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Intergenerational Continuity of Adverse Childhood Experiences (ACEs) among Cebuano Mothers: A Moderated Mediation Model

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Abstract

Adverse Childhood Experiences (ACEs) are traumatic events occurring before age 18 and are known to be transmitted across generations, increasing the risk of abuse and maltreatment perpetration in adulthood. However, identifying the factors that facilitate this transmission remains complex. Using Bronfenbrenner's Process–Person–Context–Time (PPCT) model as the theoretical lens, this study examined how parental proximal stressors and negative parenting practices contribute to the continuity of ACEs from mothers (G2) to their children (G3). Data from 211 mothers in Cebu City, Philippines were analyzed using second-stage moderated mediation in R to assess the conditional indirect effect of G2 ACEs on G3 ACEs via parental proximal stressors, moderated by negative parenting practices. Results supported a moderated mediation model, $R^2 = .32$, $F(8, 202) = 12.03$, $p < .001$, indicating that the interaction of stressors and negative parenting heightens the risk of ACE continuity. These findings underscore the PPCT model's utility in explaining intergenerational trauma and highlight the need for preventive education and early intervention.

Keywords: adverse childhood experiences; intergenerational transmission; negative parenting practices; parental stressors; PPCT Model

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1. Introduction

The importance of early childhood relationships and their impact on adult health outcomes has been a significant topic of discussion over the past few years. Research in developmental psychopathology, child psychiatry, and neuroscience has explored and explained the overall impact of stress and trauma on a child's developing brain [1]. However, it was not until Kaiser Permanente and the Centers for Disease Control and Prevention's pioneering landmark study from 1995 to 1997 that research worldwide began to further identify the harmful effects of early childhood adversities on health across the lifespan [2–5].

Collectively referred to as Adverse Childhood Experiences in the original study, ACEs represent a cumulative index of ten common adversities a child may experience during the early years of development. ACEs include the five forms of child maltreatment: physical and emotional neglect, physical, verbal, and sexual abuse, parental psychopathology, domestic violence, parental incarceration, substance use, and parental divorce or separation. Considered a landmark investigation of how traumatic or stressful life circumstances during the formative years of a child affect later outcomes, the study showed that ACEs influence both physical and mental health outcomes compared to those who do not experience such adversities [2, 6–7].

Subsequent studies revealed that ACEs are very common and highly prevalent. In the original study, which included more than 17,000 respondents, roughly 69% of participants reported having experienced at least one ACE, and 21% reported four or more ACEs [6]. Since the publication of the original ACE study, newer approaches to studying childhood adversities have emerged in the last couple of decades, one of which is the concept of intergenerational continuity, or the similarity, occurrence, or presence of a behavioral trait, characteristic, or circumstance from one generation to the next [8–9].

Even before the publication of the ACE study in 1998, research on the intergenerational continuity of trauma and maltreatment had already been established. Collectively, these studies have provided empirical evidence that parents' own experience of maltreatment is a significant risk factor for subsequent abuse in the next generation [4, 10–11]. Genetic vulnerabilities and behavioral and developmental changes have also been implicated in the continuity of abuse and maltreatment, as these affect parents' ability to provide a safe, stable, and nurturing environment for their children [12–13]. Aspects of parenting are also known to be transmitted from generation to generation [14]. This includes parental attitude, parental control and discipline, and harsh parenting [15–17].

However, explaining the intergenerational continuity of parenting, abuse, maltreatment, and neglect is not a clear-cut, linear

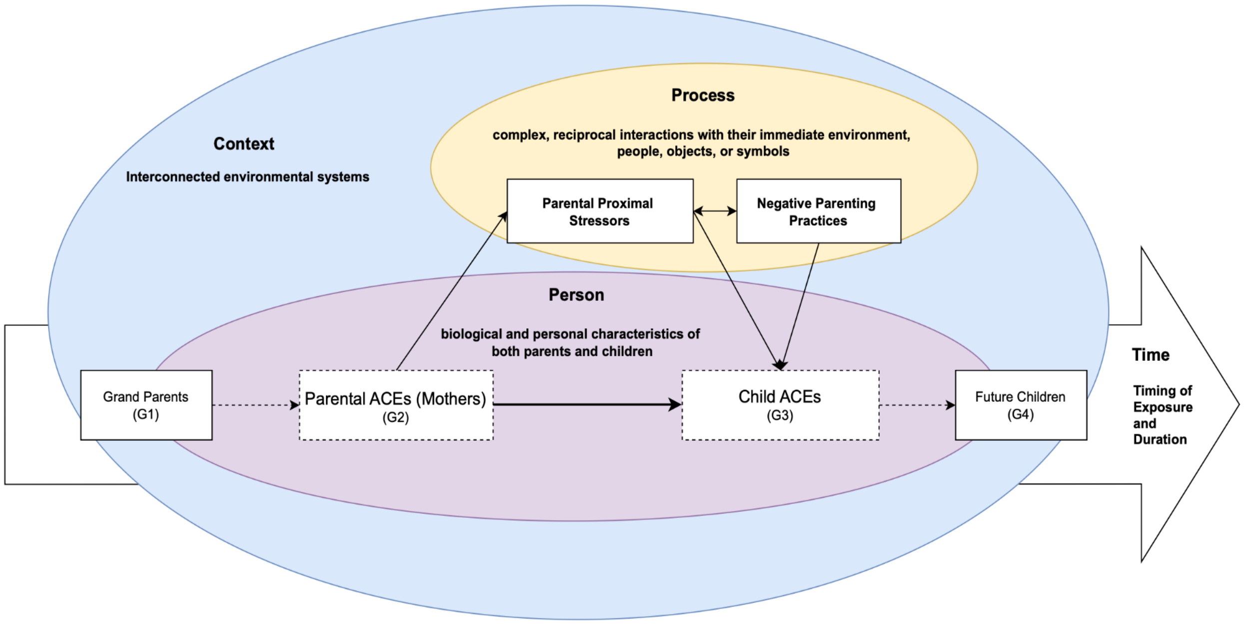

Figure 1: Theoretical framework of the study.

process, which contributes to a gap in the local trauma literature. Although there is sufficient empirical evidence linking ACEs to adverse health outcomes in adulthood, as well as to the intergenerational continuity of trauma and abuse, exploring these links and the underlying continuity mechanisms is crucial to understanding the "cycle of violence and disadvantage" in the local setting [18–19]. This study therefore aims to answer the question, "What factors allow the continuity of Adverse Childhood Experiences from one generation to the next?" by examining Cebuano mothers and their own childhood experiences.

1.1 Intergenerational Continuity through Process-Person-Context-Time Lens

Researchers on intergenerational trauma and continuity have recognized that the complex interplay of individual- and contextual-level factors is important in understanding the transmission of ACEs from one generation to the next. However, despite significant advancements in the stress and trauma literature, local Adverse Childhood Experiences (ACEs) research in the Philippines has primarily focused on measuring prevalence rates and predicting general health risks among adults [4,20]. This emphasis, while valuable, leaves a critical gap in understanding the dynamic processes through which ACEs are perpetuated across generations within the local context.

While existing literature highlights various psychological and environmental risks associated with intergenerational trauma, it remains essential to investigate how these risks interact within specific contexts over time. To deepen the understanding of these dynamics, this study (see Figure 1) adopts Bronfenbrenner's Bioecological Theory, specifically the Process-Person-Context-Time (PPCT) model [21-22]. This theoretical framework guides the analysis of individual, relational, and contextual variables that contribute to the continuity of ACEs from one generation to the next.

Proximal processes involve reciprocal interactions with the immediate environment, which are crucial for development [23]. Consistent, supportive parent-child engagement is beneficial, shaping social and emotional development [24-27]. However, parental stressors, including life transitions, daily challenges, poverty, abuse, and marital issues, disrupt these interactions [28-32]. In addition, high parental stress undermines the progression of these interactions, leading to negative parenting and reduced quality time, thereby hindering the child's growth and skill acquisition [23,33-34]. Both parental stressors and negative parenting impede critical proximal processes.

The person factor includes biological and personal characteristics that influence engagement in proximal processes [35-36]. Parental ACEs can increase vulnerability to stress, potentially due to a dysregulated stress-response system resulting from childhood trauma [8,37-39]. A person's sex also significantly influences development; for example, women in some cultures face reduced economic opportunities and elevated risk of sexual abuse and violence [40-41].

Bronfenbrenner's bioecological systems theory views development as influenced by interconnected environmental systems. The present study focuses on the microsystem (the family environment's impact on parenting) and the macrosystem (cultural norms). Harsh discipline can be condoned in some Asian cultures, reinforcing negative parenting. Corporal punishment exists across cultures, but physical abuse is particularly prevalent in the Philippines, where child maltreatment rates are elevated due to social inequities and sociocultural norms [42-44]. The acceptance of harsh parenting in collectivist cultures is linked to obedience;

children may normalize abusive parenting by comparing these practices with others, perpetuating harmful practices.

Time refers to the timing and duration of experiences (whether positive or negative) across a child's life. In this context, it considers both the timing of ACE exposure during sensitive periods, such as the first 18 years, and the cumulative effects of sustained exposure [45-47]. ACEs, which follow a graded dose-response pattern, can lead to impairments and increase an individual's vulnerability to stress [6]. This study reflects how parental ACEs can have long-term effects on parenting practices and subsequent exposure to ACEs in children, shaping the development of the next generation.

Bronfenbrenner's bioecological theory offers a framework for understanding human development as a dynamic interaction between individuals and their environments. However, researchers argue that previous studies have not fully utilized the theory, instead offering a model that can be empirically tested (the PPCT model) [22,48]. This study contributes to the field by examining the impact of time, proximal processes, context, and person on the intergenerational transmission of ACEs, with a focus on these synergistic relationships.

2. Methodology

2.1 Sample and Data Collection

Ethical approval was obtained prior to data collection (Ethics Code: 015/2019-02-luspe). Data were collected from a convenience sample of mothers residing in Cebu, Philippines, through a self-administered online survey between September and October 2019. This method was specifically chosen to mitigate social desirability bias often associated with sensitive questions concerning Adverse Childhood Experiences (ACEs) and parenting [49]. Eligible participants included mothers, regardless of marital status, who were currently caring for at least one child under the age of 18 and who voluntarily completed the questionnaires.

To address any potential psychological or emotional distress, a list of local mental health and social support services, including contact information (Tawag Paglaum and the Center for Behavioral Sciences, Vicente Sotto Memorial Medical Center), was provided to all participants. They were informed that they could contact the researcher for assistance in obtaining an appropriate referral should the need arise. Informed consent was obtained, and participants were assured of their right to withdraw from the study at any point.

While the inclusion criteria were intentionally broad to capture data from the general population, a key exclusion criterion was applied to align with the study's aim of investigating the intergenerational continuity of ACEs: participants with an ACE score of zero were removed from the final analysis, as a minimum score of 1 was necessary to establish the potential for continuity of ACEs. Following the two-month data collection period, incomplete or ineligible responses were excluded, and data analysis commenced.

2.2 Instruments

Participants in this study completed five instruments via an online survey to assess variables related to the intergenerational continuity of ACEs. Parental and child exposure to adversity was measured using the ACE Questionnaire, which assesses ten categories of childhood adversity and generates a cumulative ACE score. For parental ACEs (G2), participants indicated whether each of the ten items had ever occurred to them before the age of 18. Responses were coded dichotomously (1 = yes, 0 = no), producing scores ranging from 0 to 10, with a score of 0 indicating the absence of ACEs and a score of 10 reflecting exposure to all categories. For child ACEs (G3), maternal self-report was used to assess their child's (below 18 years old and under their care) experiences using the adapted 10-item ACE Questionnaire in a parent-report format [50,57]. The reliance on maternal reports for child ACEs introduces the possibility of single-informant bias, which is acknowledged here and further discussed in the limitations section. The ACE questionnaires demonstrated acceptable internal consistency for the current sample ($\alpha = .68$ for parental ACEs and $\alpha = .74$ for maternally reported child ACEs).

Negative parenting practices were assessed using the Alabama Parenting Questionnaire (APQ), focusing on three key domains: Poor Monitoring/Supervision, Inconsistent Discipline, and Corporal Punishment. The psychometric properties of the APQ have been well established in previous research, demonstrating moderate internal consistency, with average reliability estimates around $\alpha = .68$. Its criterion validity has also been supported, with a mean R^2 of .24 across its five scales in predicting child symptoms of oppositional defiant disorder and conduct disorder [51].

Parental proximal stressors were measured with the Social Readjustment Rating Scale (SRRS). This scale shows strong long-term stability, with test–retest coefficients in the range of $r = .89$–.96 across time samples. More recent adaptations also indicate acceptable internal consistency, with some studies reporting $\alpha \approx .78$ [52].

Due to the use of pre-aggregated total scores for each domain, the internal consistency of both the APQ and SRRS could not be computed in the present study. However, the use of these measures is justified by their well-established psychometric properties in the existing literature. Finally, a demographic profile questionnaire collected basic background information from the research participants.

2.3 Data Analysis

A quantitative descriptive regression approach was used, employing multiple linear regression models and nonparametric bootstrapping techniques in R. A second-stage moderated mediation framework tested whether the indirect effect of parental ACEs on child ACEs (via parental proximal stressors) was moderated by negative parenting practices (see Figure 2).

Prior to conducting the moderated mediation analysis, all continuous predictor variables were mean-centered to mitigate potential multicollinearity issues associated with the interaction terms. The Variance Inflation Factor (VIF) for the final model was examined, with values ranging from 1.03 to 4.50, indicating that multicollinearity was not a significant concern. Non-normality in variable distributions led to the use of nonparametric bootstrapping as the preferred method to generate bias-corrected confidence intervals [53–54]. Additionally, no cases were excluded from the analysis due to incomplete data, as incomplete entries were part of the initial exclusion criteria.

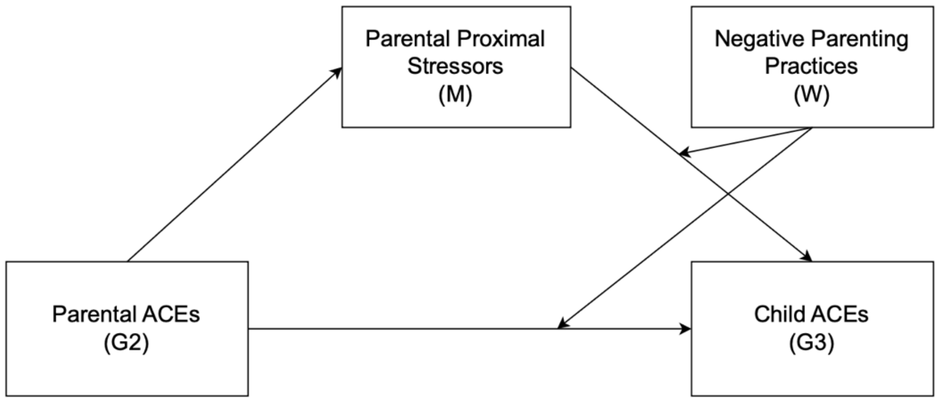

Figure 2: Statistical model.

3. Results

3.1 Descriptive Statistics

Descriptive statistics for the study sample (N = 211) and all primary variables are presented in Table 1. Participants' ages ranged from 19 to 58 years, with a mean age of 34.25 years (SD = 11.32), indicating a diverse adult sample spanning young, middle, and older adulthood.

For educational attainment, participants exhibited considerable variation in schooling levels. Specifically, 4.74% (n = 10) of participants reported no formal education, and 11.37% (n = 24) had completed only elementary education. The largest proportion of participants (40.76%, n = 86) reported completing high school. Additionally, 9.48% (n = 20) held an associate degree (i.e., a two-year vocational or technical course), while nearly one-third of the sample (32.23%, n = 68) had obtained a bachelor's degree. A small fraction of the sample (1.42%, n = 3) had pursued postgraduate education beyond the bachelor's level.

While the presence of participants with no formal education may seem unexpected in an urban setting, this finding aligns with national data on educational disparities. The Philippine Statistics Authority's (PSA) 2016 Annual Poverty Indicators Survey (APIS) noted that a significant portion of the youth population is out of school, with the most common reason cited as marriage or family matters. This supports the view that this demographic pattern reflects the broader population rather than a data-quality issue.

Although not central to the primary research questions, analysis revealed a significant negative correlation between the number of children and participants' educational attainment ($r = -.284$, $p < .001$). This finding suggests that, within the current sample, individuals with lower levels of education tended to have more children compared to those with higher educational qualifications.

3.2 Model Estimation

A moderated mediation model was specified to investigate the intergenerational continuity of Adverse Childhood Experiences (ACEs). Specifically, the model hypothesized that parental stressors (M) would mediate the relationship between parental ACEs (G2) and child ACEs (G3), with the strength of this indirect effect varying as a function of negative parenting practices (W; see Figure 3). The moderated mediation model was estimated in R (Version 4.4.2) using the lavaan package, with bootstrapping (5,000 resamples) implemented to obtain robust confidence intervals for indirect and moderated indirect effects.

The moderated mediation analysis, controlling for maternal age, education, and number of children, provided significant empirical evidence for the hypothesized indirect effect of parental ACEs on child ACEs through the mediating role of parental stressors (Table 2).

The "a" path, representing the relationship between parental ACEs and parental stressors, was positive and statistically significant ($b = 48.67$, $p < .001$), indicating that higher parental ACEs were associated with increased parental stressors, even after accounting for maternal age, education, and number of children. The b_1 path, from parental stressors to child ACEs, was also positive and statistically significant ($b = 0.0024$, $p < .001$), suggesting that higher parental stress was associated with higher child ACEs. The direct effect of parental ACEs on child ACEs was likewise significant ($b = 0.23$, $p < .001$), indicating partial mediation.

The bootstrapped confidence interval for the indirect effect of parental ACEs on child ACEs via parental stressors was entirely positive ($b = 0.1152$, 95% CI [0.0557, 0.1881]), providing support for the mediating role of parental stressors.

Furthermore, the results supported the hypothesis that negative parenting practices moderate the indirect effect. The interaction term between parental stressors and negative parenting practices (b_3 path) was positive and statistically significant ($b = 0.0001$, $p = .002$), indicating that the positive association between parental stressors and child ACEs was stronger for parents who reported higher levels of negative parenting. The bootstrapped confidence interval for the moderated indirect effect did not contain zero ($b = 0.0054$, 95% CI [0.0007, 0.0089]), confirming that the indirect pathway from parental ACEs to child ACEs via parental stressors is conditioned by negative parenting practices.

In this model, the covariates (maternal age, maternal education, and number of children) did not have a statistically significant effect on either parental stressors or child ACEs. This indicates that these

Table 1: Descriptive statistics and correlation coefficients.

Variable	f (%)	M	SD	1	2	3	4	5	6
1. Age		34.25	11.32						
2. Education									
Masters/PhD	3 (1.40)								
Bachelor's degree	68 (32.20)								
Associate/diploma	20 (9.50)								
High school	86 (40.80)								
Elementary	24 (11.40)								
No formal education	10 (4.70)								
3. Number of children		2.93	1.85	0.04	-0.28***				
4. Parent ACEs		2.50	1.80	0.10	0.11	0.05			
5. Parental stressors		386.50	248.78	-0.07	0.18**	0.12	0.35***		
6. Negative parenting practices		47.36	10.57	-0.01	-0.10	0.03	0.11	0.04	
7. Child ACEs		1.71	1.59	-0.07	-0.01	-0.01	0.38***	0.43***	0.21**

demographic factors did not confound the primary effects of the proposed model.

Figure 4 visually illustrates the nature of the significant interaction effect between parental stressors and negative parenting practices on child ACEs. This plot displays the conditional effect of parental stressors (mean-centered) on predicted child ACEs (G3) at three specific levels of negative parenting practices: one standard deviation below the mean (Low, green line), at the mean (Mean, blue line), and one standard deviation above the mean (High, red line). As shown, parental stressors consistently predict higher child ACEs across all observed levels of negative parenting practices. The slope of this relationship is steepest at high levels of negative parenting and least steep at low levels, demonstrating that the effect of parental stressors on child ACEs is significantly amplified when mothers report greater reliance on negative parenting practices.

3.3 Overall Model Fit

The overall model was statistically significant, $F(8, 202) = 12.03$, $p < .001$, explaining approximately 32.26% of the variance in child ACEs ($R^2 = .32$). This indicates that the hypothesized model—comprising parental ACEs, parental stressors, negative parenting practices, and the interaction between parental stressors and negative parenting—significantly contributes to explaining children's exposure to adverse childhood experiences.

4. Discussion

The objective of this study was to advance understanding of intergenerational ACE transmission by empirically testing a moderated mediation model in which parental ACEs indirectly influence children's ACEs via parental stressors, with this indirect pathway conditioned by negative parenting practices. Consistent with the propositions of Bronfenbrenner's Process-Person-Context-Time (PPCT) model, the present findings underscore the complexity of ACE transmission unfolding over time within ecological systems that include both proximal and distal influences [22,48].

The results of the data analysis provided evidence that the pathway from parental ACEs to child ACEs is partly mediated by the accumulation of parental stressors in adulthood. Parents who reported higher levels of adversity during their childhood years were significantly more likely to experience stress in adulthood, a finding consistently supported by prior studies showing that ACEs predict later life challenges such as relationship instability, economic hardship, and mental health difficulties [55]. In the Philippines, common stressors include poverty, marital problems, domestic violence, lack of access to healthcare, natural disasters, and societal pressures, among others. These stressors, in turn, were significantly associated with elevated levels of adversity reported for the children, suggesting that parental stress may disrupt parenting consistency, diminish emotional availability, and increase children's exposure to chaotic environments or maltreatment, which in turn places them at risk of developing both physical and mental adverse health outcomes.

Perhaps most compelling is that the strength of this indirect pathway was significantly moderated by negative parenting practices. When parents engaged in higher levels of negative or harsh parenting behaviors, such as inconsistent discipline, poor monitoring and supervision, and harsh or punitive interactions, the association between parental stress and child ACEs was substantially amplified. In the current sample, the interaction between parental stress and negative parenting practices significantly increased the risk of children being exposed to various adverse childhood experiences. This conditional effect implies that the intergenerational continuity of adversity is not deterministic but can be shaped by the relational quality of caregiving within the family microsystem. The significant moderated indirect effect confirms this conditional process, demonstrating that the mediated pathway from parental ACEs to child ACEs via parental stress is indeed stronger under conditions of higher negative parenting. This finding complements prior research on differential susceptibility, which argues that some contextual characteristics amplify the influence of risk factors. In this case, negative parenting appears to serve as a contextual amplifier that intensifies the impact of parental stress on child adverse experience outcomes [56]. This interaction highlights the critical role of parenting styles in either mitigating or exacerbating the effects of parental stressors on intergenerational ACE transmission.

Furthermore, the robustness of the findings is supported by the inclusion of key demographic covariates in the analysis. Maternal age, maternal education, and number of children did not have a statistically significant effect on either parental stressors or child ACEs in the model. This indicates that the observed relationships between parental ACEs, parental stress, and negative parenting are not confounded by these common demographic factors. The

Table 2: Regression path estimates and bootstrapped confidence intervals for moderated mediation analysis.

Path/Effect	Unstandardized B	SE	p-value
a path (G2 → M)	48.6470	9.5560	< .001
b1 path (M → G3)	0.00237	0.0004	< .001
b2 path (W → G3)	0.03590	0.01850	0.054
b3 path (M × W → G3)	0.00011	0.00003	0.002
b4 path (G2 × W → Y)	−0.00310	0.00567	0.574
c′ (Direct: G2 → G3 at mean W)	0.23110	0.05770	< .001
Indirect Effects	Unstandardized B	95% CI (Lower)	95% CI (Upper)
a × b1	0.11520	0.05550	0.19080
a × b3 × W	0.00540	0.00080	0.00900

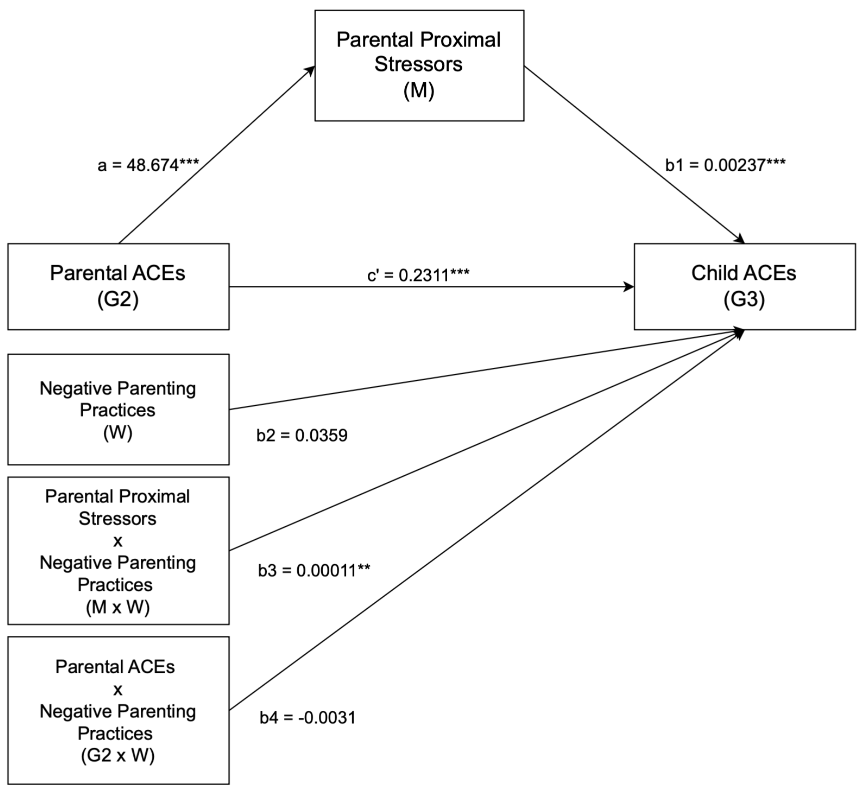

Figure 3: Moderated mediation model with unstandardized coefficients.

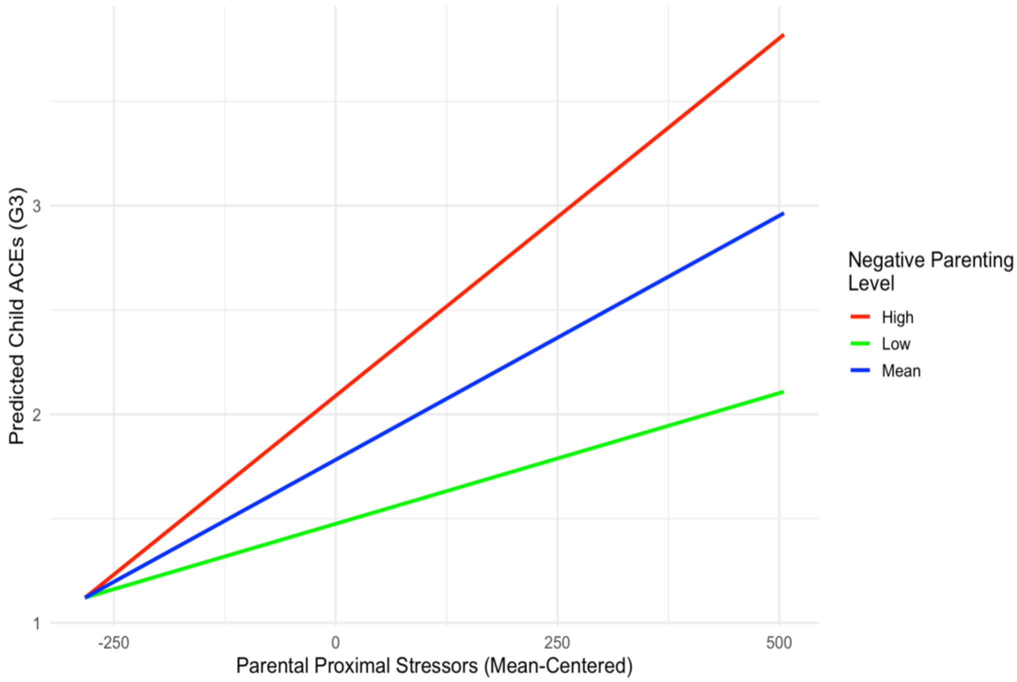

Figure 4: Moderation effect at various levels of negative parenting practices.

significance of the proposed pathways remains even when these alternative influences are statistically controlled, strengthening confidence in the specific mechanisms identified in this study.

Using Bronfenbrenner's Process-Person-Context-Time (PPCT) model as a guiding framework, this study provides a solid theoretical basis for interpreting the findings [48]. The PPCT model helps explain how individual characteristics, daily interactions, broader environmental factors, and timing across the lifespan all contribute to the ways in which adversity is transmitted between generations. The Process component is reflected in the daily parenting practices that shape children's developmental environments. The Person dimension encompasses the enduring biological and psychological imprints of parental ACEs that manifest as stress reactivity or maladaptive coping. The Context component is illustrated by broader structural and relational settings, such as socioeconomic strain or limited support networks, that compound stress. Finally, Time captures the longitudinal unfolding of these processes, illustrating how childhood adversity, exposure, and duration can cascade across decades to influence the next generation. This bioecological perspective reminds practitioners that adversity transmission is inherently multilevel.

By integrating a moderated mediation model with the PPCT framework, the present study contributes to the literature in several important ways: (a) it empirically demonstrates that parental ACEs increase child ACE risk not solely through direct exposure but also indirectly via accumulated parental stressors; (b) it highlights the moderating role of negative parenting practices in strengthening or attenuating this pathway; and (c) it offers a nuanced understanding of how proximal processes interact with personal and contextual factors to shape developmental outcomes across generations.

5. Conclusion

The present study conceptualized negative parenting practices as a moderator. Analysis revealed that poor parent–child interaction (inconsistent discipline, poor monitoring, and harsh punishment) increased the risk of a child experiencing ACEs. Specifically, higher levels of negative parenting practices (compared to lower levels) enhanced the indirect effect of parental proximal stressors in the relationship between G2 ACEs and G3 ACEs. The interaction of parental proximal stressors (mediator) and high levels of negative parenting practices (moderator) was statistically significant in the current sample, indicating its role in the intergenerational continuity of adverse childhood experiences. This study asserts that the interaction of stressful life events and negative parenting practices increases the likelihood that adverse childhood experiences will be transmitted from one generation to the next.

The significant mediated effect and moderated pathway suggest that interventions targeting parental stress and promoting positive parenting can meaningfully disrupt the intergenerational transmission of ACEs. For example, local community-based programs in the Philippines could implement two-pronged interventions that focus on:

Parental Stress Management. This may include accessible and culturally appropriate stress-reduction resources, such as community-based mindfulness workshops, support groups addressing common stressors like economic hardship, or improved access to affordable healthcare to reduce stress. The effect size of the a-path ($b = 49.240$) indicates that even a modest increase in parental ACEs is associated with a substantial increase in parental stress, thereby elevating risk for the next generation. These findings suggest that targeting parental stress is a crucial point of intervention.

Reducing Negative Parenting Practices. Given the amplifying effect of these behaviors, interventions should focus on reducing negative parenting practices such as poor monitoring and supervision, inconsistent discipline, and harsh parenting. This could be achieved through:

(a) skill-based workshops that teach parents specific, non-punitive disciplinary techniques and strategies for setting clear, consistent boundaries;

(b) community education programs to raise awareness about the long-term impacts of harsh parenting and to promote alternative approaches; and

(c) parent–peer support groups where parents can share experiences and receive guidance in navigating parenting challenges without resorting to inconsistent or harsh methods.

The b_3 path shows that mitigating these practices could have a substantial protective effect on children's outcomes, even when parental stress is present.

In addition, for mental health professionals, it is crucial to implement trauma-informed parenting interventions that help parents recognize how their own trauma histories and stress influence their parenting behaviors. These interventions should integrate modalities such as parent coaching, cognitive-behavioral therapy (CBT), and mindfulness. At the policy level, multilevel support systems should be established to reduce structural stressors by combining mental health services, parenting support, and economic assistance. Early identification and screening for parental ACEs and other stressors should also become routine practice in pediatric and maternal health settings. For future research, longitudinal designs are recommended to clarify causal mechanisms, and culturally sensitive approaches are needed to address the diverse needs of families.

In sum, this study demonstrates that the intergenerational transmission of adversity is neither linear nor uniform. Rather, it is dynamically shaped by a combination of individual histories, proximal family processes, and contextual factors. These findings reinforce the importance of adopting a bioecological and process-oriented perspective to understand and intervene in cycles of intergenerational risk.

While this study offers valuable insights, its findings should be interpreted within the context of several limitations, which also present opportunities for future research. First, the cross-sectional design limits the ability to establish causal relationships, underscoring the critical need for longitudinal studies to confirm the directionality of the observed links between stressors, parenting, and intergenerational trauma. Second, reliance on self-report measures introduces potential biases, such as recall errors and social desirability effects; future research should therefore incorporate multimethod data collection, including direct observation or behavioral coding, to provide a more objective and comprehensive perspective. Third, because all measures were based on mothers' reports, single-informant bias is a concern, and associations may partly reflect shared method variance rather than true associations across constructs. Future studies should incorporate multiple informants.

A further methodological consideration relates to the decision to exclude participants with a zero ACE score. While this approach was intended to highlight continuity by focusing specifically on those with some level of childhood adversity, it inevitably restricted variance in the data, which may have biased the estimates and limited the generalizability of the findings. This exclusion also introduces potential selection bias, as the analytic sample may not fully represent the broader population of mothers, including those with no adverse experiences. These findings should thus be interpreted with caution and viewed as specific to individuals with at least some ACE exposure. Future studies are encouraged to include the full distribution of ACEs and, where appropriate, use subgroup or sensitivity analyses to compare trajectories across both exposed and non-exposed groups.

Finally, this study's singular focus on negative parenting practices provides only a partial view of family dynamics. Future investigations should broaden their scope to include positive parenting dimensions, such as warmth and emotional support, to build a more holistic understanding of how these factors might buffer the effects of trauma. To further enhance generalizability, researchers are also encouraged to replicate this study across diverse cultural and socioeconomic contexts, allowing for broader application of the findings and the development of more culturally sensitive interventions.

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Conflict of Interest Statement

The author declares no conflict of interest.

Author Contributions

The author confirms sole responsibility for the following: study conception and design, analysis and interpretation of results, and manuscript preparation. The author has approved the final version of this manuscript.

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