

The Relationship Between Parental Psychological Control and Adolescent Depression: The Mediating Role of Self-Esteem and the Moderating Role of Peer Support

Sanna. Korhonen¹, Christopher. Lee^{2*}, Tereza. Malá³

¹ Department of Developmental Psychology, University of Helsinki, Helsinki, Finland

² Department of Child Psychology, Brock University, St. Catharines, Canada

³ Department of Experimental Psychology, Charles University, Prague, Czech Republic

* Corresponding author email address: clee@brocku.ca

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ABSTRACT

Objective: This study aimed to examine the relationship between parental psychological control and depressive symptoms among adolescents, with self-esteem as a mediating variable and peer support as a moderating protective factor. **Methods and Materials:** This cross-sectional correlational study was conducted among 426 adolescents aged 13–18 years enrolled in secondary schools in Canada during the 2025–2026 academic year. Participants were selected through multistage cluster sampling. Data were collected using the Psychological Control Scale–Youth Self-Report, the Rosenberg Self-Esteem Scale, the Center for Epidemiologic Studies Depression Scale for Children, and the Friends subscale of the Multidimensional Scale of Perceived Social Support. Data analysis was performed using IBM SPSS Statistics version 29 and the PROCESS macro. Pearson correlations were calculated, and regression-based mediation and moderation analyses were conducted using 5,000 bootstrap resamples. Statistical significance was set at $p < .05$.

Findings: Parental psychological control was positively associated with depressive symptoms ($r = .52$, $p < .001$) and negatively associated with self-esteem ($r = -.48$, $p < .001$). Self-esteem was negatively associated with depressive symptoms ($r = -.61$, $p < .001$). Mediation analysis showed a significant indirect effect of parental psychological control on depressive symptoms through self-esteem (indirect effect = 0.38, 95% CI [0.29, 0.48]), while the direct effect remained significant ($B = 0.49$, $p < .001$), indicating partial mediation. Peer support significantly moderated the relationship between parental psychological control and depressive symptoms ($B = -0.12$, $p = .002$). Conditional effects showed that this association was strongest at low peer support ($B = 0.58$, $p < .001$) and weakest at high peer support ($B = 0.28$, $p < .001$). The final model explained approximately 50% of the variance in depressive symptoms.

Conclusion: Parental psychological control is associated with greater adolescent depressive symptoms both directly and indirectly through reduced self-esteem, while strong peer support appears to buffer this relationship.

Keywords: Parental psychological control; adolescent depression; self-esteem; peer support; mediation; moderation

1. Introduction

Adolescence is a developmental period characterized by substantial biological, cognitive, emotional, and social changes, during which young people increasingly seek autonomy while remaining strongly dependent on family and peer relationships for emotional security, identity development, and social adjustment. Although these developmental transitions can promote competence and independence, they can also heighten vulnerability to psychological distress when adolescents encounter persistent interpersonal stressors or lack adequate personal and social resources. Depression represents one of the most consequential forms of emotional difficulty during adolescence because depressive symptoms may interfere with academic engagement, family relationships, peer functioning, self-concept, and broader psychosocial development. Contemporary research increasingly conceptualizes adolescent mental health as the product of multiple interacting systems rather than as the consequence of a single individual or environmental factor. Family processes, parenting behaviors, interpersonal relationships, self-evaluative beliefs, school experiences, and peer environments all contribute to differences in adolescents' emotional adjustment and vulnerability to psychological problems (Lin & Guo, 2024; Rachman et al., 2023). Reviews of adolescent psychological difficulties similarly indicate that family-related risk factors frequently operate alongside social and individual vulnerabilities, including low self-esteem, peer difficulties, psychological rigidity, and maladaptive coping patterns (Sedana, 2024). Evidence from other domains of adolescent adjustment, including problematic internet use, gaming-related difficulties, disordered eating, and substance-related behaviors, further supports the broader developmental significance of family relationships, self-regulatory characteristics, and peer contexts in shaping adolescent mental health trajectories (Chang et al., 2023; Ramsewak et al., 2022; Varela et al., 2023). Accordingly, understanding adolescent depression requires examination not only of direct environmental risks but also of the psychological mechanisms and interpersonal conditions through which those risks are translated into emotional outcomes.

Among family-related influences, parenting style and specific parental behaviors occupy a central position because parents remain major sources of emotional regulation, behavioral guidance, validation, and social learning throughout adolescence. Supportive parenting can facilitate

autonomy, competence, emotional security, and adaptive self-evaluation, whereas coercive, harsh, inconsistent, or psychologically intrusive parenting may undermine these developmental processes. Recent systematic and conceptual evidence demonstrates that parenting styles are associated with diverse indicators of child and adolescent mental health and that parenting characterized by hostility, excessive control, rejection, or low responsiveness is generally associated with less favorable psychological outcomes (Ali et al., 2025; Qian, 2024). In particular, harsh parenting has been linked with adolescent depressive symptoms through both direct and indirect psychological and interpersonal pathways (Wang et al., 2023). Research on negative parenting styles also suggests that adverse parental behavior may increase adolescents' vulnerability to psychological crises by disrupting self-evaluation and weakening protective relational resources (Zhao & Wang, 2023). These patterns are consistent with broader evidence showing that perceived parenting contributes not only to emotional disorders but also to maladaptive behavioral outcomes, especially when combined with other individual vulnerabilities or stressful social experiences (Ramsewak et al., 2022; Sedana, 2024). Thus, parenting should not be viewed merely as background context but as an active developmental environment capable of shaping adolescents' interpretations of themselves, their relationships, and their capacity to cope with stress.

Parental psychological control is particularly important within this broader family framework because it differs conceptually from behavioral monitoring or legitimate parental guidance. Psychological control involves parental attempts to regulate adolescents' thoughts, emotions, self-expression, and psychological autonomy through strategies such as guilt induction, love withdrawal, invalidation, shaming, and intrusive manipulation. Such practices may be especially consequential during adolescence because the developmental need for autonomy becomes increasingly salient during this period. When parents respond to adolescents' growing independence with psychologically intrusive control, adolescents may experience conflicts between attachment needs and autonomy needs, potentially undermining their sense of self-worth and increasing emotional distress. Empirical findings have linked perceived parental psychological control with poorer psychological adjustment and depressive symptoms, while also suggesting that the consequences of such control may depend on the domain of self-evaluation that is affected (Wu et al., 2024). Research among Mexican adolescents similarly indicates

that parental psychological control can be associated with domain-specific aspects of self-esteem, highlighting the possibility that psychologically controlling parenting becomes harmful partly because it shapes how adolescents evaluate their own worth, competence, and acceptability (Hollander et al., 2025). Family-dynamics research further suggests that adolescent adjustment cannot be understood independently of culturally and developmentally patterned relationships between autonomy, parental expectations, and psychological functioning (Park et al., 2024). Together, these findings indicate that parental psychological control may constitute a particularly relevant risk factor for depressive symptoms because it targets the adolescent's internal psychological world rather than simply regulating observable behavior.

Self-esteem provides a theoretically plausible mechanism through which parental psychological control may contribute to depression. Self-esteem reflects an individual's global evaluation of personal worth and adequacy and is shaped substantially by repeated interpersonal experiences, particularly during periods of identity development. Adolescents who frequently encounter parental criticism, guilt induction, emotional manipulation, or invalidation may internalize negative messages about their competence, lovability, or acceptability, thereby developing more negative self-evaluations. Longitudinal research has demonstrated reciprocal and developmentally meaningful relationships between adolescent self-esteem and mental health concerns, with self-regulatory and family-support processes contributing to these associations (Chen et al., 2024). More specifically, research examining perceived parental psychological control has shown that aspects of self-esteem can statistically account for part of the association between intrusive parental behavior and depressive symptoms (Wu et al., 2024). Similarly, studies of maternal behavior suggest that self-esteem can operate as a mediator between parenting experiences and adolescent behavioral vulnerability, emphasizing its role as a psychological bridge between interpersonal experiences and subsequent adjustment (Milić et al., 2025). Longitudinal research on maternal parenting style, victimization, and self-esteem likewise indicates that parenting experiences are closely intertwined with the development and maintenance of adolescents' self-evaluative beliefs (Cheng et al., 2025).

The relevance of self-esteem is also supported by evidence extending beyond psychological control specifically. Family functioning and emotional symptomatology appear to be partly connected through

adolescents' perceptions of themselves, with self-esteem mediating relationships between family-related difficulties and anxiety-related symptoms (Farmakopoulou et al., 2024). Negative parenting styles have similarly been associated with psychological crisis outcomes through self-esteem-related pathways (Zhao & Wang, 2023). In contexts involving harsh parenting and suicidal ideation, self-esteem has also emerged as an important explanatory variable, suggesting that adverse parental experiences may become psychologically consequential when they erode adolescents' sense of personal worth (Zhao & Zhou, 2023). Research on bullying victimization provides convergent support for this mechanism, showing that the relationship between stressful interpersonal experiences and adolescent mental health can be mediated by both parent-child relational quality and self-esteem (Li et al., 2025). These findings suggest that self-esteem may represent a relatively general intrapersonal pathway through which adverse social and family experiences influence emotional well-being. Because depression is characterized by negative self-appraisal, feelings of worthlessness, and persistent negative affect, diminished self-esteem may be particularly important in explaining why adolescents exposed to psychologically controlling parenting develop more depressive symptoms.

At the same time, adolescent adjustment is influenced not only by family processes and internal psychological resources but also by the quality of peer relationships. Peer relationships become increasingly central during adolescence as young people spend more time outside the family, seek emotional validation from age-mates, and develop a greater sense of belonging through friendships and peer groups. Supportive peers can provide emotional reassurance, companionship, opportunities for self-disclosure, informational assistance, and alternative sources of validation when family relationships are strained. Conversely, peer rejection, victimization, coercion, and relational insecurity may intensify existing vulnerabilities. Studies examining adolescent victimization consistently emphasize the importance of peer environments in psychological adjustment (Romida et al., 2025). Peer attachment has also been shown to operate in conjunction with self-esteem in explaining associations between family functioning and social anxiety, indicating that peer relationships and self-evaluative processes may jointly connect family experiences with emotional outcomes (Ying et al., 2022). Research on school climate, parent-child closeness, and peer relations similarly demonstrates that social relationships across family and peer contexts are

associated with adolescents' self-esteem, depressive symptoms, and problematic behavioral outcomes (Wang, 2022). These findings support an ecological interpretation of adolescent depression in which family risk and peer resources operate simultaneously rather than independently.

Peer support may be especially important as a protective factor when adolescents experience psychologically controlling parenting. Social support theories propose that supportive relationships can buffer the effects of stress by providing emotional validation, practical assistance, alternative interpretations of stressful experiences, and a sense of social belonging. Under conditions of high parental psychological control, adolescents who have dependable and accepting friendships may therefore be less likely to interpret controlling parental behavior as evidence of personal inadequacy or social isolation. Conversely, adolescents who experience psychologically intrusive parenting while also lacking supportive peers may have fewer compensatory relationships through which to obtain validation and autonomy support. Evidence from diverse adolescent and youth populations suggests that peer support can function as an important resilience-related resource. For example, peer support and self-esteem have been identified as serial mediators linking stressful adjustment experiences with life satisfaction, indicating that adolescents' internal evaluations and social resources can operate together within broader psychosocial pathways (Cui et al., 2025). In research concerning harsh parenting and suicidal ideation, school social support has similarly emerged as an important protective factor alongside self-esteem (Zhao & Zhou, 2023). Studies of developmental assets and psychological distress further suggest that interpersonal and personal strengths can alter how adverse experiences are translated into educational and psychological outcomes (Rose et al., 2024). Such findings provide a basis for considering peer support not only as an independent correlate of depression but also as a potential moderator that changes the magnitude of the relationship between parental psychological control and depressive symptoms.

The potential buffering role of peers is particularly relevant because adolescents often encounter overlapping risks across family, school, and peer domains. Cumulative family adversity has been associated with depressive symptoms, while moderated mediation models indicate that personal and contextual resources can change the strength of these developmental pathways (Yu et al., 2024). Among adolescents experiencing chronic disease, emotional distress has likewise been linked to a combination of personal and

family factors rather than to isolated predictors (Postigo-Zegarra et al., 2024). Research on academically gifted adolescents further illustrates that family dynamics and adjustment interact within broader cultural and developmental contexts (Park et al., 2024). In addition, evidence from cyberbullying research indicates that self-esteem and friendship-related processes may interact in explaining adolescent well-being, again underscoring the possibility that personal self-evaluation and peer relationships jointly shape responses to interpersonal stress (Park et al., 2026). These findings support a model in which self-esteem and peer support perform conceptually different but complementary functions: self-esteem may explain the internal psychological process through which controlling parenting contributes to depressive symptoms, while peer support may determine the extent to which this family-based risk is amplified or attenuated.

A further consideration is that depression in adolescence rarely develops in a purely linear fashion. Family stress can increase exposure or sensitivity to difficulties in other settings, while school and peer experiences can either reinforce or offset negative family processes. Harsh parenting, for example, has been associated with depression through sequential pathways involving rumination and bullying experiences, demonstrating that family risk may extend into cognitive and peer domains (Wang et al., 2023). Similarly, interpersonal relationships in both family and school contexts have been linked with depression through mechanisms involving academic stress and self-esteem (Liao et al., 2024). Research on bullying victimization also indicates that adolescent mental health outcomes are shaped by multiple relational pathways rather than by victimization exposure alone (Li et al., 2025). These findings converge with systematic reviews showing that adolescent emotional and behavioral problems emerge from interrelated biopsychosocial processes, including family environment, peer experiences, individual vulnerabilities, and broader contextual influences (Chang et al., 2023; Rachman et al., 2023). From this perspective, a model that examines parental psychological control, self-esteem, peer support, and depressive symptoms simultaneously offers greater explanatory value than analyses focused solely on direct bivariate relationships.

Despite growing evidence concerning parenting, self-esteem, peer relationships, and adolescent depression, important conceptual gaps remain. First, much of the existing literature has examined broad parenting styles or harsh parenting rather than psychological control

specifically, even though psychological control directly targets the adolescent's autonomy and self-concept (Ali et al., 2025; Qian, 2024). Second, although self-esteem has repeatedly emerged as a mediator of family and interpersonal influences on adolescent adjustment, fewer studies have examined whether it mediates the relationship between psychological control and depressive symptoms while simultaneously accounting for a contextual protective factor (Chen et al., 2024; Farmakopoulou et al., 2024). Third, peer relationships are often treated as direct predictors or mediating variables, whereas their possible role in weakening the depressive consequences of psychologically controlling parenting has received comparatively less attention. Existing evidence concerning peer attachment, peer support, school social support, and friendship quality nevertheless suggests that social resources may meaningfully modify the emotional consequences of adverse interpersonal experiences (Cui et al., 2025; Park et al., 2026; Ying et al., 2022). Finally, research examining multiple interacting risk and protective mechanisms is particularly valuable because adolescent depression reflects the combined operation of individual, family, and social systems rather than a single causal pathway.

A more integrated model is therefore needed to clarify both how and under what interpersonal conditions parental psychological control is associated with adolescent depression. Conceptually, parental psychological control may undermine adolescents' sense of competence, worth, and psychological autonomy, leading to reduced self-esteem and, consequently, greater depressive symptomatology. At the same time, supportive peer relationships may provide validation, belonging, and alternative sources of emotional security that diminish the strength of the direct association between psychologically controlling parenting and depression. Such a model is consistent with contemporary developmental perspectives emphasizing the interaction between risk mechanisms and protective resources, as well as with evidence linking family processes, self-esteem, social support, and emotional adjustment across different adolescent populations (Hollander et al., 2025; Rose et al., 2024; Yu et al., 2024). It also extends prior work by distinguishing the mediating function of an intrapersonal resource from the moderating function of an interpersonal resource, thereby offering a more differentiated account of why adolescents exposed to similar levels of parental psychological control may nevertheless experience different levels of depressive symptoms.

Accordingly, the aim of the present study was to examine the relationship between parental psychological control and adolescent depressive symptoms, with self-esteem tested as a mediating mechanism and peer support examined as a moderating protective factor.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a cross-sectional correlational design to examine the relationship between parental psychological control and depressive symptoms among adolescents, with particular attention to the mediating role of self-esteem and the moderating role of peer support. The study population consisted of adolescents enrolled in secondary schools in Canada during the 2025–2026 academic year. A total of 426 adolescents aged 13 to 18 years participated in the study. Participants were recruited from public secondary schools through a multistage cluster sampling procedure designed to obtain representation from different grade levels and school settings. In the first stage, participating schools were selected from eligible secondary schools, after which classes were randomly selected within each school and eligible students in the selected classes were invited to participate. Eligibility criteria included being between 13 and 18 years of age, current enrollment in a Canadian secondary school, sufficient English proficiency to understand and complete the questionnaires, and provision of informed assent together with parental or guardian consent when required. Adolescents who submitted substantially incomplete questionnaires or whose responses showed evident invalid response patterns were excluded from the final analysis. Participation was voluntary, and students were informed that they could discontinue participation at any stage without academic or personal consequences. Questionnaires were administered anonymously under standardized conditions, and no identifying information was included in the analytical dataset. The study procedures were conducted in accordance with established ethical principles for research involving adolescents, with particular attention to confidentiality, voluntary participation, and the sensitive nature of questions concerning psychological well-being and family relationships.

2.2. Measures

Parental Psychological Control Scale. Parental psychological control was assessed using the Psychological Control Scale–Youth Self-Report developed by Barber in 1996. The scale was designed to assess adolescents' perceptions of psychologically controlling parental behaviors, particularly behaviors that intrude upon the adolescent's emotional and psychological autonomy. It contains eight items representing characteristic forms of psychological control, including guilt induction, love withdrawal, personal invalidation, and constraint of verbal expression. Participants indicate the extent to which each statement describes the behavior of their parent using a Likert-type response format. Item scores are summed or averaged to obtain an overall psychological control score, with higher scores indicating greater perceived parental psychological control. The instrument has been extensively used in research on parenting and adolescent psychosocial adjustment and has demonstrated satisfactory internal consistency, construct validity, and associations with theoretically relevant indicators of adolescent emotional and behavioral functioning.

Rosenberg Self-Esteem Scale. Self-esteem was measured using the Rosenberg Self-Esteem Scale developed by Rosenberg in 1965. The scale consists of 10 items designed to assess global self-worth and general positive and negative attitudes toward the self. Five items are positively worded and five are negatively worded. Participants respond to each statement on a four-point Likert scale ranging from strongly disagree to strongly agree. Negatively worded items are reverse-scored before calculation of the total score, with higher overall scores indicating higher levels of global self-esteem. The Rosenberg Self-Esteem Scale is one of the most widely used measures of self-esteem in adolescent and adult populations and has demonstrated strong internal consistency, test–retest reliability, convergent validity, and construct validity across diverse cultural and educational contexts. In the present study, the total score was used as the indicator of adolescents' global self-esteem and as the hypothesized mediator in the relationship between parental psychological control and depressive symptoms.

Center for Epidemiologic Studies Depression Scale for Children. Adolescent depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale for Children, which was adapted for children and adolescents by Weissman and colleagues in 1980 from the original Center for Epidemiologic Studies Depression Scale.

The instrument contains 20 items assessing depressive symptoms experienced during the preceding week, including depressed mood, feelings of worthlessness, loss of energy, sleep and appetite difficulties, social withdrawal, and reduced positive affect. Each item is rated on a four-point frequency scale reflecting how often the symptom occurred. Positively worded items are reverse-scored before the item scores are summed, with higher total scores reflecting greater severity of depressive symptomatology. The scale is intended primarily as a dimensional measure of depressive symptoms rather than as an independent diagnostic instrument. Previous studies involving adolescent populations have reported acceptable to strong internal consistency as well as satisfactory convergent, discriminant, and criterion-related validity, supporting its suitability for examining individual differences in depressive symptoms among community-based adolescent samples.

Peer Support Measure. Perceived peer support was assessed using the Friends subscale of the Multidimensional Scale of Perceived Social Support developed by Zimet and colleagues in 1988. The complete instrument consists of 12 items distributed across three sources of perceived social support: family, friends, and a significant other, with four items representing each source. Because the present study specifically focused on support received from peers, only the four-item Friends subscale was used in the primary analyses. Participants rate each item on a seven-point Likert scale ranging from very strongly disagree to very strongly agree. The scores of the four items are averaged or summed, with higher scores reflecting stronger perceptions that friends are available to provide emotional assistance, understanding, encouragement, and support when needed. The Multidimensional Scale of Perceived Social Support and its individual subscales have demonstrated satisfactory internal consistency, factorial validity, convergent validity, and measurement performance across adolescent and young-adult populations. In the present study, peer support was conceptualized as a protective interpersonal resource that could attenuate the association between parental psychological control and adolescents' depressive symptoms.

2.3. Data Analysis

Data were analyzed using IBM SPSS Statistics version 29. Prior to hypothesis testing, the dataset was screened for missing values, response inconsistencies, univariate and multivariate outliers, and violations of the assumptions

underlying the planned statistical analyses. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participants' demographic characteristics and the distributions of the principal study variables. Internal consistency of the study measures was evaluated using Cronbach's alpha coefficients. Normality was assessed through examination of skewness and kurtosis values, while scatterplots and residual diagnostics were used to examine linearity and homoscedasticity. Multicollinearity among predictor variables was evaluated using tolerance and variance inflation factor indices. Pearson product-moment correlation coefficients were subsequently calculated to determine the bivariate relationships among parental psychological control, self-esteem, peer support, and depressive symptoms. The hypothesized explanatory model was examined using regression-based mediation and moderation analysis with the PROCESS macro for SPSS. Parental psychological control was specified as the independent variable, adolescent depressive symptoms as the dependent variable, and self-esteem as the mediating variable. The indirect effect of parental psychological control on depressive symptoms through self-esteem was evaluated using bias-corrected bootstrap confidence intervals based on 5,000 resamples; an indirect effect was considered statistically significant when the 95% bootstrap confidence interval did not include zero. Peer support was entered as a moderator to determine whether the strength of the association between parental psychological control and depressive symptoms varied as a function of adolescents' perceived support from peers. Continuous variables involved in the interaction analysis were mean-centered before creation of the interaction term, and statistically significant interaction effects were further examined using conditional effects at relatively low, average, and relatively high levels of peer support. Where appropriate, age and

gender were entered as covariates to reduce potential confounding. Statistical significance for conventional inferential tests was established at $p < .05$, and effect estimates were reported together with 95% confidence intervals.

3. Findings and Results

A total of 426 adolescents were included in the final statistical analyses. Participants ranged in age from 13 to 18 years, with a mean age of 15.46 years ($SD = 1.41$). Of the total sample, 219 participants (51.41%) identified as girls, 201 (47.18%) identified as boys, and 6 (1.41%) identified as another gender or preferred not to report their gender. With respect to educational grade, 72 adolescents (16.90%) were enrolled in Grade 8, 84 (19.72%) in Grade 9, 91 (21.36%) in Grade 10, 93 (21.83%) in Grade 11, and 86 (20.19%) in Grade 12. Most participants lived with both parents or primary parental figures ($n = 312$, 73.24%), whereas 85 adolescents (19.95%) lived primarily with one parent and 29 (6.81%) reported another family living arrangement. Preliminary inspection of the data indicated that the proportion of missing responses for individual study variables was less than 2%, and no variable demonstrated a pattern of systematic missingness. Examination of standardized scores and Mahalanobis distance identified no influential multivariate outliers requiring removal from the final dataset. The absolute values of skewness and kurtosis for all principal study variables were below 1.00, supporting the assumption of approximate univariate normality. Visual examination of scatterplots and standardized residuals also supported linearity and homoscedasticity. Variance inflation factor values ranged from 1.11 to 1.58 and tolerance values exceeded 0.63, indicating that multicollinearity did not pose a concern in the subsequent regression analyses.

Table 1

Descriptive Statistics, Distributional Characteristics, and Internal Consistency of the Study Variables (N = 426)

Variable	Possible Range	M	SD	Skewness	Kurtosis	Cronbach's α
Parental psychological control	8–40	20.84	6.01	0.31	-0.42	.86
Self-esteem	10–40	28.31	5.49	-0.28	-0.19	.89
Depressive symptoms	0–60	20.76	10.05	0.62	0.21	.91
Peer support	1–7	5.12	1.29	-0.49	-0.17	.92

As shown in Table 1, adolescents reported a mean parental psychological control score of 20.84 ($SD = 6.01$), indicating substantial interindividual variability in the extent

to which participants perceived their parents as using psychologically intrusive or autonomy-restrictive strategies. The mean self-esteem score was 28.31 ($SD = 5.49$), while

the mean depressive symptom score was 20.76 (SD= 10.05), demonstrating considerable variability in both positive self-evaluation and emotional symptoms within the sample. The mean score for perceived peer support was 5.12 (SD = 1.29) on the seven-point response scale, suggesting that, on average, adolescents perceived relatively favorable levels of emotional and interpersonal support from their peers. Distributional indices were within acceptable ranges for all variables, with skewness ranging from -0.49 to 0.62 and

kurtosis ranging from -0.42 to 0.21. These results provided no evidence of substantial deviation from normality. All four measures also demonstrated satisfactory to excellent internal consistency in the present sample. Cronbach's alpha coefficients ranged from .86 for parental psychological control to .92 for peer support, supporting the reliability of the composite scores used in the subsequent correlation, mediation, and moderation analyses.

Table 2

Pearson Correlations Among Parental Psychological Control, Self-Esteem, Depressive Symptoms, and Peer Support (N = 426)

Variable	1	2	3	4
1. Parental psychological control	—			
2. Self-esteem	-.48***	—		
3. Depressive symptoms	.52***	-.61***	—	
4. Peer support	-.29***	.44***	-.47***	—

The correlation matrix presented in Table 2 revealed statistically significant relationships among all four principal variables. Parental psychological control was moderately and negatively associated with self-esteem, $r = -.48, p < .001$, indicating that adolescents who perceived greater psychological control from their parents tended to report lower evaluations of their own self-worth. Parental psychological control was also positively associated with depressive symptoms, $r = .52, p < .001$, suggesting that higher exposure to psychologically controlling parental behaviors corresponded with greater depressive symptom severity. Self-esteem demonstrated the strongest bivariate relationship with depressive symptoms, $r = -.61, p < .001$,

indicating that adolescents with higher self-esteem tended to experience substantially fewer depressive symptoms. Peer support was negatively correlated with parental psychological control, $r = -.29, p < .001$, and positively correlated with self-esteem, $r = .44, p < .001$. In addition, peer support showed a moderate negative relationship with depressive symptoms, $r = -.47, p < .001$. Accordingly, adolescents who perceived their peers as more emotionally available and supportive generally reported higher self-esteem and fewer depressive symptoms. The pattern of correlations was therefore consistent with the proposed theoretical model and supported subsequent examination of self-esteem as a mediator and peer support as a moderator.

Table 3

Mediation Analysis of the Relationship Between Parental Psychological Control and Depressive Symptoms Through Self-Esteem (N = 426)

Effect/Path	B	SE	β	t	p	95% CI
Parental psychological control → Self-esteem (a)	-0.44	0.04	-.48	-11.53	<.001	[-0.51, -0.36]
Self-esteem → Depressive symptoms (b)	-0.86	0.07	-.47	-11.96	<.001	[-1.00, -0.72]
Parental psychological control → Depressive symptoms, total effect (c)	0.87	0.07	.52	12.61	<.001	[0.73, 1.00]
Parental psychological control → Depressive symptoms, direct effect (c')	0.49	0.07	.29	6.94	<.001	[0.35, 0.63]
Indirect effect through self-esteem (a × b)	0.38	0.05	—	—	—	[0.29, 0.48]

The mediation analysis presented in Table 3 demonstrated that parental psychological control was a significant negative predictor of adolescent self-esteem, $B = -0.44, SE = 0.04, \beta = -.48, t = -11.53, p < .001$, indicating that each one-unit increase in perceived parental psychological control was associated with an estimated 0.44-point decrease in self-esteem. Parental psychological

control alone explained approximately 23% of the variance in self-esteem, $R^2 = .23, F(1, 424) = 126.65, p < .001$. When both parental psychological control and self-esteem were entered as predictors of depressive symptoms, self-esteem remained a strong negative predictor of depression, $B = -0.86, SE = 0.07, \beta = -.47, t = -11.96, p < .001$. Before self-esteem was introduced into the model, the total effect of

parental psychological control on depressive symptoms was positive and statistically significant, $B = 0.87$, $SE = 0.07$, $\beta = .52$, $t = 12.61$, $p < .001$. After accounting for self-esteem, the direct effect decreased to $B = 0.49$, $SE = 0.07$, $\beta = .29$, $t = 6.94$, $p < .001$, but remained statistically significant. The indirect effect through self-esteem was 0.38, and the bias-corrected 95% bootstrap confidence interval ranged from 0.29 to 0.48. Because this interval did not include zero, the indirect pathway was statistically significant. Approximately 43.7% of the total association between parental psychological control and depressive symptoms

was accounted for through self-esteem. The combined mediation model explained 45.2% of the variance in depressive symptoms, $R^2 = .45$, $F(2, 423) = 174.48$, $p < .001$. These findings therefore indicated partial rather than complete mediation: greater parental psychological control was associated with lower self-esteem, which in turn was associated with more severe depressive symptoms, while parental psychological control continued to have an independent direct association with depression after self-esteem was taken into account.

Table 4

Moderating Effect of Peer Support on the Relationship Between Parental Psychological Control and Adolescent Depressive Symptoms and Conditional Effects at Different Levels of Peer Support (N = 426)

Predictor/Conditional Effect	B	SE	t	p	95% CI
Regression model					
Parental psychological control	0.43	0.07	6.42	<.001	[0.30, 0.56]
Self-esteem	-0.78	0.07	-10.91	<.001	[-0.92, -0.64]
Peer support	-2.04	0.34	-6.00	<.001	[-2.71, -1.37]
Parental psychological control $\times$ Peer support	-0.12	0.04	-3.16	.002	[-0.19, -0.04]
Age	0.31	0.23	1.34	.182	[-0.14, 0.76]
Gender	1.54	0.77	2.00	.046	[0.03, 3.05]
Conditional effect of parental psychological control					
Low peer support (M - 1 SD = 3.83)	0.58	0.08	6.90	<.001	[0.42, 0.75]
Mean peer support (M = 5.12)	0.43	0.07	6.42	<.001	[0.30, 0.56]
High peer support (M + 1 SD = 6.41)	0.28	0.08	3.54	<.001	[0.13, 0.44]

As presented in Table 4, peer support significantly moderated the association between parental psychological control and adolescent depressive symptoms after self-esteem, age, and gender were controlled. Parental psychological control remained positively associated with depressive symptoms, $B = 0.43$, $SE = 0.07$, $t = 6.42$, $p < .001$, whereas peer support independently predicted lower depressive symptom levels, $B = -2.04$, $SE = 0.34$, $t = -6.00$, $p < .001$. Self-esteem also remained a significant negative predictor, $B = -0.78$, $SE = 0.07$, $t = -10.91$, $p < .001$. Most importantly, the interaction between parental psychological control and peer support was statistically significant and negative, $B = -0.12$, $SE = 0.04$, $t = -3.16$, $p = .002$, 95% CI [-0.19, -0.04]. The interaction accounted for an additional 1.2% of the variance in depressive symptoms above the main effects and covariates, $\Delta R^2 = .012$, $F \text{ change}(1, 419) = 9.98$, $p = .002$. Examination of the conditional effects clarified the nature of this interaction. Among adolescents reporting relatively low peer support, defined as one standard

deviation below the sample mean, each one-unit increase in parental psychological control was associated with a 0.58-point increase in depressive symptoms, $B = 0.58$, $SE = 0.08$, $p < .001$. At the mean level of peer support, the corresponding effect was reduced to $B = 0.43$, $SE = 0.07$, $p < .001$. Among adolescents with relatively high peer support, defined as one standard deviation above the mean, the relationship remained statistically significant but was substantially weaker, $B = 0.28$, $SE = 0.08$, $p < .001$. Thus, the positive association between parental psychological control and depressive symptoms became progressively weaker as perceived peer support increased. This pattern indicates a buffering moderation effect, whereby supportive peer relationships appeared to attenuate, although not completely eliminate, the association between psychologically controlling parenting and adolescent depressive symptoms. The complete regression model accounted for approximately 50% of the variance in depressive symptoms, $R^2 = .50$, $F(6, 419) = 69.41$, $p < .001$.

Figure 1

Mediation–Moderation Model of the Relationship Between Parental Psychological Control and Adolescent Depressive Symptoms Through Self-Esteem and at Different Levels of Peer Support

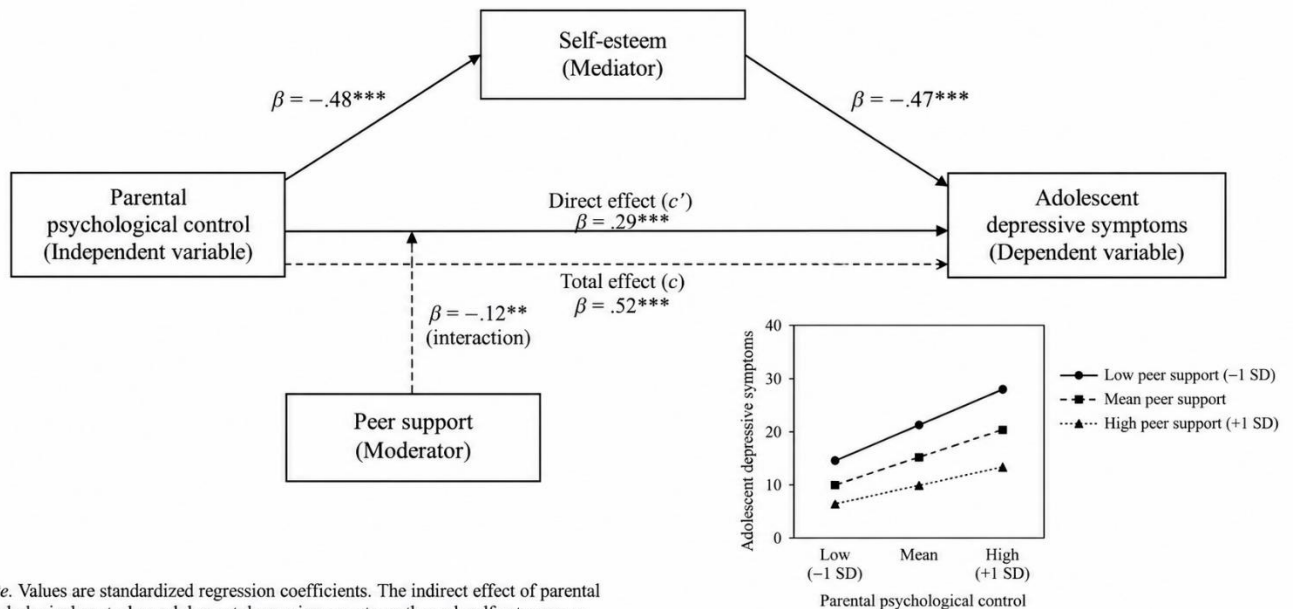


Figure 1 summarizes the integrated pattern of relationships identified in the mediation and moderation analyses. Parental psychological control showed a substantial negative association with self-esteem ($\beta = -.48$), whereas self-esteem demonstrated a strong negative association with depressive symptoms after parental psychological control was taken into account ($\beta = -.47$). The total positive relationship between parental psychological control and depressive symptoms ($\beta = .52$) was reduced when self-esteem was incorporated into the model, while the direct association remained statistically significant, demonstrating partial mediation. At the same time, peer support was independently associated with fewer depressive symptoms and significantly interacted with parental psychological control. The negative interaction coefficient indicated that the effect of parental psychological control on depressive symptoms was strongest among adolescents with comparatively low peer support and weakest among those reporting comparatively high peer support. Taken together, the integrated model suggests that parental psychological control was related to adolescent depression through two complementary mechanisms: indirectly through reduced self-esteem and conditionally according to the level of peer support available to the adolescent. Self-esteem therefore functioned as an intrapersonal explanatory mechanism,

whereas peer support operated as an interpersonal protective factor that reduced the magnitude of the association between psychologically controlling parenting and depressive symptomatology.

4. Discussion

The present study examined the relationship between parental psychological control and depressive symptoms among adolescents, with particular attention to the mediating role of self-esteem and the moderating role of peer support. The findings supported the proposed conceptual model. Parental psychological control was positively associated with adolescent depressive symptoms and negatively associated with self-esteem, while self-esteem was negatively related to depression. The mediation analysis further showed that self-esteem partially mediated the relationship between parental psychological control and depressive symptoms, indicating that psychologically controlling parenting was associated with greater depressive symptomatology partly through its adverse relationship with adolescents' self-evaluations. In addition, peer support emerged as a significant moderator of the association between parental psychological control and depression. Specifically, the positive relationship between

psychologically controlling parenting and depressive symptoms was stronger among adolescents reporting lower levels of peer support and weaker among those reporting higher peer support. Taken together, these findings suggest that parental psychological control may contribute to adolescent depression through both an intrapersonal pathway involving diminished self-esteem and an interpersonal process in which supportive peer relationships reduce the strength of this adverse association.

The direct positive association observed between parental psychological control and depressive symptoms is consistent with a broad body of research demonstrating that controlling, harsh, intrusive, and autonomy-restrictive parenting practices are related to poorer adolescent mental health. Psychological control differs from appropriate behavioral guidance because it attempts to regulate adolescents' internal experiences, thoughts, emotional expressions, and autonomy through mechanisms such as guilt induction, invalidation, and withdrawal of affection. Such practices may be particularly detrimental during adolescence, when the developmental need for psychological autonomy becomes increasingly salient. Previous research has similarly identified parental psychological control as a correlate of depressive symptoms and other indicators of emotional maladjustment (Hollander et al., 2025; Wu et al., 2024). Broader systematic evidence also indicates that maladaptive parenting styles are associated with emotional and behavioral problems during childhood and adolescence (Ali et al., 2025; Qian, 2024). The present findings therefore reinforce the view that parental influence on adolescent depression is not limited to overt hostility or harsh discipline but also encompasses subtler forms of psychological intrusion that may interfere with the development of autonomy and emotional security.

The observed association is also compatible with findings concerning harsh and negative parenting. Wang and colleagues demonstrated that harsh parenting is associated with adolescent depression through both direct and indirect pathways involving maladaptive cognitive and peer-related processes (Wang et al., 2023). Similarly, negative parenting styles have been linked to psychological crisis outcomes in adolescents, particularly when protective resources are weakened (Zhao & Wang, 2023). Research examining broader social-emotional development likewise emphasizes that family relationships, parenting quality, and emotional climate are central contributors to adolescent adjustment (Rachman et al., 2023). From this perspective, psychologically controlling parenting may operate as a

chronic interpersonal stressor. Repeated experiences of guilt, emotional manipulation, invalidation, or restricted self-expression may lead adolescents to perceive family relationships as unpredictable or conditional, increasing feelings of helplessness and emotional strain. Because depressive symptoms are often characterized by hopelessness, negative self-evaluation, reduced motivation, and interpersonal withdrawal, persistent psychological control may contribute to the development or intensification of these symptoms by undermining adolescents' sense of personal agency.

A central finding of the present study was the significant negative association between parental psychological control and self-esteem. This result is particularly important because it identifies one psychological mechanism through which intrusive parental behavior may become internalized. Adolescents construct beliefs about their own value partly through interactions with significant others, particularly parents. When parental acceptance appears contingent upon compliance, or when adolescents' preferences, emotional experiences, and independent judgments are repeatedly invalidated, they may begin to evaluate themselves as inadequate or unworthy. The current finding aligns closely with research showing that parental psychological control is associated with domain-specific self-esteem among adolescents (Hollander et al., 2025). It also corresponds with evidence indicating that perceived psychological control may influence depressive symptoms through changes in adolescents' self-evaluative processes (Wu et al., 2024). Similarly, longitudinal evidence suggests that parenting style is associated with subsequent changes in self-esteem and vulnerability to adverse social experiences (Cheng et al., 2025). These convergent findings support the interpretation that self-esteem is not merely a concurrent correlate of parenting but may represent a developmental product of repeated relational experiences within the family.

The strong inverse relationship between self-esteem and depressive symptoms observed in the present study was also consistent with previous literature. Adolescents with lower self-esteem reported substantially greater depressive symptomatology, suggesting that negative self-evaluation represents a central psychological vulnerability in adolescent emotional health. Longitudinal research has demonstrated meaningful associations between adolescent self-esteem and subsequent mental health concerns, while also identifying self-regulatory and parental autonomy-support processes as relevant mechanisms (Chen et al., 2024). In related research, self-esteem has mediated the

association between family dysfunction and adolescent anxiety symptoms, further demonstrating its role as a bridge between interpersonal environments and emotional outcomes (Farmakopoulou et al., 2024). Studies examining negative parenting styles and psychological crises have similarly identified self-esteem as a key explanatory variable (Zhao & Wang, 2023). Thus, the current finding adds to evidence suggesting that adolescents' perceptions of their own worth play a central role in determining how family-related stress translates into emotional difficulties.

Most importantly, the mediation analysis showed that self-esteem partially explained the relationship between parental psychological control and depressive symptoms. The indirect effect was statistically significant, while the direct association between psychological control and depression remained significant after self-esteem was included in the model. This pattern indicates partial rather than complete mediation, suggesting that psychologically controlling parenting may influence depression through self-esteem as well as through other unmeasured mechanisms. The mediation result is strongly supported by prior evidence. Wu and colleagues found that self-esteem accounted for part of the association between perceived parental psychological control and depressive symptoms, although the effect differed across self-esteem domains (Wu et al., 2024). Milić and colleagues likewise identified self-esteem as a mediator between maternal behavior and adolescent risk outcomes (Milić et al., 2025). Furthermore, Li and colleagues demonstrated that self-esteem, alongside the parent-child relationship, mediated the association between bullying victimization and adolescent mental health outcomes (Li et al., 2025). Although these studies differ in their specific predictors and outcomes, they converge on the conclusion that adverse relational experiences are likely to affect adolescent adjustment partly by altering self-perceptions.

The partial nature of the mediation is theoretically meaningful. Parental psychological control may affect depressive symptoms through several parallel processes beyond self-esteem, including impaired autonomy, emotion dysregulation, rumination, perceived rejection, conflict, social withdrawal, or increased sensitivity to interpersonal stress. The findings of Wang and colleagues, who identified rumination and bullying as sequential mechanisms linking harsh parenting to depression, provide support for the existence of multiple pathways between parenting and emotional distress (Wang et al., 2023). Similarly, family and school interpersonal relationships have been linked with depression through academic stress and self-esteem,

suggesting that adolescent emotional outcomes emerge from interacting cognitive, interpersonal, and contextual mechanisms (Liao et al., 2024). The persistence of a significant direct effect in the present study is therefore consistent with a multifactorial interpretation of adolescent depression rather than with a single-mechanism explanation.

The second major contribution of the study concerns the moderating role of peer support. Peer support significantly reduced the strength of the positive association between parental psychological control and depressive symptoms. Adolescents who reported lower peer support showed the strongest relationship between parental psychological control and depression, whereas this association was weaker among those with higher levels of perceived peer support. This pattern suggests that supportive friendships may operate as a protective resource when adolescents experience intrusive or psychologically controlling parenting. Peer relationships become increasingly central during adolescence, and emotionally supportive peers may provide validation, companionship, acceptance, and opportunities for autonomous self-expression that are unavailable within a controlling family environment. The findings therefore support a buffering interpretation in which peer support does not necessarily eliminate the negative effects of psychological control but reduces their magnitude.

This interpretation is consistent with research demonstrating that peer and school-based support can protect adolescents from the consequences of stressful or adverse experiences. Zhao and Wang found that school social support played an important role in the relationship between harsh parenting and suicidal ideation, alongside self-esteem (Zhao & Zhou, 2023). Ying and colleagues likewise showed that peer attachment and self-esteem mediated associations between family functioning and social anxiety, emphasizing the importance of peer relationships as part of adolescents' broader psychosocial support systems (Ying et al., 2022). Wang's study of school climate, parent-child closeness, and peer relations similarly demonstrated that peer relationships are connected to both self-esteem and depression and may influence maladaptive behavioral outcomes through these psychological processes (Wang, 2022). The current findings extend these studies by showing that peer support may serve not only as a predictor or mediator but also as a moderator that changes the strength of the association between a family risk factor and depressive symptoms.

The protective role of peer support is also consistent with findings from research examining self-esteem and

supportive relationships jointly. Cui and colleagues identified serial mediating effects of self-esteem and peer support in the association between acculturative stress and life satisfaction, demonstrating that personal and social resources can operate together in shaping adjustment (Cui et al., 2025). Park and colleagues similarly highlighted interactions among cyberbullying, self-esteem, friendship, and life satisfaction, suggesting that supportive interpersonal relationships may influence how adolescents respond to social stressors (Park et al., 2026). More broadly, evidence concerning developmental assets shows that internal and interpersonal resources can mitigate the consequences of psychological distress and improve youth outcomes (Rose et al., 2024). The present study is consistent with these perspectives by suggesting that adolescents with supportive peer networks may possess an alternative source of affirmation that reduces the psychological impact of controlling family relationships.

The moderation finding can also be understood through an ecological perspective on adolescent development. Adolescents are embedded in multiple relational contexts, and difficulties in one context may be compensated for, intensified, or transformed by experiences in another. High parental psychological control may increase emotional vulnerability, but supportive peers can provide opportunities for belonging, disclosure, reassurance, and autonomous decision-making. Conversely, when psychological control co-occurs with weak peer support, adolescents may experience risk across multiple relational systems simultaneously. This interpretation is compatible with research on cumulative family risk and depression, which has shown that contextual resources can alter the strength of pathways linking adversity with depressive outcomes (Yu et al., 2024). It is also consistent with findings showing that emotional distress among adolescents is shaped by interacting personal and family factors rather than by a single isolated exposure (Postigo-Zegarra et al., 2024). The present results therefore reinforce the importance of considering both family-based risks and peer-based protective resources in models of adolescent depression.

5. Conclusion

The combined mediation and moderation findings further suggest that self-esteem and peer support play distinct but complementary roles. Self-esteem appears to represent an internal psychological process through which parental psychological control contributes to depression, whereas

peer support functions as an external social resource that modifies the strength of this association. This distinction is important because adolescents exposed to similar parenting behaviors may not experience identical outcomes. Those who maintain stronger self-worth or have access to supportive peers may be less vulnerable, whereas those with low self-esteem and poor social support may face compounded risk. This interpretation is consistent with contemporary biopsychosocial perspectives emphasizing that adolescent mental health reflects dynamic interactions among family influences, psychological characteristics, and social environments (Chang et al., 2023; Lin & Guo, 2024). The findings also support broader evidence that developmental outcomes are shaped by multiple interconnected protective and risk factors across family and peer systems (Rachman et al., 2023).

6. Limitations & Suggestions

The present study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design prevents firm conclusions regarding temporal ordering or causality among parental psychological control, self-esteem, peer support, and depressive symptoms. Although the proposed model is theoretically plausible, reciprocal processes are also possible; for example, adolescents with depressive symptoms may perceive parental behavior more negatively or may experience changes in peer relationships over time. Second, all principal variables were assessed using adolescent self-report measures, which may introduce shared-method variance, recall bias, or response tendencies. Third, the sample consisted of Canadian secondary-school students and therefore may not represent adolescents in other cultural, socioeconomic, clinical, or educational settings. Fourth, parental psychological control was examined as a broad construct without distinguishing potentially different effects of maternal and paternal control. Finally, although age and gender were considered as covariates, additional factors such as family socioeconomic status, parental psychopathology, family conflict, bullying exposure, school climate, and previous mental health history were not incorporated into the model and may account for additional variance in depressive symptoms.

Future research should employ longitudinal and prospective designs to clarify the temporal relationships among psychologically controlling parenting, self-esteem, peer support, and depression and to determine whether

changes in self-esteem precede changes in depressive symptoms. Cross-lagged panel models could be particularly useful for examining reciprocal influences between parenting and adolescent emotional adjustment. Future studies should also distinguish maternal and paternal psychological control and explore whether the pathways differ according to adolescent gender, age, cultural background, family structure, or socioeconomic context. Multi-informant designs incorporating parent, teacher, and peer reports could reduce reliance on a single source of information. Researchers may also examine additional mediators, including autonomy frustration, rumination, emotion regulation difficulties, loneliness, perceived rejection, or hopelessness, and additional moderators such as school connectedness, teacher support, sibling support, resilience, or coping style. Testing more complex moderated mediation models across culturally diverse samples would further clarify how intrapersonal and interpersonal protective processes jointly shape adolescent vulnerability to depression.

From a practical perspective, the findings suggest that prevention and intervention programs should address both family processes and adolescent protective resources. Parenting interventions may benefit from helping parents distinguish developmentally appropriate guidance from psychologically intrusive control and from encouraging communication practices that support autonomy, emotional validation, and respectful disagreement. School-based mental health programs could incorporate self-esteem enhancement, emotional literacy, and cognitive strategies aimed at reducing negative self-evaluation among adolescents exposed to controlling family environments. At the same time, strengthening peer connectedness may provide an additional protective pathway. Schools can facilitate supportive peer networks through mentoring, cooperative activities, peer-support initiatives, and structured opportunities for safe social participation. Counselors and psychologists working with adolescents presenting with depressive symptoms should therefore assess not only individual symptom severity but also parenting dynamics, self-esteem, and the availability of supportive peer relationships, as interventions that target several of these domains simultaneously may be more responsive to the complex interpersonal context in which adolescent depression develops.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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