

Machine Learning-Based Modeling of Family Decision Processes Using Shared Mental Models, Power Dynamics, and Negotiation Styles

Noam Ben-Ari¹, Nattaporn Chaisiri^{2*}

¹ Department of Social Psychology, Tel Aviv University, Tel Aviv, Israel

² Department of Counseling Psychology, Chulalongkorn University, Bangkok, Thailand

* Corresponding author email address: nattaporn.c@chula.ac.th

Editor

Zahra Yousefi
Assistant Professor, Department of Psychology, Isfahan Branch (Khorasgan), Islamic Azad University, Isfahan, Iran
Z.yousefi1393@khuisf.ac.ir

Reviewers

Reviewer 1: Mehdi Ghezelsfloo
Assistant Professor, Department of Psychology, Gonbadkavos University, Gonbadkavos, Iran. Email: m.ghezelsfloo@gonbad.ac.ir
Reviewer 2: Mansour Abdi
Associate Professor, Department of Psychology, Arak University, Iran.
m.abdi@arak.ac.ir

1. Round 1

1.1. Reviewer 1

Reviewer:

In the introduction, the statement “family decision-making is not merely a rational selection among alternatives but a negotiated, socially embedded process” is conceptually strong, yet the paragraph does not sufficiently operationalize how this conceptualization is translated into measurable variables in the present study, and the authors should explicitly bridge theory to measurement constructs to improve construct validity.

In the paragraph beginning “The growing body of research on dyadic and family-level cognition suggests that decision-making is inherently distributed,” the authors rely heavily on prior literature but do not clearly articulate the specific theoretical gap their study fills, and a more explicit statement distinguishing this study from prior dyadic cognition research is required.

In the Methods section under “Study Design and Participants,” the statement “a total of 412 participants were recruited to ensure adequate statistical power” is not supported by a formal power analysis, and the authors should include either an a priori power calculation or justification based on ML model requirements.

Response: Revised and uploaded the new document.

1.2. Reviewer 2

Reviewer:

In the paragraph “While shared mental models provide a cognitive foundation for coordination, power dynamics introduce a structural dimension,” the authors assert that power is unequally distributed but do not define how “power dynamics” is operationalized in their instrument, and a clearer conceptual definition aligned with the measurement scale is necessary .

In the sentence “Negotiation styles constitute a critical behavioral mechanism through which cognitive and structural factors are translated into observable interaction patterns,” the authors should justify why the Rahim Organizational Conflict Inventory-II is appropriate for family contexts, as its original validation is organizational, raising concerns about ecological validity .

In the paragraph “The increasing availability of computational tools has opened new avenues,” the phrase “not be detectable באמצעות traditional statistical methods” includes a non-English term, indicating a proofreading error that must be corrected to maintain academic consistency and clarity .

In the final paragraph of the introduction, the sentence “Accordingly, the aim of the present study is to model family decision-making processes...” is appropriate; however, the authors should explicitly specify whether the study is predictive, explanatory, or both, as the integration of machine learning suggests a predictive emphasis that is not fully clarified .

Response: Revised and uploaded the new document.

2. Revised

Editor’s decision: Accepted.

Editor in Chief’s decision: Accepted.