

# Unpacking the Heterogeneity of Resilience in Female Survivors of Trauma: A Two-Step Mixture Modeling Approach on Neurobiological and Psychological Markers

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## 1. Round 1

### 1.1. Reviewer 1

Reviewer:

The choice of a two-step mixture modeling approach (LPA followed by multinomial logistic regression) is methodologically appropriate and well-justified, but the manuscript would benefit from more granular reporting of model fit indices (exact AIC/BIC/SABIC values, entropy, LMR-LRT and BLRT statistics, class sizes and proportions with confidence intervals) so that readers can independently evaluate the robustness of the three-class solution.

The authors effectively highlight the clinical implications of identifying a “Compensatory” profile with elevated biological stress despite moderate self-reported resilience, yet the intervention recommendations remain relatively general; it would be useful to specify more concrete, evidence-based intervention strategies (e.g., HRV biofeedback, mindfulness-based stress reduction, trauma-focused CBT, or pharmacological adjuncts) tailored to each profile, and to discuss how such stratification could realistically be implemented in resource-constrained settings.

The cultural and sociopolitical context of Egyptian women’s trauma exposure is an important and distinctive feature of the study, but it sometimes appears in the introduction and discussion as background rather than being analytically integrated; I encourage the authors to deepen the cultural analysis by considering how specific gender norms, stigma, and structural violence

may shape both self-reported resilience and biological regulation, and by situating their findings more explicitly within cross-cultural resilience literature.

Authors revised the manuscript and uploaded the document.

### 1.2. Reviewer 2

Reviewer:

The operationalization of resilience through both CD-RISC and biological markers (HCC and HF-HRV) is a major strength, yet the authors should articulate more explicitly the theoretical rationale for selecting exactly these indicators (and not others, e.g., inflammatory markers, additional autonomic indices), and discuss construct coverage and potential omitted dimensions of resilience.

The sampling strategy (purposive recruitment of Egyptian women from NGOs, support centers, and outpatient clinics) is ecologically rich but also highly specific; the authors should more explicitly discuss selection biases (e.g., help-seeking women, clinical vs community profiles), how this may shape the observed latent classes, and the extent to which the findings can be generalized to broader populations of female trauma survivors or to non-clinical samples.

The interpretation of the latent classes as “Dysregulated/Low Resilience,” “Compensatory/Moderate Resilience,” and “Adaptive/High Resilience” is conceptually compelling, but some labels risk being somewhat value-laden; I recommend that the authors more carefully justify each label based on empirical patterns (means and effect sizes on each indicator), consider alternative naming schemes, and clearly acknowledge that “compensatory” and “adaptive” are interpretive constructs rather than directly observed phenomena.

While the cross-sectional design is acknowledged as a limitation, the discussion occasionally drifts toward quasi-developmental or trajectory language (e.g., “trajectories,” “systemic failure to adapt”); the authors should temper any causal or temporal claims, clarify that the profiles represent concurrent configurations, and more precisely distinguish between hypothetical longitudinal pathways and the cross-sectional evidence actually obtained.

The covariate analysis linking childhood trauma and current PTSD severity to profile membership is a strong contribution, but the manuscript would be strengthened by providing full regression output (odds ratios, 95% confidence intervals, exact p-values) and by discussing potential non-linear effects, multicollinearity between CTQ and PCL-5, and whether additional sociodemographic or contextual variables (e.g., socioeconomic status, type and chronicity of trauma) were considered or tested and then excluded.

Authors revised the manuscript and uploaded the document.

## 2. Revised

Editor’s decision: Accepted.

Editor in Chief’s decision: Accepted.