

Structural Equation Modeling of Adolescent Psychological Well-Being Based on Family Cohesion, Peer Support, and Self-Esteem

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E d i t o r	R e v i e w e r s
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1. Round 1

1.1. Reviewer 1

Reviewer:

The operationalization of psychological well-being requires clarification because the manuscript appears to use two different scoring approaches. In the Data Collection Tools section, the authors state that “the total psychological well-being score was used as the principal endogenous construct,” whereas the CFA description indicates that “the six theoretically defined dimensions of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance were modeled as indicators of the broader psychological well-being construct.” These are not identical measurement specifications. The authors should explicitly state whether psychological well-being was represented in SEM by six subscale parcels/dimensional scores, by individual items, or by a total observed score. The measurement model, descriptive statistics, and structural analysis must use a coherent and clearly documented operationalization.

The reported AVE for family cohesion deserves careful examination. Table 2 gives “AVE = .50,” exactly at the conventional threshold, while standardized loadings range from .63 to .82. The authors should report AVE with at least three decimal places and provide the calculation method, because a rounded value of .50 does not indicate whether the actual estimate falls slightly below or above the criterion. More generally, the manuscript should avoid interpreting threshold values mechanically. Convergent validity should be evaluated jointly using factor loadings, reliability, AVE, theoretical coherence, and model fit rather than by declaring validity solely because a rounded statistic reaches .50.

The model-fit assessment should be expanded beyond the current threshold-based interpretation. The paragraph stating that “ χ^2/df values below 3, CFI and TLI values above .90, and RMSEA and SRMR values substantially below .08 demonstrated” acceptable fit relies on conventional cutoffs but does not discuss model complexity, degrees of freedom, or plausible alternative models. The authors should report the estimator used explicitly in the Findings, provide the RMSEA confidence interval and, if available, its close-fit test, and explain whether model modifications were performed. If modification indices were consulted, all correlated residuals or added paths must be theoretically justified and disclosed rather than introduced solely to improve fit.

A major interpretive concern involves the causal language used throughout the Results and Discussion. For example, the manuscript states that “Family cohesion significantly predicted self-esteem” and that supportive family and peer environments “enhance psychological well-being.” Because the study is cross-sectional, SEM estimates conditional associations under a specified directional model but cannot establish temporal or causal precedence. Although the Limitations section appropriately notes this issue, causal terminology remains pervasive elsewhere. The authors should systematically replace causal expressions such as “influence,” “enhance,” “contribute to,” and “effects” with more cautious terms such as “was associated with,” “showed a structural association with,” or “was statistically related to,” except when clearly referring to model-specified indirect effects rather than causal mediation.

Authors uploaded the revised manuscript.

1.2. Reviewer 2

Reviewer:

The manuscript should provide more complete psychometric information for all measurement instruments in the Canadian adolescent sample. For example, the Data Collection Tools section states that the instruments have demonstrated “satisfactory reliability, factorial validity, and construct validity,” but evidence from prior studies does not replace assessment of measurement quality in the present sample. In addition to Cronbach’s alpha, composite reliability, and AVE, the authors should consider reporting omega coefficients and, where appropriate, confidence intervals for reliability estimates. Because some of these instruments were originally developed or frequently validated in adult populations, the manuscript should also explain why the selected versions are developmentally appropriate for adolescents aged 13–18 years.

The use of the Ryff 42-item Psychological Well-Being Scale with adolescents requires stronger justification. The paragraph beginning “Psychological well-being was assessed using the Ryff Psychological Well-Being Scale” should discuss evidence supporting the factorial validity of this particular version in adolescent samples. The six-factor structure of Ryff’s model has produced variable empirical support across populations, and treating the six dimensions as indicators of one higher-order factor imposes a specific theoretical assumption. The authors should therefore report whether alternative measurement models were tested, such as correlated first-order dimensions versus a higher-order psychological well-being factor, and provide comparative fit evidence before proceeding with the structural model.

The assessment of family cohesion should be described more precisely. The manuscript states that “the balanced cohesion scale consists of seven items,” yet it is unclear whether only the Balanced Cohesion subscale of FACES IV was administered or whether the complete FACES IV instrument was administered and only this subscale was analyzed. The authors should provide the exact version, scoring range, any licensing or administration considerations, and evidence supporting its use with Canadian adolescents. They should also explain whether family cohesion was treated as a seven-item latent construct or represented through parcels in the SEM, because Table 2 currently reports seven indicators but does not provide item-level factor loadings.

The operationalization of peer support warrants conceptual justification. The manuscript states that “the four-item Friends subscale [of the MSPSS] was used to operationalize peer support.” Although this is a reasonable measure of perceived support from friends, “peer support” is conceptually broader and may include classmates, broader peer networks, acceptance, companionship, and instrumental support. The authors should acknowledge the narrower operational definition and consistently refer to the construct as “perceived friend support” unless they can justify generalizing these four items to peer support more

broadly. This distinction is particularly important because the Discussion repeatedly interprets findings in terms of overall peer environments, bullying, peer acceptance, and school connectedness, which were not directly measured.

The preliminary data-screening procedures need quantitative documentation. The Data Analysis section states that the authors examined “missing values, univariate and multivariate outliers, and violations of the assumptions required for multivariate analysis,” but the Findings section provides only general statements that missingness was low and that no extreme multivariate observations warranted exclusion. The authors should report the percentage and pattern of missing data, the method used to handle missing values, the Mahalanobis-distance criterion and associated degrees of freedom, the number of cases flagged, and whether multivariate normality was assessed using Mardia’s coefficient. Because maximum likelihood SEM is sensitive to severe non-normality, this information is necessary to evaluate the robustness of the estimates.

Table 1 should provide a more complete basis for evaluating discriminant validity and multicollinearity. The manuscript reports that correlations ranged from .46 to .68 and states that “none approached a magnitude indicative of problematic redundancy,” but this conclusion should be supported by explicit criteria. If discriminant validity is part of the CFA evaluation, the authors should report HTMT ratios or a clearly specified Fornell–Larcker assessment rather than relying primarily on correlations and square roots of AVE. In addition, the VIF range of 1.38–1.67 appears to derive from regression-style diagnostics rather than latent-variable SEM. The manuscript should clarify how VIF values were calculated and whether they refer to observed composite predictors or latent constructs.

Table 2 requires more transparent reporting of the measurement model. The current presentation gives only ranges of standardized factor loadings, such as “.63–.82” for family cohesion and “.61–.84” for self-esteem. For a manuscript centered on structural equation modeling, this is insufficiently detailed. The authors should report individual standardized loadings for each indicator, corresponding standard errors or critical ratios, and preferably R^2 values for indicators. If item parceling was used, the parcel-construction procedure must be described and theoretically justified. If no parceling was used, the manuscript should explain why psychological well-being was represented by dimensional indicators while other constructs were represented by individual items, as this creates asymmetry in the measurement model.

Authors uploaded the revised manuscript.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.