized coefficient.

Together, these results indicate that the hypothesized mediating role of life events in the relationship between parenting styles and classroom anxiety was not supported. The indirect pathways were nonsignificant, whereas authoritarian and permissive parenting showed significant direct associations with classroom anxiety.

Hypothesis 2 predicted that classroom anxiety would mediate the relationship between life events and adolescents' growth mindset. However, the SEM results did not support this hypothesis. Life events did not significantly predict classroom anxiety (B = -0.024, SE = 0.029, z = -0.84, p = .402, β = -.033), nor did classroom anxiety significantly predict growth mindset (B = 0.003, SE = 0.003, z = 1.09, p = .275, β = .044). Similarly, the direct effect of life events on growth mindset was nonsignificant (B = -0.001, SE = 0.002, z = -0.63, p = .528, β = -.025). The indirect effect of life events on growth mindset through classroom anxiety was also nonsignificant (B = 0.016, SE = 0.015, z = 1.05, p = .295, β = .007). Taken together, these results indicate that classroom anxiety did not mediate the link between life events and growth mindset.

**Table 2**

*Structural equation model results for Hypothesis 2: Life events, classroom anxiety, and growth mindset (N = 652)*

| Predictor → Outcome | B | SE | z | p | 95% CI (LL, UL) | β (std) |
|---------------------|---|----|---|---|-----------------|---------|
|---------------------|---|----|---|---|-----------------|---------|

|                                       |               |       |              |      |               |       |
|---------------------------------------|---------------|-------|--------------|------|---------------|-------|
| Life Events → Classroom Anxiety       | $\bar{0.024}$ | 0.029 | $\bar{0.84}$ | .402 | -0.08, 0.03   | -.033 |
| Classroom Anxiety → Growth Mindset    | 0.003         | 0.003 | 1.09         | .275 | -0.003, 0.010 | .044  |
| Life Events → Growth Mindset          | $\bar{0.001}$ | 0.002 | $\bar{0.63}$ | .528 | -0.006, 0.003 | -.025 |
| Indirect Effect via Classroom Anxiety | 0.016         | 0.015 | 1.05         | .295 | -0.014, 0.045 | .007  |

*Note.* B = unstandardized coefficient; SE = standard error; z = z-statistic; p = p-value; CI = confidence interval;  $\beta$  = standardized coefficient.

*Hypothesis 3* proposed that parenting styles would influence adolescents' growth mindset indirectly through life events and classroom anxiety. The structural equation model revealed that authoritarian parenting significantly predicted higher classroom anxiety ( $B = 4.58$ ,  $SE = 1.03$ ,  $z = 4.44$ ,  $p < .001$ ,  $\beta = .17$ ), and permissive parenting also showed a positive, albeit smaller, effect on classroom anxiety ( $B = 2.53$ ,  $SE = 1.14$ ,  $z = 2.22$ ,  $p = .026$ ,  $\beta = .09$ ). However, neither authoritarian ( $B = 2.99$ ,  $p = .060$ ) nor permissive parenting ( $B = -0.36$ ,  $p = .816$ ) significantly predicted life events. Furthermore, life events were not significantly related to classroom anxiety ( $B = -0.02$ ,  $p = .402$ ), and classroom anxiety did not significantly predict growth mindset ( $B = 0.003$ ,  $p = .275$ ).

**Table 3**

*Structural equation model results for Hypothesis 3: Parenting styles, life events, classroom anxiety, and growth mindset (N = 652)*

| Pathway                                         | B             | SE    | z            | p     | 95% CI        | $\beta$<br>(std) |
|-------------------------------------------------|---------------|-------|--------------|-------|---------------|------------------|
| Authoritarian → Life Events                     | 2.998         | 1.597 | 1.88         | .060  | -0.13, 6.13   | .081             |
| Permissive → Life Events                        | $\bar{0.356}$ | 1.531 | $\bar{0.23}$ | .816  | -3.36, 2.64   | -.009            |
| Authoritarian → Classroom Anxiety               | 4.583         | 1.032 | 4.44         | <.001 | 2.56, 6.61    | .172             |
| Permissive → Classroom Anxiety                  | 2.526         | 1.138 | 2.22         | .026  | 0.30, 4.76    | .093             |
| Life Events → Classroom Anxiety                 | $\bar{0.024}$ | 0.029 | $\bar{0.84}$ | .402  | -0.08, 0.03   | -.033            |
| Classroom Anxiety → Growth Mindset              | 0.003         | 0.003 | 1.09         | .275  | -0.003, 0.010 | .044             |
| <b>Indirect: Authoritarian → Growth Mindset</b> | 0.011         | 0.017 | 0.67         | .503  | -0.02, 0.04   | .005             |
| <b>Indirect: Permissive → Growth Mindset</b>    | 0.009         | 0.009 | 0.99         | .322  | -0.01, 0.03   | .004             |

*Note.* B = unstandardized coefficient; SE = standard error; z = z-statistic; p = p-value; CI = confidence interval;  $\beta$  = standardized coefficient.

Tests of indirect effects confirmed that neither authoritarian nor permissive parenting exerted a significant indirect effect on growth mindset through life events or classroom anxiety (all p

> .28). Thus, although authoritarian and permissive parenting were associated with adolescents' classroom anxiety, these pathways did not produce significant indirect effects on growth mindset. Consequently, Hypothesis 3 was not supported.

Hypothesis 4 proposed that the structural pathways among parenting styles, life events, classroom anxiety, and growth mindset would differ between EWS and Non-EWS adolescents. Multi-group SEM compared a model in which the focal structural pathways were freely estimated across the two SES groups with a model in which these pathways were constrained to equality, while the effects of age and gender were allowed to vary across groups. The scaled chi-square difference test was nonsignificant,  $\Delta\chi^2(9) = 6.98$ ,  $p = .639$ . Constraining the focal pathways to equality therefore did not significantly worsen model fit, indicating that the tested structural relationships did not differ significantly between EWS and Non-EWS adolescents. Hypothesis 4 was not supported.

The primary WLSMV model nevertheless showed a small positive direct association between Non-EWS status and growth mindset ( $B = 0.180$ ,  $SE = 0.090$ ,  $z = 2.00$ ,  $p = .045$ ,  $\beta = .089$ ). This direct association should be interpreted separately from the moderation test: a group difference in the outcome does not indicate that the structural pathways differ across SES groups.

## DISCUSSION

The present study examined the relationships among parenting styles, life events, classroom anxiety, and adolescents' growth mindset, with a focus on potential mediation mechanisms and SES-based moderation. Authoritarian and permissive parenting were significant predictors of classroom anxiety in the fitted model, but the hypothesized indirect pathways involving life events and classroom anxiety were not supported. The SES multi-group analysis also did not indicate significant differences in the focal structural pathways between EWS and Non-EWS adolescents.

These findings have theoretical and practical implications and also highlight contextual and methodological factors that may help explain why the proposed hypotheses received limited empirical support.

### Parenting Styles and Growth Mindset

One of the central aims of this study was to examine direct and indirect links between parenting styles and adolescents' growth mindset. Contrary to expectations, neither authoritarian nor permissive parenting was significantly associated with growth mindset through the hypothesized pathways involving life events and classroom anxiety. This pattern differs from broader parenting research in which authoritative parenting has generally been associated with more adaptive adolescent and academic outcomes, whereas authoritarian, permissive, or neglectful patterns have often shown less favorable associations (Pinquart, 2016; Steinberg et al., 1994). One possible explanation for this divergence lies in the developmental and cultural context of the sample.

Cross-cultural parenting research suggests that the meaning and consequences of parental control can vary across cultural settings. For example, work with Chinese and Chinese American families has shown that conventional Western labels such as "authoritarian" may not capture culturally specific meanings of parental training, control, and involvement (Chao, 1994, 2001). These findings should not be treated as direct evidence about Indian families, but they illustrate why the present results warrant culturally specific interpretation rather than assuming that parenting-style associations are uniform across settings. School and peer

contexts may also contribute to adolescents' academic beliefs, potentially reducing the relative explanatory contribution of parenting styles.

### **Life Events as Mediators**

Another unexpected finding was the absence of significant mediating effects of life events in the relationships between parenting styles, classroom anxiety, and growth mindset. Although previous research indicates that stressful or negative life events can exacerbate maladaptive outcomes in adolescents (Compas et al., 1995; Grant et al., 2003), the present results did not support the hypothesized mediating role. Several explanations may account for this pattern.

First, measurement issues may have contributed. The Adolescents' Self-Rating Life Events Checklist (ASLEC) captures a wide range of experiences, from family conflict to academic setbacks. However, adolescents' subjective appraisals of these events may differ substantially. What one student perceives as a major setback, another may experience as a routine adolescent challenge. Without directly assessing appraisal and coping responses (Lazarus & Folkman, 1984), the predictive utility of life-event scores may be limited.

Second, the nonsignificant findings may reflect developmental resilience. Adolescents may adapt to life stressors through social support, peer relationships, and cultural norms that emphasize perseverance (Masten, 2001). In contexts where academic achievement is strongly emphasized, life events may not substantially alter adolescents' core beliefs about learning and intelligence. This possibility may help explain why life events did not mediate the hypothesized relationships with growth mindset.

### **Classroom Anxiety as a Mediator**

Although parenting styles significantly predicted classroom anxiety, classroom anxiety did not mediate the relationship between life events and growth mindset. The observed parenting-anxiety association is consistent with recent Indian evidence showing a significant relationship between perceived parenting style and classroom anxiety among adolescents (Prasad & Khan, 2025). Prior studies have reported that high levels of anxiety can undermine motivation, self-efficacy, and learning outcomes (Zeidner, 1998; Pekrun, 2006). The absence of mediation in the present study may reflect the specificity of the growth mindset construct. Growth mindset concerns beliefs about the malleability of ability and intelligence (Dweck, 2006). Anxiety may influence how students engage with academic tasks without necessarily altering these underlying beliefs.

The relationship between academic anxiety and learning-related beliefs may also be context dependent. Achievement-emotion theory suggests that anxiety can influence attention, motivation, strategy use, and performance in different ways depending on students' appraisals of control and value (Pekrun, 2006). In the present study, however, classroom anxiety was not significantly associated with growth mindset. This suggests that anxiety may affect students' engagement with academic situations without necessarily corresponding to their beliefs about whether ability can be developed. This interpretation remains tentative and should be examined directly in future research.

### **Moderation by Socioeconomic Status**

The SES-based multi-group analysis did not support moderation of the focal structural pathways. Constraining the structural paths to equality across EWS and Non-EWS adolescents did not significantly worsen model fit,  $\Delta\chi^2(9) = 6.98$ ,  $p = .639$ . Thus, within this sample, the relationships among parenting styles, life events, classroom anxiety, and growth mindset were statistically comparable across the two SES groups. This finding should be distinguished from the small positive direct association between Non-EWS status and growth

mindset in the primary model ( $B = 0.180$ ,  $SE = 0.090$ ,  $z = 2.00$ ,  $p = .045$ ,  $\beta = .089$ ). The direct association concerns differences in the outcome, whereas the moderation test concerns whether the structural relationships themselves differ across groups.

One possible explanation is the relatively shared academic environment experienced by students within schools. Common curricula, teacher expectations, and peer contexts may reduce some SES-related differences in the specific relationships examined here (Eccles & Roeser, 2011). Although SES remains relevant to differences in resources and opportunities, the present results do not indicate that SES significantly changed the focal structural pathways. Given the cross-sectional design, these findings should be interpreted as group-comparative associations rather than causal effects.

### **Interpreting the Null Findings**

The overall pattern of results highlights a central issue: although the theoretical framework proposed several indirect pathways and one SES-based moderation hypothesis, these mechanisms were not supported by the data. This raises questions about whether the selected contextual variables are strongly related to growth mindset in this sample and whether the proposed pathways were adequately captured by the measures used.

One possibility is that growth mindset may be less strongly related to the contextual variables examined here than initially theorized. Parenting, life events, and anxiety may be related to day-to-day motivation and performance, whereas beliefs about intelligence may be more closely associated with pedagogical experiences, peer modeling, and exposure to incremental learning strategies (Yeager & Dweck, 2020). If so, parental and situational variables may play a more limited role in the particular growth mindset pathways tested in this study.

Another explanation involves measurement mismatch. The constructs in this study, particularly life events and anxiety, were operationalized using self-report tools. Although such measures are commonly used, they may not fully capture the complexity of adolescents' lived experiences. For example, the ASLEC combines events across domains without directly modeling subjective importance or chronicity. Similarly, classroom anxiety scores may not capture intensity, context, or coping style. These limitations may have attenuated the observed associations.

### **Cultural Considerations**

The findings also underline the importance of cultural context in psychological research. Foundational models of parenting and growth mindset have largely been developed outside the present setting, and cross-cultural work suggests that the meaning of parental control and involvement can differ across cultural groups (Chao, 1994, 2001). The present Indian sample should therefore be interpreted on its own terms rather than by assuming direct equivalence with Western or East Asian parenting frameworks. Future studies using culturally grounded measures and comparative designs would help determine which aspects of the observed pathways generalize across settings and which are context specific.

### **Practical Implications**

Despite the lack of support for the hypothesized mediation pathways and SES moderation, the significant associations of authoritarian and permissive parenting with classroom anxiety indicate that parenting context may be relevant to adolescents' academic emotional experiences. These cross-sectional findings do not establish that changing parenting practices will reduce classroom anxiety; instead, they support evaluating parenting-focused support as one component of broader school- and family-based interventions. Growth-mindset interventions have shown benefits in some adolescent samples, although effects vary across

contexts and outcomes (Schleider & Weisz, 2018; Yeager & Dweck, 2020). Accordingly, any targeted support should be evaluated directly in the relevant population rather than assumed to be effective.

The small but significant association between socioeconomic status and growth mindset also indicates that socioeconomic differences should not be overlooked. Schools serving economically weaker students may consider evaluating targeted growth mindset supports, such as activities emphasizing effort, adaptive strategies, resilience, and the malleability of ability. Such approaches should be tested rather than assumed to offset broader socioeconomic disadvantages.

### **Limitations**

Several limitations warrant consideration. First, the cross-sectional design restricts causal inference. Although mediation models were tested, the temporal ordering of variables cannot be established from these data. Longitudinal research would be necessary to examine whether parenting styles and life events precede changes in classroom anxiety or growth mindset.

Second, reliance on self-report measures may have introduced social desirability bias or recall inaccuracies, particularly for sensitive domains such as life events and anxiety. Multi-informant approaches, including teacher or parent reports, could provide a more comprehensive assessment.

Third, the school-based sample from Delhi NCR limits generalizability. Adolescents outside formal schooling, and those from rural or other marginalized contexts, may experience parenting, stress, classroom environments, and growth mindset differently. Future studies should include more diverse populations to assess the generalizability of these findings.

### **Future Directions**

Building on these findings, future research should refine the conceptualization and measurement of key constructs. For life events, incorporating subjective appraisal, coping strategies, and chronic stressors may reveal more nuanced pathways. For classroom anxiety, distinguishing between facilitative and debilitating anxiety (Pekrun, 2006) may clarify its relationship with motivation and growth mindset.

Longitudinal and experimental designs would also help clarify temporal and causal mechanisms. For example, school-based programs that train parents in supportive communication and effort-focused feedback could be evaluated to determine whether they influence adolescents' emotional well-being and beliefs about learning.

Finally, cross-cultural comparative studies would be valuable for examining whether the null or weak pathways observed here are specific to this sample or occur across other collectivist contexts. Such work could contribute to the development of culturally grounded models of adolescent motivation and resilience.

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