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The Influence of Parental Attachment on Early Adolescents' Emotion Regulation in Junior High School Students

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ABSTRACT

Emotion regulation is one of the developmental capacities early adolescents are expected to consolidate as biological, cognitive, and socioemotional shifts unfold. The family setting, particularly the affective bond with parents, has long been treated as a foundational source of this capacity, although the relative weight of mother-child and father-child attachment for adolescent emotion regulation remains debated. This article reports a study of 184 grade VIII students (78 boys, 106 girls) recruited from four junior high schools in Depok, West Java, who completed the Inventory of Parent and Peer Attachment and the Emotion Regulation Questionnaire. Because the indicators used were dimension-level composite scores rather than raw items, the measurement model was specified as formative, and the structural model was estimated through partial least squares structural equation modeling using SmartPLS 4. A permutation-based multi-group analysis (5,000 permutations) was used to test gender as a grouping variable. Mother-child attachment was a positive and significant predictor of emotion regulation ($\beta = 0.382$; $t = 4.328$; $p < 0.001$), whereas father-child attachment showed a positive direction but did not reach the 5 percent threshold ($\beta = 0.163$; $t = 1.864$; $p = 0.062$). The two predictors jointly explained 25.2 percent of the variance in emotion regulation. The permutation test yielded no significant gender difference, although the gap in the mother-child path coefficient between boys and girls was very close to the conventional cut-off and should be interpreted cautiously. Results point to the everyday emotional bond with the mother as the more salient correlate of early adolescents' emotion regulation, while leaving room for father-child attachment as a conceptually relevant resource that warrants further investigation in larger and more diverse samples.

Keywords: early adolescence, emotion regulation, father-child attachment, PLS-SEM

INTRODUCTION

Adolescence is a developmental window in which biological maturation, cognitive reorganization, and shifts in the social world all converge in a relatively short span of years [1], [2]. The pace of these changes can outstrip the still-maturing capacity to regulate affect, which is one of the reasons emotional volatility has been documented as a normative feature of the early teen years [3]. The same volatility, however, raises the stakes of emotion regulation: when adolescents fail to regulate emotion adaptively, the consequences can extend from peer aggression and withdrawal to depressive and anxiety symptoms and to delinquent behavior [4], [5].

In Indonesia, public concern over adolescent behavior has intensified over the past several years. UNICEF data cited in national media indicated that the rate of adolescent delinquency was approaching half of the population in this age band, with an additional rise of just over seven percent reported in 2022 [6]. Incidents that have drawn attention range from school burnings linked to repeated bullying to weapon convoys among middle-school pupils, all of which point to difficulties in managing intense emotional states under social provocation [6]. Whatever the proximate causes, these episodes underline the need to understand the developmental conditions that either consolidate or disrupt the capacity to regulate emotion.

Conceptually, emotion regulation refers to the processes through which individuals influence which emotions they have, when they have them, and how those emotions are experienced and expressed [4]. Two strategies are central to most contemporary work in adolescence. Cognitive reappraisal involves reinterpreting a situation so that its affective impact is altered, and is generally associated with better psychological adjustment. Expressive suppression refers to inhibiting the outward expression of an emotion and tends to be linked with lower positive affect and weaker social functioning [7]. Differences in the habitual use of these strategies are already detectable in early adolescence and predict mental-health outcomes across the transition to adulthood [8].

The family is widely recognized as the first context in which emotion regulation is shaped. Attachment theory places the parent-child relationship at the centre of this process: a secure bond is held to provide both a base from which the child can explore the world and a safe haven to which the child can return when distressed [9], [10]. A growing body of work suggests that secure attachment supports the construction of internal working models in which feelings are seen as understandable and tractable, while insecure patterns can favor either chronic suppression or unregulated expression [10], [11]. Beyond attachment, broader patterns of parenting and the quality of peer relationships also bear on emotional development [12], although the present article restricts its focus to mother-child and father-child attachment as the two predictors of interest.

There are theoretical reasons to expect that attachment to the mother and attachment to the father are not interchangeable for adolescent emotion regulation. In many cultural settings, including Indonesia, mothers continue to function as the primary partner for everyday emotional dialogue throughout childhood and into adolescence, whereas fathers are more often associated with stimulating play, autonomy support, and challenge [13], [14]. Empirical studies on mother-child attachment have produced relatively consistent associations with internalizing symptoms and emotion-regulation strategies [11], while the picture for father-child attachment is more uneven, partly because of measurement issues and partly because the paternal role is more culturally variable [13]. A direct comparison of the two within a single sample is therefore informative.

Gender adds another layer of complexity. Boys and girls are typically socialized into different emotional repertoires, and same-sex parent-child dyads have sometimes been reported to show stronger associations than opposite-sex dyads [15]. Yet the empirical record is far from settled, and most direct comparisons have been carried out outside the Southeast Asian context. Whether the influence of mother-child or father-child attachment on emotion regulation differs between adolescent boys and girls in an Indonesian junior high school sample is therefore an open question.

The data analyzed here originate from a larger thesis project that examined parent-child attachment, parenting practices, and friendship quality in relation to emotion regulation in early adolescents from Depok, West Java. Parenting and friendship were treated as part of the broader context in that study but are not modeled as predictors here; the present article narrows the analytic focus to mother-child and father-child attachment and treats gender as the grouping variable. Two questions guide the analysis. First, what is the relative contribution of mother-child and father-child attachment to early adolescents' emotion regulation when both are estimated simultaneously? Second, does the pattern of effects differ between boys and girls?

RESEARCH METHODS

This study used a cross-sectional quantitative design and was carried out in Depok, West Java, in October 2024. Participants were grade VIII students enrolled in four junior high schools selected to capture variation in school type: one public junior high school, two private junior high schools, and one Madrasah Tsanawiyah. After applying the inclusion criteria, 184 students were retained for analysis. Inclusion required participants to be between 13 and 15 years of age, to be living with both parents at the time of data collection, and to have both parents alive. A disproportionate stratified random sampling procedure was used to draw participants from the four schools so that the final sample reflected variation across school type.

Data were collected through self-report questionnaires distributed during scheduled class hours, with prior consent from school authorities and assent from the students themselves. Mother-child and father-child attachment were measured using the Inventory of Parent and Peer Attachment (IPPA) developed by Armsden and Greenberg [16]. The IPPA produces three-dimensional scores for each parent figure: trust, communication, and alienation. Following standard practice, the alienation score was reverse-coded so that higher values on each of the three dimensions reflect more secure attachment. The composite indicators used in the structural model are therefore trust with mother, communication with mother, and alienation from mother for the mother-child attachment construct, and likewise for the father-child attachment construct using the same measuring instrument.

Emotion regulation was measured using the Emotion Regulation Questionnaire (ERQ) developed by Gross and John [7], which generates two-dimensional scores: cognitive reappraisal and expressive suppression. Expressive suppression was reverse-coded so that the indicator points in an adaptive direction, yielding cognitive reappraisal and expressive suppression as the two composite indicators of emotion regulation.

Because the indicators just described are dimension-level composite scores rather than raw items, treating them as reflective indicators of a common factor would conflict with current measurement guidance for PLS-SEM [17], [18]. Each composite score already aggregates a set of items into a meaningful subscale, and the three subscales of the IPPA capture distinct facets of attachment that need not move together item by item. The measurement model in this study was therefore specified as formative or composite. Mother-child attachment, father-child attachment, and emotion regulation were each modeled as composites built from their respective dimension-level indicators.

Analyses were carried out in SmartPLS 4. The formative measurement model was evaluated using outer weights, outer loadings, and outer variance inflation factors (VIF). Outer VIF values below 3.3 were taken to indicate the absence of problematic

multicollinearity among the indicators of a given construct [17]. The structural model was estimated using the path-weighting scheme. Significance of the path coefficients was assessed through bootstrap resampling with 5,000 subsamples, which produced empirical t-statistics and bootstrap p-values. The variance explained in emotion regulation was reported through R-squared and adjusted R-squared, and the relative contribution of each predictor was assessed through Cohen's f-squared, with values of approximately 0.02, 0.15, and 0.35 interpreted as small, medium, and large effects, respectively.

To test whether the influence of mother-child and father-child attachment on emotion regulation differed between boys and girls, a multi-group analysis based on the permutation procedure described by Henseler and colleagues [18] was conducted with 5,000 permutations. The 0.05 level was used as the conventional threshold for all hypothesis tests, with cautious interpretive language reserved for results that approached but did not cross this threshold.

RESULT AND DISCUSSION

A total of 184 grade VIII students participated in the study. The sample included 78 boys (42.4 percent) and 106 girls (57.6 percent), all aged 13-15 years, with a mean age of 13.68 years. Most of the participants were 14 years old at the time of data collection, followed by 13-year-olds and a small number of 15-year-olds. By birth order, slightly more than a third were first-born, followed by middle, youngest, and only children in approximately equal proportions across the latter three categories. Demographic details are summarised in Table 1.

Table 1. Demographic characteristics of respondents (N = 184)

Characteristic	Category	n	%
Gender	Male	78	42.4
	Female	106	57.6
Age (years)	13	67	36.4
	14	109	59.2
	15	8	4.3
Birth order	First-born	69	37.5
	Middle child	48	26.1
	Youngest	48	26.1
	Only child	19	10.3

Note. Percentages are calculated against the total sample of 184 respondents.

Measurement Model Evaluation

Evaluation of the formative measurement model began with outer VIF values, outer weights, and outer loadings (Table 2). All outer VIF values were below 3.3, with the highest reaching 2.82 for the trust dimension of father-child attachment. There is therefore no indication of problematic multicollinearity among the indicators of any construct. Outer weights were largest for the alienation-reversed indicator in both attachment constructs, which suggests that perceived absence of resentment or disconnection contributes most strongly to the composite. Trust contributed less in this sample, consistent with a developmental period in which adolescents have already begun to take parental trustworthiness for granted while becoming more sensitive to feelings of distance and detachment. Two indicators carried non-significant outer weights but high outer loadings (above 0.5 in absolute value); following Hair et al. [17], such indicators are retained because they continue to contribute substantively to the construct on theoretical grounds. For emotion regulation, the suppression-reversed indicator had a particularly strong outer weight, while cognitive reappraisal contributed to a smaller but still significant degree.

Table 2. Outer weights, outer loadings, and outer VIF for the formative measurement model

Construct	Indicator	Weight	t	p	Loading	VIF
Mother-Child Attachment	Ttrust	-0.264	0.789	0.430	0.663	2.773
	Communication	0.572	2.267	0.023	0.803	2.365
	Alienation	0.775	2.632	0.009	0.923	1.727
Father-Child Attachment	Ttrust	0.072	0.170	0.865	0.785	2.820
	Communication	0.298	0.999	0.318	0.835	2.819
	Alienation	0.719	1.823	0.068	0.966	2.010
Emotion Regulation	Cognitive Reappraisal	0.592	2.161	0.031	0.355	1.064
	Expressive Suppression	0.965	6.332	<0.001	0.819	1.064

Note. Weights and t-values were obtained from a bootstrap procedure with 5,000 subsamples. VIF refers to outer (indicator) variance inflation factor. All VIF values fall below the 3.3 threshold suggested for formative indicators

Inner VIF values for the structural model were 1.672 for both mother-child and father-child attachment in predicting emotion regulation, indicating that collinearity between the two predictors is well within acceptable limits. The two attachment constructs are correlated, as one would expect in a sample of adolescents living with both parents. Still, the correlation is not so high as to undermine separate estimation of their effects.

Structural Model

Path coefficients, t-statistics, p-values, and f-square values are presented in Table 3. The path from mother-child attachment to emotion regulation was positive and significant (β = 0.382; t = 4.328; p < 0.001), with an f-square of 0.117 placing it in the small-to-medium range of effect size. The path from father-child attachment to emotion regulation was also positive (β = 0.163; t = 1.864; p = 0.062) but did not reach significance at the conventional 5 percent level. Its f-square of 0.021 falls in the small range. The two attachment constructs jointly accounted for 25.2 percent of the variance in emotion regulation, with an adjusted R-squared of 0.244 (Table 4).

Table 3. Path coefficients, t-statistics, p-values, and f-square

Path	β	t	p	f^2	Decision
Mother-Child Attachment → Emotion Regulation	0.382	4.328	<0.001	0.117	Supported
Father-Child Attachment → Emotion Regulation	0.163	1.864	0.062	0.021	Not supported at α = 0.05

Note. Bootstrap with 5,000 subsamples. β denotes standardized path coefficient. f^2 interpreted following Cohen (small ≈ 0.02; medium ≈ 0.15; large ≈ 0.35).

Table 4. R-square for the endogenous construct

Endogenous construct	R^2	R^2 adjusted
Emotion Regulation	0.252	0.244

Gender-Based Multi-Group Analysis

Multi-group analysis on gender (Table 5) produced a mixed picture. For the path from father-child attachment to emotion regulation, the coefficient for boys (β = 0.334) was numerically larger than the coefficient for girls (β = 0.212), but the permutation test for the difference returned a p-value of 0.454, far above the 0.05 threshold. There is therefore no statistical basis for claiming that this path operates differently across genders. For the path from mother-child attachment to emotion regulation, the contrast was sharper: the coefficient for girls (β = 0.448) was substantially larger than for boys (β = 0.122), and the permutation p-value for the difference was 0.0502, only marginally above the conventional cut-off. The result is therefore on the cusp of statistical significance and should be interpreted cautiously rather than treated as evidence of a real moderation effect.

When the structural model was estimated separately within each gender group, the proportion of variance explained in emotion regulation was 0.168 for boys and 0.374 for girls. The model thus performed better numerically in the female subsample, again hinting at a tendency for the two-attachment account to fit girls more closely than boys, although this descriptive observation does not by itself license inferential claims about moderation.

Table 3. Gender-based multi-group analysis (permutation test, 5,000 permutations)

Path	β (Male)	β (Female)	Diff. (M - F)	p	Conclusion
Father-Child Attachment → Emotion Regulation	0.334	0.212	0.122	0.454	No significant difference
Mother-Child Attachment → Emotion Regulation	0.122	0.448	-0.326	0.0502	Very close to but not below 0.05; interpret with caution
R^2 (Emotion Regulation, by group)	0.168	0.374	n/a	n/a	Descriptive only

Note. Differences are reported as male minus female. Permutation p-values are based on 5,000 permutations.

The clearest finding from the structural model is that mother-child attachment carries more weight than father-child attachment for emotion regulation in this sample of early adolescents. The standardized coefficient for the maternal path is more than twice as large as that of the paternal path, and the bootstrap p-value places the maternal effect well below the 0.001 level while the paternal effect sits a few hundredths above the 0.05 threshold. Both effects are positive, which is consistent with a long-standing argument from attachment theory that secure bonds with parents support the development of internal working models in which emotions can be acknowledged and regulated rather than denied or amplified [9], [10].

There are several plausible reasons why the maternal path is the stronger of the two in this sample. In Indonesian junior high school families, mothers continue to be the most frequent partner for everyday emotional dialogue, including the talk that surrounds school stress, peer conflicts, and minor disappointments [19], [20]. Repeated exposure to a calm, accepting, and articulate response to emotional content is precisely the kind of relational experience theorized to scaffold cognitive reappraisal and to discourage habitual suppression [11]. The pattern of outer weights, in which the alienation-reversed indicator and the communication indicator carry more weight than trust, is consistent with this reading: what predicts the

composite is not the abstract conviction that the mother is trustworthy but the felt absence of distance and the perceived availability of dialogue.

The picture for fathers is more nuanced. The positive direction of the coefficient is theoretically expected and aligns with work that frames paternal involvement as a complementary rather than redundant resource [13], [14]. The fact that the coefficient does not reach significance at the 5 percent level should not be read as evidence that fathers are unimportant; the bootstrap interval still excludes large negative values, and the paternal alienation-reversed indicator carried a substantial weight even though its bootstrap p-value sat just above 0.05. A more conservative reading is that, in this particular sample of grade VIII students, the day-to-day emotional bond with the mother has more variance to explain because it is more variable and more proximal, while the paternal bond contributes through quieter, less immediately legible channels that a sample of 184 cannot detect with confidence. Larger samples and instruments better tuned to specifically paternal forms of involvement may produce sharper estimates.

The variance accounted for by the two predictors, 25.2 percent, is moderate. It is large enough to argue that attachment is a non-trivial input to emotion regulation in early adolescence, but small enough to remind us that other family processes, peer dynamics, and individual differences in temperament also matter. The original thesis from which this dataset is drawn examined parenting practices and friendship quality alongside attachment, and these additional factors were associated with emotion regulation in their own right. The narrower model presented here is intended to isolate the role of attachment, not to suggest that other family or peer factors are unimportant.

The multi-group analysis on gender deserves a careful reading. On the face of it, the maternal coefficient is roughly four times larger for girls than for boys, and the model explains over twice as much variance in the female subsample. These patterns hint at a relational story in which adolescent girls draw more heavily on the bond with their mother for the regulation of affect, perhaps because the mother-daughter dyad is the more frequent setting for emotional disclosure during this developmental period [15]. Yet the permutation test puts the p-value at 0.0502, only just above the threshold. Treating this as evidence of a genuine moderation effect would overstate the case. A more honest summary is that the data are suggestive of a tendency, that this tendency is consistent with prior reports of stronger same-sex parent-child socialization in the affective domain, and that a confirmatory test in a larger sample would be needed before any firm claim could be made. The paternal path, by contrast, did not differ between boys and girls to any meaningful degree.

Findings from this study converge with earlier Indonesian work on the family origins of adolescent socioemotional outcomes [21], [22], [23]. Latifah [21] reported that parental support was implicated in the formation of academic emotion among first-year university students, while Pramudita and colleagues [22] documented an association between parental attachment and adolescent self-resilience, with friendship quality contributing additionally rather than substituting for the parental bond. The current results are consistent with that broader pattern: parental attachment matters, but mother-child attachment is the more consistent predictor in adolescents living with both parents.

Several limitations should temper interpretation. The cross-sectional design precludes claims about temporal precedence between attachment and emotion regulation, even though both attachment theory and recent process-oriented work make a developmental ordering plausible. The reliance on adolescent self-reports for both predictors and outcome leaves open the possibility of shared method variance. The geographic concentration of the sample in Depok junior high schools limits generalization to adolescents from very different regional, socioeconomic, or family-structure backgrounds, including those raised in single-parent or extended-family households. Finally, the sample size of 184 is adequate for the simple two-predictor model estimated here, but is not large enough to support fine-grained moderation tests with high statistical power, which is one reason the gender comparison should be revisited in future work.

CONCLUSION

Two main conclusions follow from the analyses reported here. First, mother-child attachment is a positive and significant predictor of early adolescents' emotion regulation, with a moderate effect that explains a substantial part of the variance jointly accounted for by the two-attachment model. Second, father-child attachment shows the same positive direction but does not cross the 5 percent significance threshold in this sample. Father-child attachment should not be dismissed based on one cross-sectional study, but the data presented here position it as a less proximal correlate of emotion regulation in early adolescence than the bond with the mother.

Gender does not appear to be a significant moderator of either path. The gap between boys and girls on the maternal coefficient was close enough to the conventional threshold to merit acknowledgement and to invite replication in larger samples, but it is not licensed as a confirmed moderation effect. The paternal path, by contrast, was statistically indistinguishable across gender groups.

Taken together, the findings argue for sustained attention to the everyday emotional bond between mother and adolescent as a resource for affect regulation in the junior high school years, while keeping the paternal relationship in view as a conceptually relevant resource that may emerge more clearly under different sampling and measurement conditions. Future research is encouraged to integrate parenting practices, friendship quality, family communication climate, and broader social support into more comprehensive models, and to examine whether the patterns reported

here generalize to other regions of Indonesia and to families with different structural arrangements.

REFERENCES

[1] J. W. Santrock, Adolescence, 17th ed. New York: McGraw-Hill, 2021.

[2] L. Steinberg and A. S. Morris, "Adolescent development," Annual Review of Psychology, vol. 52, pp. 83-110, 2001.

[3] R. Larson and M. H. Richards, "Daily companionship in late childhood and early adolescence: Changing developmental contexts," Child Development, vol. 62, no. 2, pp. 284-300, 1991.

[4] J. J. Gross and R. A. Thompson, "Emotion regulation: Conceptual foundations," in Handbook of Emotion Regulation, J. J. Gross, Ed., New York: Guilford Press, 2007, pp. 3-24.

[5] R. A. Thompson, "Emotion regulation: A theme in search of definition," Monographs of the Society for Research in Child Development, vol. 59, no. 2-3, pp. 25-52, 1994.

[6] Z. Okkya, "Trend kriminalitas di kalangan remaja dan solusinya," Jurnalpost, 2 June 2023. [Online]. Available: https://jurnalpost.com/trend-kriminalitas-di-kalangan-remaja-dan-solusinya/51324/

[7] J. J. Gross and O. P. John, "Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being," Journal of Personality and Social Psychology, vol. 85, no. 2, pp. 348-362, 2003.

[8] J. A. Silvers, "Adolescence as a pivotal period for emotion regulation development," Current Opinion in Psychology, vol. 44, pp. 258-263, 2022.

[9] J. Bowlby, Attachment and Loss: Volume I. Attachment, 2nd ed. New York: Basic Books, 1982.

[10] J. Cassidy, "Attachment theory and research: A review of the decade," Journal of Research in Personality, vol. 81, pp. 17-30, 2019.

[11] A. S. Morris, J. S. Silk, L. Steinberg, S. S. Myers, and L. R. Robinson, "The role of the family context in the development of emotion regulation," Social Development, vol. 16, no. 2, pp. 361-388, 2007.

[12] T. J. Berndt, "Friendship quality and social development," Current Directions in Psychological Science, vol. 11, no. 1, pp. 7-10, 2002.

[13] M. E. Lamb, Ed., The Role of the Father in Child Development, 5th ed. Hoboken, NJ: Wiley, 2010.

[14] J. H. Pleck, "Paternal involvement: Revised conceptualization and theoretical linkages with child outcomes," in The Role of the Father in Child Development, M. E. Lamb, Ed., 5th ed. Hoboken, NJ: Wiley, 2010, pp. 58-93.

[15] A. J. Rose and K. D. Rudolph, "A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys," Psychological Bulletin, vol. 132, no. 1, pp. 98-131, 2006.

[16] G. C. Armsden and M. T. Greenberg, "The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence," Journal of Youth and Adolescence, vol. 16, no. 5, pp. 427-454, 1987.

[17] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," European Business Review, vol. 31, no. 1, pp. 2-24, 2019.

[18] J. Henseler, C. M. Ringle, and M. Sarstedt, "Testing measurement invariance of composites using partial least squares," International Marketing Review, vol. 33, no. 3, pp. 405-431, 2016.

[19] J. P. Allen and J. S. Tan, "The multiple facets of attachment in adolescence," in Handbook of Attachment, J. Cassidy and P. R. Shaver, Eds., 3rd ed. New York: Guilford Press, 2016, pp. 399-415.

[20] R. P. Rohner, A. Khaleque, and D. E. Cournoyer, "Parental acceptance-rejection: Theory, methods, cross-cultural evidence, and implications," Ethos, vol. 33, no. 3, pp. 299-334, 2005.

[21] M. Latifah, "Parental support, academic emotion, learning strategy, and academic achievement on first year student," Journal of Family Sciences, vol. 4, no. 1, pp. 36-50, 2019.

[22] A. Pramudita, M. Latifah, and Y. E. Riany, "Strawberry generation: The role of parental attachment, friendship quality, and mental health self-efficacy on adolescent self-resilience," Jurnal Psikologi, vol. 24, no. 2, pp. 151-164, 2025.

[23] M. Rahmawati and M. Latifah, "Penggunaan gawai, interaksi ibu-anak, dan perkembangan sosial-emosional anak prasekolah," Jurnal Ilmu Keluarga dan Konsumen, vol. 13, no. 1, pp. 75-86, 2020.