

Forgiveness Role Between Adverse Childhood Experience and Anxiety Among Persons Deprived of Liberty

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Abstract. *Introduction* Anxiety prevalence among PDL is 40% to 100%, and unmanaged anxiety may lead to more severe psychological and health concerns.

Aim This study examined the mediating role of forgiveness in the relationship between adverse childhood experiences (ACEs) and anxiety among PDL.

Methods A cross-sectional non-experimental design was conducted among 376 PDL. Participants completed the ACE-Q, Heartland Forgiveness Scale, and GAD-7. Data were analyzed using correlation, regression, and mediation analyses.

Results ACEs were positively associated with anxiety ($r = .43$, $p < .001$) and negatively associated with forgiveness ($r = -.16$, $p = .002$), while forgiveness was negatively associated with anxiety ($r = -.37$, $p < .001$). Forgiveness partially mediated the relationship between ACEs and anxiety ($\beta = 0.104$, $p = .004$).

Conclusion Forgiveness partially mediates the relationship between ACEs and anxiety; however, trauma-informed interventions remain necessary to address underlying childhood adversity and reduce anxiety among PDL.

Introduction

Anxiety is among the most prevalent mental health concerns in correctional settings, with prevalence rates among persons deprived of liberty (PDLs) in Asia ranging from 40% to 100%, substantially higher than those observed in community populations (Arafat, 2024). Anxiety in correctional environments has been associated with impaired cognitive functioning, aggression, sleep disturbances, self-harm, and difficulties in rehabilitation and reintegration (Baranyi et al., 2019). These findings highlight the importance of identifying factors associated with anxiety among PDLs, particularly in underrepresented contexts such as the Philippines.

One factor consistently linked to anxiety is adverse childhood experiences (ACEs), which include abuse, neglect, and household dysfunction occurring before age 18 (World Health Organization, 2020). Exposure to multiple ACEs significantly increases the likelihood of anxiety and other psychiatric conditions later in life (Hughes et al., 2017). In the Philippines, 75% of individuals reported at least one ACE and 9% reported four or more (Ramiro et al., 2010). Childhood adversity may contribute to anxiety through disruptions in emotional regulation, heightened stress reactivity, and persistent perceptions of threat (Merrick et al., 2017; Jin et al., 2024). Within correctional settings, these vulnerabilities may be further intensified by incarceration-related stressors and limited psychosocial support. Consistent with Trauma-Informed Care, childhood trauma may continue to influence emotional functioning throughout adulthood (SAMHSA, 2014).

Recent research has also emphasized the role of protective psychological factors that may mitigate the effects of trauma. Forgiveness has been associated with lower anxiety, reduced rumination, and improved psychological well-being (Toussaint et al., 2020; Cramer & Kim, 2023). Defined as the voluntary process of releasing resentment toward oneself, others, or adverse situations, forgiveness may facilitate emotional healing and adjustment following traumatic experiences (Enright & Fitzgibbons, 2015). Because many ACEs involve significant interpersonal transgressions, unresolved resentment and betrayal may persist into adulthood. Forgiveness may therefore function as a coping resource that helps individuals reduce the emotional burden associated with childhood adversity.

Despite growing evidence linking ACEs to anxiety and forgiveness to psychological well-being, few studies have examined forgiveness as a mechanism connecting childhood adversity and anxiety. This gap is particularly evident within correctional populations and the Philippine context, where research on the long-term psychological effects of childhood trauma remains limited.

Guided by Trauma-Informed Care (SAMHSA, 2014) and Enright's Process Model of Forgiveness (Enright & Fitzgibbons, 2015), the present study examines whether

forgiveness mediates the relationship between adverse childhood experiences and anxiety among PDLs in Cavite, Philippines. By investigating forgiveness as a culturally relevant protective factor within a trauma-informed framework, this study contributes localized evidence regarding mental health processes among incarcerated individuals and may inform the development of trauma-informed and forgiveness-based interventions in correctional settings.

This study aims to examine the mediating role of forgiveness in the relationship between ACEs and anxiety among PDLs. Specifically, it seeks to determine the levels of ACEs, forgiveness, and anxiety; examine the relationships among these variables; and test whether forgiveness significantly mediates the relationship between ACEs and anxiety. It is hypothesized that higher ACEs will be associated with higher anxiety and lower forgiveness, that higher forgiveness will be associated with lower anxiety, and that forgiveness will significantly mediate the relationship between ACEs and anxiety.

Method

This study employed a cross-sectional, non-experimental design to examine the relationships among adverse childhood experiences (ACEs), forgiveness, and anxiety among persons deprived of liberty (PDLs) in Cavite, Philippines. Data were collected using standardized self-report measures. Given its cross-sectional nature, findings are limited to associations and do not imply causation.

Participants were selected through proportionate stratified random sampling across 24 jail facilities in Cavite. Based on a population of approximately 7,100 PDLs, a minimum sample size of 365 was calculated using Raosoft; 376 eligible participants were ultimately included. Participants had a mean age of 38.88 years ($SD = 11.55$) and a mean incarceration length of 27.88 months ($SD = 27.15$). Most were male (81.38%) and detained for drug-related offenses (68.09%).

Eligibility criteria included being at least 18 years old, currently incarcerated in Cavite, and capable of providing informed consent. Individuals with acute medical or psychiatric conditions, impaired comprehension, or identified security risks were

excluded. Age, gender, length of incarceration, and reason for detention were controlled during analysis.

Table 1. *Summary of Profile of the Respondents (N=376)*

Variable	Category	n	%	M	Mdn	SD	Variance	SE
Age (years)	-	-	-	38.88	38.00	11.55	133.31	0.60
	18-24	39	10.37	-	-	-	-	-
	25-34	109	28.99	-	-	-	-	-
	35-44	115	30.59	-	-	-	-	-
	45-54	70	18.62	-	-	-	-	-
	55-64	37	9.84	-	-	-	-	-
	65-79	6	1.60	-	-	-	-	-
Length of incarceration (months)	-	-	-	27.88	19.00	27.15	737.33	1.40
	1-12	104	27.66	-	-	-	-	-
	13-36	140	37.23	-	-	-	-	-
	37-60	72	19.15	-	-	-	-	-
	61 and above	60	15.96	-	-	-	-	-
Gender	Male	306	81.38	-	-	-	-	-
	Female	38	10.11	-	-	-	-	-
	Non-binary	32	8.51	-	-	-	-	-
Reason for Detention	RA 9165	256	68.09	-	-	-	-	-
	Against Person	83	22.07	-	-	-	-	-
	Against Property	27	7.18	-	-	-	-	-
	Other non-Index Crime	9	2.39	-	-	-	-	-

Data collection was conducted following ethical approval from De La Salle University–Dasmariñas and authorization from the Bureau of Jail Management and Penology (BJMP-CALABARZON). Participants were informed of the study purpose, voluntary participation, confidentiality, and their rights before providing informed consent. No identifying information was collected, and participation had no effect on legal status or institutional privileges. Procedures adhered to the ethical standards of the American Psychological Association (2017) and the Psychological Association of the Philippines (2009). Participants experiencing distress were referred to available mental health personnel and were debriefed after completing the instruments.

Three standardized instruments with available Filipino translations were utilized.

1. Adverse Childhood Experiences Questionnaire (ACE-Q)

The ACE-Q measures exposure to abuse, neglect, and household dysfunction before age 18 through 10 dichotomous (Yes/No) items. Higher scores indicate greater cumulative childhood adversity. Previous studies reported acceptable reliability ranging from $\alpha = .70$ to $.76$ (Ramiro et al., 2010; Santelices et al., 2025). In the present study, the ACE-Q demonstrated acceptable internal consistency (Cronbach's $\alpha = .74$; McDonald's $\omega = .75$).

2. Generalized Anxiety Disorder-7 (GAD-7)

The GAD-7 is a seven-item self-report measure assessing anxiety symptoms during the previous two weeks using a four-point Likert scale (Spitzer et al., 2006). Higher scores indicate greater anxiety severity. Previous studies reported excellent reliability ($\alpha = .92$), while a Filipino validation study reported high internal consistency ($\alpha = .89$) (Spitzer et al., 2006; Garabiles et al., 2020). In the present study, the GAD-7 demonstrated good internal consistency (Cronbach's $\alpha = .85$; McDonald's $\omega = .85$).

3. Heartland Forgiveness Scale (HFS)

The HFS is an 18-item measure assessing forgiveness of self, others, and situations using a seven-point Likert scale. Higher scores indicate greater forgiveness. Previous studies reported reliability coefficients ranging from $\alpha = .80$ to $.90$ (Thompson et al., 2005). In the present study, the HFS demonstrated acceptable internal consistency (Cronbach's $\alpha = .76$; McDonald's $\omega = .77$). Negatively worded items were reverse scored prior to analysis.

Data were analyzed using jamovi. Preliminary screening assessed missing values, outliers, normality, linearity, and multicollinearity, with no major assumption violations observed. Descriptive statistics were computed to summarize participant characteristics and study variables (Bhandari, 2023). Pearson correlation and regression analyses were conducted to examine relationships among ACEs,

forgiveness, and anxiety and to generate coefficients for mediation testing (Beers, 2025).

Mediation analysis was performed to determine whether forgiveness mediated the relationship between ACEs and anxiety (Cerin, 2010). Direct, indirect, and total effects were estimated using bootstrap confidence intervals based on 5,000 resamples. Correlation strengths were interpreted using Cohen’s (1988) guidelines, and statistical significance was set at $p < .05$ (The jamovi project, 2023).

Result

The results of the study are presented according to the research objectives, including the levels of the variables, their relationships, and the mediation analysis.

Table 2. *Descriptive Statistics of Study Variables (N=376)*

Variable	Mean	SD	Interpretation
Adverse Childhood Experiences (ACEs)	2.35	2.30	Low to moderate
Anxiety	5.91	4.86	Mild
Forgiveness	4.78	0.90	Likely to forgive

The level of adverse childhood experiences (ACEs), anxiety, and forgiveness among PDL in Cavite is summarized in Table 2. The results indicate that respondents reported a low-to-moderate level of ACEs ($M = 2.35$, $SD = 2.30$), mild anxiety ($M = 5.91$, $SD = 4.86$), and a moderate tendency toward forgiveness ($M = 4.78$, $SD = 0.90$).

Table 3. *ACEs vs Anxiety correlation*

Variables	Mean	SD	df	correlation value	p-value	Interpretation
ACEs	2.35	2.30	374	0.43***	<0.001	Significant
Anxiety	5.91	4.86				

The relationship between ACEs and anxiety is presented in Table 3. Pearson correlation analysis showed a significant moderate positive relationship between ACEs and anxiety, $r(374) = 0.43$, $p < .001$, indicating that higher ACEs are associated with higher levels of anxiety.

Table 4. *ACEs vs Forgiveness correlation*

Variables	Mean	SD	df	correlation value	p-value	Interpretation
ACEs	2.35	2.30	374	-0.16**	0.002	Significant
Forgiveness	4.78	0.90				

The relationship between ACEs and forgiveness is shown in Table 4. Results revealed a significant weak negative relationship, $r(374) = -0.16, p = .002$, suggesting that higher ACEs are associated with slightly lower levels of forgiveness.

Table 5. *Forgiveness vs Anxiety correlation*

Variables	Mean	SD	df	correlation value	p-value	Interpretation
Forgiveness	4.78	0.90	374	-0.37***	<0.001	Significant
Anxiety	5.91	4.86				

The relationship between forgiveness and anxiety is presented in Table 5. Findings indicate a significant moderate negative relationship, $r(374) = -0.37, p < .001$, showing that higher forgiveness is associated with lower anxiety.

Table 6.

Regression-Mediation Results

Effect Type	Path	Effect (β)	Std. Error	p-value	Interpretation
Direct Effect	ACEs \rightarrow Anxiety	0.801	0.094	<0.001	Significant
Indirect Effect	ACEs \rightarrow Forgiveness \rightarrow Anxiety	0.104	0.036	0.004	Significant
Total Effect	ACEs \rightarrow Anxiety	0.905	0.098	<0.001	Significant

Regression and mediation analyses were conducted to examine the predictive and intervening relationships among adverse childhood experiences (ACEs), forgiveness, and anxiety. Results showed that ACEs significantly predicted anxiety ($\beta = 0.801, SE = 0.094, p < .001$), while forgiveness significantly predicted anxiety ($\beta = -0.146, p < .001$). ACEs also significantly predicted forgiveness ($\beta = -0.063, p = .002$). Mediation analysis further revealed that the indirect effect of ACEs on anxiety through forgiveness was significant ($\beta = 0.104, SE = 0.036, p = .004$). The total effect of ACEs on anxiety was also significant ($\beta = 0.905, SE = 0.098, p < .001$). Since both the direct and indirect effects remained significant, the results indicate partial mediation.

Discussion

This study examined the relationships among adverse childhood experiences (ACEs), forgiveness, and anxiety among persons deprived of liberty (PDLs) in Cavite, Philippines. The findings showed that higher ACEs were associated with higher anxiety and lower forgiveness, while higher forgiveness was associated with lower anxiety. Most importantly, forgiveness partially mediated the relationship between ACEs and anxiety, suggesting that forgiveness may reduce, but not completely eliminate, the psychological impact of childhood adversity among PDLs.

The significant positive relationship between ACEs and anxiety supports previous literature indicating that childhood adversity contributes to long-term psychological vulnerability (Hughes et al., 2017; Merrick et al., 2017). Exposure to abuse, neglect, and household dysfunction may disrupt emotional regulation and stress-response systems, increasing susceptibility to anxiety later in life (Jin et al., 2024). Within correctional settings, these vulnerabilities may be further intensified by confinement-related stressors and limited psychosocial support. Consistent with Trauma-Informed Care, childhood trauma may continue to influence emotional functioning long after the adverse experiences have occurred (SAMHSA, 2014).

The findings also revealed that higher ACEs were associated with lower forgiveness, suggesting that childhood adversity may interfere with the capacity to forgive. Because many ACEs involve significant transgressors such as parents and caregivers, unresolved resentment, betrayal, and emotional pain may persist into adulthood. This finding is consistent with studies suggesting that trauma may hinder emotional regulation, trust formation, and forgiveness processes (Berry et al., 2005; Worthington et al., 2016).

Likewise, forgiveness was negatively associated with anxiety, supporting evidence that forgiveness functions as a protective psychological resource linked to lower anxiety, emotional distress, and rumination (Toussaint et al., 2020; Gao et al., 2022). In the Filipino context, forgiveness is closely tied to relational harmony and interpersonal connectedness (Rungduin et al., 2021; Tamayo et al., 2025), suggesting that it may serve as a culturally relevant coping resource among PDLs.

The most important contribution of the study is the finding that forgiveness partially mediated the relationship between ACEs and anxiety. This suggests that forgiveness may help reduce the emotional burden associated with childhood adversity but does not fully account for its effects. The continued significance of the direct effect indicates that trauma-related anxiety is influenced by factors beyond forgiveness alone and may require acknowledgment, processing, and intervention through trauma-informed approaches (SAMHSA, 2014).

The findings also align with the Filipino concept of *pagpapalaya* or letting go, described by Dominguez (2014) as a process involving emotional awareness, acceptance, relational support, and meaning-making. From this perspective, forgiveness may represent not only a cognitive decision but also a culturally grounded process of emotional release. The present findings therefore suggest that forgiveness may complement trauma recovery while remaining distinct from trauma resolution itself.

Theoretically, the study contributes to the literature by integrating Trauma-Informed Care and Enright's Process Model of Forgiveness within a correctional mental health context. While previous studies have examined ACEs, forgiveness, and anxiety separately, the present findings suggest that forgiveness may function as a psychological mechanism linking childhood adversity and anxiety among PDLs.

Practically, the findings support the development of trauma-informed mental health programs that incorporate culturally sensitive forgiveness-based approaches alongside broader psychosocial interventions. However, because forgiveness only partially mediated the relationship between ACEs and anxiety, trauma stabilization and emotional safety should remain primary intervention targets before forgiveness-focused approaches are introduced.

Several limitations should be acknowledged. The cross-sectional design precludes causal conclusions, and self-report measures may be subject to response biases. In addition, the study was limited to selected correctional facilities in Cavite, which may affect generalizability. Future research may employ longitudinal and mixed-method approaches to examine forgiveness development over time and explore other culturally relevant factors associated with mental health among PDLs.

Conclusion

This study demonstrated that adverse childhood experiences (ACEs) are significantly associated with anxiety among PDLs, highlighting the long-term psychological impact of childhood trauma within correctional settings. The findings

further revealed that higher ACEs were associated with lower forgiveness, while higher forgiveness was associated with lower anxiety. More importantly, forgiveness partially mediated the relationship between ACEs and anxiety, suggesting that forgiveness may help reduce the emotional burden of childhood adversity but may not fully address trauma-related anxiety when underlying traumatic experiences remain unresolved.

The study contributes to psychological science by integrating Trauma-Informed Care and Enright's Process Model of Forgiveness within a Philippine correctional context. The findings also expand Filipino psychological literature by presenting forgiveness as a culturally grounded emotional healing process associated with letting go, relational harmony, and emotional release from unresolved pain. These findings suggest that forgiveness-based approaches may complement trauma-informed interventions in promoting emotional healing among PDLs.

Practically, the findings support the development of culturally sensitive, trauma-informed, and forgiveness-based mental health interventions within correctional institutions. However, trauma stabilization and emotional safety should first be prioritized before implementing forgiveness-focused approaches. Despite these contributions, the study was limited by its cross-sectional design, self-report measures, and focus on selected correctional facilities in Cavite. Future research may employ longitudinal and culturally grounded approaches to further examine trauma recovery, forgiveness development, and other psychological factors influencing mental health among PDLs.

Suggestion

It is recommended that correctional institutions enhance trauma-informed mental health programs by incorporating culturally sensitive, forgiveness-based interventions as part of broader psychosocial support. Mental health practitioners should facilitate forgiveness as a voluntary process alongside other coping strategies to help reduce anxiety among PDLs. Policymakers may also consider strengthening rehabilitation programs that address both childhood trauma and emotional healing.

Future research is encouraged to use longitudinal designs and include additional factors such as social support and institutional conditions to better understand mental health outcomes in correctional settings.

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Author contribution

JW served as the lead author and was responsible for the overall conception and design of the study, data collection, data analysis, interpretation of results, and manuscript preparation. JD contributed to the conceptualization and development of the study, provided guidance in the early chapters, and facilitated consultation with a statistics expert. He also participated in the interpretation of results and refinement of the conclusions.

Competing interest

The authors declare that they have no known competing financial or non-financial interests that could have influenced the work reported in this paper.

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