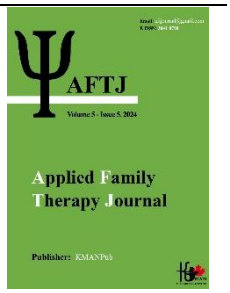
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Multi-Group Structural Equation Modeling of Adolescent Externalizing Problems Based on Interparental Conflict, Emotional Insecurity, Parent–Adolescent Attachment, and Family Cohesion

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1. Round 1

1.1. Reviewer 1

Reviewer:

The paragraph stating that “Externalizing behavior is one particularly plausible consequence of chronic exposure to destructive interparental conflict” needs a more precise conceptual definition of the dependent variable. Externalizing problems encompass heterogeneous behaviors including aggression, oppositionality, delinquency, rule-breaking, conduct problems, and impulsive behavior, yet these outcomes do not necessarily share identical family antecedents. Because the Youth Self-Report externalizing broadband scale is principally composed of Aggressive Behavior and Rule-Breaking Behavior, the Introduction should explicitly define externalizing problems in accordance with the instrument ultimately used. This would strengthen construct alignment between the theoretical rationale, measurement model, and interpretation of findings and would prevent overgeneralization to behavioral domains not actually assessed.

The discussion of Emotional Security Theory in the paragraph beginning “The impact of interparental conflict, however, cannot be adequately understood through a simple direct-effect model” is central to the manuscript but should be developed more rigorously. The authors currently describe emotional insecurity as a mediator-like mechanism, yet the theoretical

distinction between emotional reactivity, behavioral dysregulation, involvement, avoidance, and representations of family instability is not sufficiently articulated. The manuscript should explain why these manifestations are modeled as one latent emotional-insecurity construct rather than separate dimensions, particularly because some components, such as behavioral dysregulation and involvement, may conceptually overlap with externalizing outcomes. Addressing this potential conceptual overlap would improve discriminant validity at both the theoretical and measurement levels.

The Introduction paragraph beginning "Parent–adolescent attachment therefore represents another important component of the proposed model" should more clearly distinguish attachment security from general parent–adolescent relationship quality. The manuscript currently uses constructs such as trust, communication, emotional availability, and relationship quality somewhat interchangeably. However, the Inventory of Parent and Peer Attachment is a perceived relational-security measure rather than a direct assessment of attachment organization in the traditional developmental sense. The authors should use terminology consistently and acknowledge that the instrument operationalizes perceived attachment quality through trust, communication, and alienation. This distinction is especially important because the manuscript draws on attachment theory to make developmental claims that may otherwise exceed what the measurement strategy directly supports.

A similar methodological concern applies to the statement in the Family Adaptability and Cohesion Evaluation Scales IV paragraph that "item parcels were created to provide indicators of the latent family-cohesion construct." Parceling a seven-item unidimensional scale may artificially improve model fit and conceal item-level misspecification. The authors should justify why parceling was necessary given the relatively large sample and manageable model size. They should also explain the parcel-construction algorithm, report the number of items per parcel, and demonstrate that unidimensionality was established before parcel creation. Ideally, the authors should conduct a sensitivity analysis comparing the parcel-based measurement model with an item-level alternative to show that the substantive structural conclusions do not depend on the parceling strategy.

The Youth Self-Report paragraph contains another ambiguity in stating that "The Rule-Breaking Behavior and Aggressive Behavior scores were incorporated into the measurement model as indicators of the externalizing-problems construct together with balanced item parcels created from the relevant items." This formulation risks double-counting the same items if syndrome-scale scores and parcels derived from those same items are simultaneously entered as indicators. The authors must clarify the exact indicator specification. Either syndrome scores, item parcels, or another nonoverlapping set of indicators should be used; overlapping composites should not be modeled together because shared item content would create artificial covariance and distort factor loadings. A schematic description of the measurement model or supplementary table listing every indicator would greatly improve transparency.

Response: Revised and uploaded the manuscript.

1.2. Reviewer 2

Reviewer:

The paragraph beginning "The broader emotional climate of the family must also be considered" should clarify the conceptual boundary between family cohesion and parent–adolescent attachment. The reported correlation between attachment and cohesion is moderately high, and both variables are described as involving emotional connection, support, communication, and belonging. The authors should explain why these variables represent theoretically distinct levels of analysis—dyadic versus whole-family functioning—and provide stronger justification for simultaneously entering them into the structural model. It would also be useful to report formal evidence of discriminant validity between these latent constructs, such as correlations with confidence intervals, average variance extracted comparisons, or another appropriate CFA-based discriminant validity criterion.

The Study Design and Participants paragraph reports that "The final analytical sample therefore consisted of 684 adolescents" but does not provide an a priori or simulation-based justification for this sample size. Given that the manuscript uses covariance-based SEM, multi-group analysis, measurement invariance testing, indirect effects, and between-group parameter comparisons, sample adequacy should not be justified solely by the absolute number of participants. The authors

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should report how the target sample was determined, preferably using power analysis or Monte Carlo simulation incorporating expected effect sizes, number of latent variables, model complexity, and the requirement for adequate power within each gender group. This is particularly important because the relevant effective sample sizes are 332 and 352 rather than 684 for the group-specific models.

The sampling description in the Study Design and Participants section states that schools and classes were selected using a "multistage cluster sampling procedure," yet important methodological details are absent. The authors should report the number of schools approached, the number that agreed to participate, the number of educational districts represented, the number of selected classrooms, and whether probabilities of selection differed across schools or classes. If students were clustered within classrooms and schools, the authors should also address the statistical non-independence of observations. Standard SEM assumes independent observations; therefore, intraclass correlations or design effects should be evaluated. If meaningful clustering existed, multilevel SEM, cluster-robust standard errors, or another appropriate adjustment should be considered.

The eligibility criterion stating that participants were required to be "living with or maintaining regular contact with at least one parental caregiver" is insufficiently aligned with the measurement of interparental conflict. The Children's Perception of Interparental Conflict Scale presupposes exposure to a relationship between parental figures, but adolescents in single-parent households or other caregiving arrangements may have had highly variable opportunities to observe interparental interactions. The manuscript should explicitly explain how "interparental" was defined for divorced, separated, blended, stepfamily, and other household configurations, whether participants without ongoing exposure to two parental figures completed all conflict items, and how potentially nonapplicable responses were handled. Sensitivity analyses by family structure would substantially strengthen confidence in the findings.

The paragraph describing the Children's Perception of Interparental Conflict Scale states that "the total score was used as the observed indicator source for the latent interparental-conflict construct," but the measurement procedure is unclear. A latent variable cannot be defined by a total score alone unless a single-indicator latent-variable approach with fixed error variance is used. The authors later refer to "parcel scores," suggesting that multiple parcels may actually have served as indicators. The manuscript should specify exactly how many indicators defined the interparental conflict latent construct, how items were assigned to parcels, whether parcels were based on theoretical subdimensions or balancing procedures, and whether parceling occurred before or after evaluation of item-level dimensionality. This information is essential for reproducibility and for evaluating whether parceling masked potentially important multidimensionality.

Response: Revised and uploaded the manuscript.

2. Revised

Editor's decision after revisions: Accepted.
Editor in Chief's decision: Accepted.

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