

Predicting Advocacy Behavior in Women: A Machine Learning Integration of Perceived Efficacy, Social Network Centrality, and Collective Identity Strength

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1. Round 1

1.1. Reviewer 1

Reviewer:

While the paper compellingly situates perceived efficacy within social cognitive theory and patriarchal social structures, some of the language around efficacy being a “necessary” precondition for advocacy appears stronger than the evidence currently supports; the authors should either temper such causal language or provide more direct empirical support (especially from studies specifically focused on women’s advocacy rather than general political participation).

The discussion of social network centrality is conceptually sophisticated and nicely highlights the shift toward digitally mediated “cloud protesting,” yet the paper would benefit from greater operational specificity: the authors should clearly indicate which exact centrality metrics are used (e.g., degree, betweenness, eigenvector, closeness), how these were computed, and whether they refer to offline, online, or multiplex networks, as this has major implications for both interpretation and replicability.

Regarding the machine-learning pipeline, the paper would be significantly strengthened by a more rigorous and transparent description of modeling choices and evaluation: the authors should specify the algorithms used, training–test or cross-validation strategy, exact performance metrics (e.g., accuracy, AUC, RMSE, R²), procedures to prevent overfitting (e.g., regularization,

hyperparameter tuning), and whether model performance was compared against a simpler baseline model to demonstrate added value.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

The treatment of collective identity strength draws effectively on social identity theory and contemporary movement research, but the generalization from disparate domains (e.g., climate activism, racial justice movements) to women's advocacy requires more careful justification; the authors are encouraged to address potential cultural and contextual boundaries, and to more explicitly incorporate intersectionality (e.g., class, ethnicity, sexual orientation) into their conceptualization of "women's collective identity."

The manuscript's use of machine learning is a notable strength and has clear potential to advance the literature; nonetheless, the rationale for choosing machine learning over conventional statistical approaches (such as logistic or hierarchical regression) remains underdeveloped, and the authors should explicitly explain what kinds of non-linearities, interactions, or high-dimensional patterns they expect ML to capture, and how this translates into added substantive insight rather than only marginal gains in predictive accuracy.

The methodological section (as implied by the title and introduction) needs more transparency regarding sample characteristics and recruitment procedures: the authors should clearly specify the sampling frame, inclusion/exclusion criteria, response rates, and socio-demographic profile of participants, and then explicitly discuss how these features constrain the generalizability of their findings beyond the specific cultural context (likely Iran) and to different subgroups of women.

The measurement strategy for the key constructs, particularly advocacy behavior and collective identity strength, requires more detail and validation evidence; the authors should precisely define how "advocacy behavior" is operationalized (e.g., self-reported frequency, breadth of activities, online vs. offline acts), provide psychometric indices (e.g., reliability coefficients, factor structure) for the scales used, and discuss any adaptations or translations that might affect construct validity in this context.

Authors revised the manuscript and uploaded the document.

2. Revised

Editor's decision: Accepted.

Editor in Chief's decision: Accepted.