

## Uncovering Nonlinear Dynamics in Intergenerational Anxiety: Support Vector Regression of Parental Psychological Control, Child Behavioral Inhibition, and Family Climate

Andrés. Benítez<sup>1</sup>, Mercy. Atieno<sup>2\*</sup>, Elpida. Christou<sup>3</sup>

<sup>1</sup> Department of Social Psychology, National University of Asunción, San Lorenzo, Paraguay

<sup>2</sup> Department of Community Psychology, Maseno University, Maseno, Kenya

<sup>3</sup> Department of Counseling Psychology, University of Cyprus, Nicosia, Cyprus

\* Corresponding author email address: [mercy.atieno@maseno.ac.ke](mailto:mercy.atieno@maseno.ac.ke)

### Editor

Habib Hadianfard  
Affiliation: Professor, Department of Psychology, Shiraz University, Iran  
[hadianfd@shirazu.ac.ir](mailto:hadianfd@shirazu.ac.ir)

### Reviewers

**Reviewer 1:** Azade Abooei  
Department of Counseling, Faculty of Humanities, University of Science and Art, Yazd, Iran. Email: [a.abooei@tea.sau.ac.ir](mailto:a.abooei@tea.sau.ac.ir)  
**Reviewer 2:** Roodabeh Hooshmandi  
Department of Psychology and Counseling, KMAN Research Institute, Richmond Hill, Ontario, Canada. Email: [roodhooshmandi@kmanresce.ca](mailto:roodhooshmandi@kmanresce.ca)

## 1. Round 1

### 1.1. Reviewer 1

Reviewer:

The literature review around parent–child interactions, ADHD, and disruptive behavior (as reflected in your discussion of multi-site randomized trials and parent management training) is comprehensive and up to date, drawing on very recent sources (e.g., 2023–2024). However, this section currently reads somewhat broad relative to your main outcome (intergenerational anxiety). I recommend sharpening the “through-line” from externalizing-focused interventions to internalizing-focused mechanisms, explicitly explaining why an ADHD/disruptive-behavior intervention literature is being used as a conceptual scaffold for modeling anxiety transmission.

Your heavy reliance on very recent regional and international studies (including Iranian and broader contexts) is a strength and enhances the ecological validity of the paper, especially for a local readership. At the same time, the manuscript would benefit from engaging more explicitly with foundational and meta-analytic work on intergenerational transmission of anxiety and parenting (e.g., models of bi-directionality, genetic vs. environmental contributions). This would help position your study not only as contextually relevant but also as theoretically anchored within the global literature.

Response: Revised and uploaded the manuscript.

### 1.2. Reviewer 2

Reviewer:

Your distinction between behavioral control versus psychological control is conceptually well-grounded and consistent with classic parenting literature, and you effectively situate psychological control as a risk factor for emotion dysregulation and internalizing psychopathology. To strengthen this section, you could more explicitly specify which subdimensions of psychological control (e.g., guilt induction, love withdrawal, invalidation) are theorized to be especially relevant for anxiety versus depression, and whether your operationalization (measurement) fully captures these theoretically implicated facets.

The incorporation of “family climate” (overall emotional tone, cohesion, expressiveness, conflict) as a contextual moderator/mediator is a strong contribution, and your references to positive family climate supporting open communication and psychosocial adjustment are appropriate. Nevertheless, the construct remains relatively broad in your current framing. I suggest clarifying your conceptual model: is family climate hypothesized mainly as a buffer (moderator) that attenuates the link between parental psychological control and child anxiety, or as a mechanism (mediator) through which psychological control shapes the child’s internal emotional world?

Methodologically, the use of Support Vector Regression (SVR) is an ambitious and novel choice for developmental and family psychology research. However, the manuscript would benefit from more accessible exposition of why SVR was chosen over more commonly used alternatives (e.g., multiple regression, generalized additive models, random forests). In particular, please clarify for readers the advantages of SVR in modeling nonlinearities, how you tuned hyperparameters (e.g., kernel choice, C, epsilon, gamma), and what steps were taken to avoid overfitting (e.g., cross-validation, regularization, sample-to-feature ratio considerations).

While the theoretical part of the introduction clearly emphasizes nonlinear dynamics, it is not yet evident how strongly this nonlinearity emerges in your empirical results. I encourage you to make explicit comparisons between SVR models and simple linear benchmarks (e.g., linear regression with the same predictors), reporting performance metrics ( $R^2$ , RMSE, MAE) to demonstrate that nonlinear modeling indeed adds explanatory or predictive value rather than merely increasing model complexity.

The article effectively situates intergenerational anxiety within a broader context of family processes, identity formation, school bonding, and self-compassion, citing recent work on family structure and adolescent identity/self-compassion. Nonetheless, this part of the review feels somewhat diffuse relative to the central constructs in your title. You may want to prune secondary tangents and instead develop a more focused theoretical model—possibly with a figure—showing how psychological control and behavioral inhibition operate within family climate to shape anxiety across generations.

Response: Revised and uploaded the manuscript.

## 2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.