

Artificial Neural Network Prediction of Psychological Well-Being Among Adolescents Using Family, Peer, School, and Individual Factors

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E d i t o r	R e v i e w e r s
Muhammad Rizwan  Associate Professor, Department of Psychology, Haripur University, Islamabad, Pakistan muhammad.rizwan@uoh.edu.pk	Reviewer 1: Sara Nejatifar  Department of Psychology and Education of People with Special Needs, Faculty of Educational Sciences and Psychology, University of Isfahan, Isfahan, Iran. Email: s.nejatifar@edu.ui.ac.ir Reviewer 2: Kamdin. Parsakia  Department of Psychology and Counseling, KMAN Research Institute, Richmond Hill, Ontario, Canada. Email: kamdinarsakia@kmanresce.ca

1. Round 1

1.1. Reviewer 1

Reviewer:

The sampling description in the Methods states that participants were recruited “from secondary schools located in urban and suburban communities across Ontario, Canada, using a multistage sampling procedure,” but the actual sampling frame remains insufficiently specified. The authors should report the number of school districts approached, the number of participating districts and schools, the criteria used to select schools, the number of classrooms sampled, and the response rate at the student and school levels. Without these details, it is difficult to evaluate potential selection bias and the extent to which the sample represents the adolescent population of Ontario.

The data preprocessing section requires substantially greater detail. The statement “the dataset was examined for data-entry errors, missing observations, implausible values, and outliers” does not specify how these issues were handled. The authors should report the proportion and pattern of missing data, the threshold used to define “substantial missing information,” whether missingness was assessed as MCAR/MAR, how missing predictor values were imputed, and whether imputation was performed

separately within training and test partitions to prevent data leakage. The method for detecting and treating univariate and multivariate outliers should also be specified.

Authors uploaded the revised manuscript.

1.2. Reviewer 2

Reviewer:

The eligibility paragraph includes the statement that adolescents were excluded when they had “a documented cognitive or developmental condition that substantially interfered with their ability to understand or independently complete the questionnaires.” This criterion requires greater methodological and ethical precision. The authors should explain how such conditions were identified, who determined whether a condition interfered with questionnaire completion, and whether this information was obtained from school records, parents, teachers, or self-report. The current wording may also unintentionally imply exclusion based on diagnosis rather than functional capacity and should therefore be carefully revised.

The Measures section should provide substantially more psychometric information for the primary outcome. The sentence “Psychological well-being...was assessed using the Warwick–Edinburgh Mental Well-Being Scale” should be followed by evidence supporting its use in adolescents, preferably including prior validation in comparable age groups and the internal consistency obtained in the current sample. The manuscript should also clarify whether the full 14-item WEMWBS was used exactly as originally developed, whether any wording was modified for Canadian adolescents, and whether a license or permission was required.

The family measurement strategy needs clarification because the manuscript states that “Family-related predictors were assessed using the Family Adaptability and Cohesion Evaluation Scale IV and the Multidimensional Scale of Perceived Social Support,” yet Table 1 reports only “family cohesion” and “family support.” The authors should explain which FACES-IV subscales were retained, how the final family cohesion score was computed, whether family flexibility was excluded, and why. If several family variables were initially measured but omitted from modeling, the selection procedure should be reported to avoid concerns about post hoc variable selection.

The peer-domain assessment is similarly underspecified. The manuscript states that “peer-related factors were measured using the peer component of the Multidimensional Scale of Perceived Social Support and the Friendship Quality Scale,” but no version, item count, scoring range, or reliability estimate is provided for the Friendship Quality Scale. Given that several instruments with similar names exist, the exact scale and source should be identified, along with the subdomains included in the composite score and the rationale for using a global friendship-quality score.

The school-related measures require stronger methodological documentation. The phrase “School connectedness was evaluated using items adapted from established school connectedness measures” is too vague for reproducibility. The authors should identify the exact source instrument, number of items, response scale, adaptation procedure, and evidence of content and construct validity. If a new or adapted composite was created, psychometric evaluation in the present sample is necessary, including internal consistency and preferably factor-analytic evidence. The same concern applies to the academic engagement measure.

The manuscript reports that individual-level predictors included “self-esteem, resilience, emotion regulation, perceived stress, and demographic characteristics,” but the Methods should clearly state the reliability coefficients observed in the present sample for every multi-item instrument rather than merely saying that Cronbach’s alpha was examined. These coefficients should be reported in either the Measures section or the Findings section. Given the predictive modeling focus, composite reliability or omega could also be considered, particularly where scales contain heterogeneous items.

Authors uploaded the revised manuscript.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.