




A Predictive Study of Family Adaptability Based on Cultural and Economic Indicators

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R e v i e w e r s

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1. Round 1

1.1. Reviewer 1

Reviewer:

The paragraph discussing acculturation (“Acculturation, defined as the process of cultural change...”) provides a balanced overview but lacks operational clarity. It would be beneficial to specify how acculturation is conceptualized in this study (e.g., bidimensional vs. unidimensional models) and how this aligns with the measurement instrument used, as different conceptualizations can yield different empirical implications.

In the paragraph beginning with “In addition to cultural dimensions, economic conditions represent a critical structural determinant...”, the argument is theoretically sound but empirically underdeveloped. The authors should include more recent or meta-analytic evidence quantifying the magnitude of economic effects on family functioning, rather than relying on general statements about “repeatedly linked” relationships.

The paragraph on immigrant populations (“The intersection of cultural and economic factors becomes particularly salient...”) introduces segmented assimilation theory but does not elaborate on its mechanisms. A more detailed explanation of how segmented assimilation pathways (e.g., upward assimilation vs. downward assimilation) relate specifically to family adaptability would strengthen the theoretical integration.

The description of the Cultural Orientation Scale (“a modified version...”) raises concerns about validity. The authors should detail what modifications were made, provide justification, and report validation procedures, as modifications can alter construct validity.

In the Data Analysis section, the statement “data were screened for missing values, normality, and outliers” lacks methodological transparency. The authors should specify the criteria used (e.g., skewness thresholds, Mahalanobis distance for outliers) and how missing data were handled (e.g., listwise deletion, imputation).

The machine learning methodology (“Model performance was evaluated using cross-validation...”) is insufficiently detailed. The authors should specify the type of cross-validation (e.g., k-fold, number of folds), hyperparameter tuning procedures, and whether a training/test split was used to avoid overfitting.

In the Findings section, the sentence “The demographic profile... indicated a balanced gender distribution...” is descriptive but lacks inferential relevance. The authors should test whether demographic variables significantly relate to family adaptability and consider including them as control variables in the regression model.

Response: Revised and uploaded the new document.

1.2. Reviewer 2

Reviewer:

The statement “Family adaptability is also closely linked to broader health and developmental outcomes” is supported by citations but lacks specificity regarding causal pathways. The authors should clarify whether family adaptability is treated as a mediator, moderator, or outcome variable in these relationships, as this has implications for interpreting their predictive model.

In the paragraph discussing social determinants (“Recent advances in interdisciplinary research have further highlighted...”), the authors broaden the scope to include health inequalities but do not clearly tie these determinants back to the study variables. This creates conceptual drift. The paragraph should explicitly connect social determinants such as food security to the economic indicators used in the study (e.g., income index, financial stability).

The paragraph on psychological processes (“Another important dimension in understanding family adaptability...”) introduces relevant constructs such as emotional regulation but these are not measured in the study. Including unmeasured variables in the theoretical framework without integrating them into the empirical model risks conceptual inconsistency and should be justified or trimmed.

The paragraph introducing machine learning (“Despite the growing body of literature...”) is conceptually appropriate but methodologically superficial. The authors should justify the selection of Random Forest, SVM, and Gradient Boosting with reference to prior psychosocial modeling studies, rather than presenting them as generic “advanced techniques.”

The final paragraph of the introduction (“Therefore, the aim of this study is...”) clearly states the aim but does not specify hypotheses. Given the use of regression and predictive modeling, explicit hypotheses (directional or non-directional) should be formulated to guide the analytical strategy.

In the Methods section, the sentence “Using a stratified random sampling approach... a total of 486 participants were selected...” lacks detail on the stratification criteria. The authors should specify the strata (e.g., income levels, regions, ethnicity) and the proportional allocation method to ensure replicability and assess sampling bias.

The inclusion criterion “having lived in Canada for a minimum of five years” is stated but not justified. The authors should explain why five years was chosen as the threshold for sufficient acculturation exposure, ideally referencing prior literature or empirical benchmarks.

In the Measures section, the sentence “All instruments demonstrated acceptable psychometric properties...” is too general. The authors should report specific reliability coefficients (Cronbach’s alpha) and CFA fit indices obtained in the current sample rather than relying on prior studies, as psychometric properties are sample-dependent.

Response: Revised and uploaded the new document.

2. Revised

Editor's decision: Accepted.

Editor in Chief's decision: Accepted.