




Machine-Learning Identification of Family Adaptation Patterns During Economic Stress Based on Coping Strategies and Couple Communication

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1. Round 1

1.1. Reviewer 1

Reviewer:

The theoretical framing is generally strong, with appropriate use of the Family Stress Model and the literatures on coping and couple communication; however, the introduction could more explicitly differentiate what is genuinely novel about the current typological approach beyond the standard distinction between variable-centered versus person-centered methods, for example by clarifying how the discovered clusters might refine or extend existing FSM pathways rather than merely re-labeling known correlational patterns.

The sampling strategy (purposive plus snowball sampling of married couples reporting moderate–high economic stress) is understandable given the target population, but the manuscript should more clearly acknowledge the implications for external validity and selection bias, particularly the likelihood that couples with access to online surveys and sufficient relational functioning to participate together may be systematically different from the most distressed or marginalized families.

The discussion successfully situates the findings within broader resilience and communication literatures and offers thoughtful implications for intervention and policy; still, the practical recommendations could be sharpened by specifying how typology-based interventions would differ concretely across clusters (e.g., components prioritized for Distressed–Avoidant

versus Ambivalent–Emotion-Focused couples) and by outlining realistic implementation channels within Malaysian family services and community programs.

The manuscript would be strengthened by a more systematic limitations section that explicitly addresses issues such as cross-sectional design, self-report measures from spouses who may share method variance, the absence of children’s direct outcomes, and the cultural and contextual specificity of Malaysian couples, along with a clearer roadmap for future research (e.g., longitudinal designs, dyadic/actor–partner analyses, and replication in different cultural and economic settings).

Response: Revised and uploaded the manuscript.

1.2. Reviewer 2

Reviewer:

The measurement strategy is appropriate and relies on well-validated instruments (PESS, Brief-COPE, CPQ-SF), yet the paper would benefit from more detailed reporting of psychometric properties in this specific sample (e.g., Cronbach’s alpha or omega for each subscale, any items removed, and evidence of factor structure), especially because these scale composites serve as the key inputs into the clustering and thus directly influence the emergent typology.

The description of the machine-learning procedure is a major strength, particularly the use of standardized variables, the elbow method, and silhouette analysis to justify a three-cluster solution; nevertheless, the authors should provide more technical transparency (e.g., random seed, number of initializations, convergence criteria, and whether any robustness checks with alternative *k* values or clustering algorithms were conducted) to reassure methodologically sophisticated readers about the stability and replicability of the clusters.

The presentation of the three clusters is conceptually rich and the labels chosen are intuitively meaningful, but the results section should include more granular quantitative information—such as exact cluster sizes, the means and standard deviations of each clustering variable by cluster, and effect sizes for ANOVAs and post-hoc comparisons—to allow readers to judge the magnitude of differences and to potentially reproduce the typology in future work.

The interpretation linking cluster membership to income strata (B40, M40, T20) and perceived economic stress is compelling and aligns with the Family Stress Model; however, the discussion occasionally drifts toward causal or developmental language (e.g., “trajectory to family collapse”) that is not fully warranted by cross-sectional, correlational data, and the authors should moderate these claims or explicitly frame them as hypothetical pathways requiring longitudinal confirmation.

Response: Revised and uploaded the manuscript.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.