

Peer Review

Review of: "How Personality Traits, Social Resources, and Gender May Relate to Engagement in Prosocial Behaviour"

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General Comment on the Mediation Model

The manuscript proposes a mediation model in which personality traits and social resources are linked to engagement in prosocial behaviour. The conceptual framework is interesting and relevant; however, the current mediation analysis raises several methodological and interpretive concerns that need to be addressed before the conclusions can be considered robust.

Major Comments on Mediation Analysis

1. Cross-sectional data and causal interpretation

The mediation model is tested using cross-sectional data. While statistical mediation can be estimated in such designs, causal interpretations should be avoided. Several sections of the manuscript imply directional or mechanistic effects (e.g., personality traits or resources *leading to* prosocial engagement). I strongly recommend that the authors revise the language throughout the Results and Discussion to reflect associative or indirect relationships rather than causal pathways. This limitation should also be clearly acknowledged and discussed.

2. Justification of the mediation structure

The manuscript does not sufficiently justify why the proposed variables are positioned as mediators rather than correlates or outcomes. A clearer theoretical rationale is needed to explain why personality traits and/or social resources are assumed to function as mediating mechanisms rather than parallel predictors. Strengthening the conceptual justification would improve the coherence of the mediation model.

3. Reporting of indirect effects

Although mediation paths are presented, the reporting of indirect effects lacks consistency and clarity. The authors should explicitly report direct, indirect, and total effects for each mediation pathway, including standardized coefficients and confidence intervals. Presenting these effects in a single, clearly labelled table would substantially improve transparency and interpretability.

4. Bootstrap procedure and confidence intervals

The use of bootstrapping is appropriate; however, the manuscript should clearly specify the number of bootstrap samples used and whether bias-corrected confidence intervals were applied. This information is necessary to evaluate the robustness of the mediation estimates and should be reported explicitly in the Methods section.

5. Model fit and mediation framework

While structural paths are estimated, limited information is provided regarding the overall model fit of the mediation framework. If structural equation modelling was employed, the authors should report standard fit indices (e.g., CFI, TLI, RMSEA, SRMR). If regression-based mediation was used instead, this should be clearly stated, along with justification for the chosen approach.

Interpretation and Discussion

6. Strength of mediation effects

The magnitude of the reported mediation effects appears modest. The authors are encouraged to discuss the practical significance of these effects rather than focusing solely on statistical significance. This would provide a more balanced interpretation of the findings.

7. Boundary conditions and generalisability

Given the specific sample of sports science students and the cross-sectional nature of the data, the authors should be cautious when generalising the mediation model to broader populations. The Discussion section would benefit from a more explicit consideration of these boundary conditions.

Summary Recommendation

The mediation framework proposed in this study has potential and addresses a relevant research question. However, substantial revisions are required to clarify the theoretical justification, improve statistical reporting, and appropriately limit causal interpretations. Addressing the points above would significantly strengthen the credibility and clarity of the mediation analysis.

Declarations

Potential competing interests: No potential competing interests to declare.