

Modeling the Impact of Childhood Trauma on Academic Procrastination with Identity Crisis Mediation in Female High School Students

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ABSTRACT

Objective: Academic procrastination is a common issue among students that significantly impacts their educational outcomes. The objective of this study was to explore the impact of childhood trauma on academic procrastination and examine the mediating role of identity crisis among female high school students in Karaj, Iran. This research aimed to elucidate the complex interrelationships between personal trauma, identity development, and educational behaviors.

Methods and Materials: The study utilized a descriptive correlational design, employing structural equation modeling to analyze the data. A total of 384 female high school students from Karaj participated in the study. Data were collected using standardized instruments, including the Childhood Trauma Questionnaire, the Identity Crisis Questionnaire, and various measures of academic procrastination related to different academic tasks. Statistical analysis was performed using SmartPLS to assess direct and indirect relationships among the variables.

Findings: The results revealed significant direct effects of childhood trauma on academic procrastination ($\beta = .201, p < .001$) and identity crisis ($\beta = .290, p < .001$). Furthermore, identity crisis significantly mediated the relationship between childhood trauma and academic procrastination (indirect effect $\beta = .091, p < .001$). These findings underscore the profound influence of early adverse experiences and identity struggles on academic behaviors.

Conclusion: The study concludes that childhood trauma and identity crisis are significant predictors of academic procrastination. Identity crisis mediates the impact of childhood trauma on procrastination, suggesting that interventions addressing both psychological healing and identity development could be beneficial in reducing procrastinatory behaviors among students.

Keywords: Childhood Trauma, Academic Procrastination, Identity Crisis, Female Students, Structural Equation Modeling.

1. Introduction

Academic procrastination is a pervasive behavioral issue characterized by the intentional delay in starting or completing academic tasks (Huang et al., 2022; Xhakolli & Hamzallari, 2023). While often perceived as a benign tendency to postpone work, it is a complex phenomenon with significant implications for learning outcomes and personal development. It arises from a confluence of psychological, environmental, and possibly, traumatic factors (Sun, 2023).

Childhood trauma, including experiences of abuse and neglect, profoundly impacts an individual's psychological development and behavioral patterns in adulthood (Basch, 2011; Ye et al., 2023). These traumatic experiences often result in emotional and psychological disturbances that can influence various life outcomes, including educational achievements and social behaviors (VanBronkhorst et al., 2024).

Identity crisis refers to challenges in the development of a coherent sense of self, often exacerbated during adolescence, a critical period for identity formation (Piotrowski, 2013). This period involves exploring various roles and ideologies to form a personal identity, which can be turbulent and fraught with conflict (Hassani et al., 2020; Maclure, 1993; Mohebbi & Salehizadeh, 2019; Pishgahi Fard & Omid Avaj, 2009; Vahabi et al., 2022).

The relationship between academic procrastination and childhood trauma has been a focus in recent research, revealing a potential link through the mediation of psychological distress and coping mechanisms (Ye et al., 2023). Furthermore, the impact of the learning environment and the psychological climate of educational institutions on procrastination highlights the complexity of this behavior (Lin & Chang, 2022; Maldonado & Witte, 2021).

While studies have explored various aspects of academic procrastination, including its relation to self-regulation and external support systems (Azizah, 2022), fewer have examined how identity crises might mediate the relationship between early life trauma and procrastination behaviors. Identity development issues have been shown to correlate with academic outcomes, suggesting that students struggling with their identity may also struggle academically (Legette & Kurtz-Costes, 2020; Jackson et al., 2020).

Moreover, existing literature suggests a relationship between school climate and students' identity development, where positive school environments enhance academic and emotional outcomes (Jackson et al., 2020; Legette & Kurtz-

Costes, 2020). However, there remains a gap in understanding how these elements interact specifically in contexts of trauma and identity crises.

The aim of this study is to model the impact of childhood trauma on academic procrastination with the mediating role of identity crisis among female high school students in Karaj. This research seeks to extend the existing literature by incorporating the complex interplay of trauma and identity into the framework of academic procrastination. By exploring these relationships, the study aims to provide a more comprehensive understanding of the factors that contribute to academic procrastination and identify potential intervention points to mitigate its effects.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a descriptive correlational multivariate design using structural equation modeling (SEM). The population of this research comprised adolescent female high school students in Karaj during the academic year 2020-2021. The total population was estimated at approximately 50,000 students. To determine the sample size, Cochran's formula was used, resulting in a sample of 384 participants.

Participants were selected using a random cluster sampling method from 12 high schools spread across Karaj. Schools were chosen randomly from four geographical directions of the city (north, south, east, and west), selecting three schools from each direction. From each selected school, approximately 32 students were chosen, and from each educational stream—natural sciences, humanities, and mathematics-physics—around 11 students were randomly selected to participate in the study. The participants completed the questionnaires during regular school hours under the supervision of the research team to ensure the integrity and confidentiality of their responses.

2.2. Measures

2.2.1. Academic Procrastination

The Academic Procrastination Student Form was developed by Solomon and Rothblum in 1984, targeting the procrastination behaviors specific to academic tasks. It encompasses 44 items that reflect various procrastination situations like delaying writing term papers or studying for exams. Each item is scored on a 5-point Likert scale from 1 (never procrastinate) to 5 (always procrastinate), where

higher scores indicate a greater tendency to procrastinate. The validity and reliability of this scale have been well-established in various studies, confirming its robustness in assessing academic procrastination (Safari & Yousefpoor, 2022; Solomon & Rothblum, 1984; Tavakoli & Ebrahimi, 2020).

2.2.2. Childhood Trauma

Created by Bernstein and colleagues in 2003, the Childhood Trauma Questionnaire (CTQ) is a 28-item measure designed to assess experiences of emotional, physical, and sexual abuse, as well as emotional and physical neglect. Responses are scaled from 1 (never true) to 5 (very often true), with higher scores indicating more severe experiences of trauma. The CTQ includes five subscales that separately evaluate different types of childhood maltreatment. Its validity and reliability have been extensively documented across diverse populations, making it a standard tool in psychological trauma research (Bernstein et al., 2003; Hadiyan et al., 2023; Sahraee Darian et al., 2017).

2.2.3. Identity Crisis

The Identity Crisis Questionnaire, developed by Ahmadi in 1997, serves to measure identity-related conflicts among adolescents. This tool consists of 20 items scored on a 4-point scale from 1 (strongly disagree) to 4 (strongly agree). It does not differentiate between subscales but provides an overall score that indicates the severity of identity crisis. Numerous studies have validated the IC questionnaire and confirmed its reliability, demonstrating its efficacy in capturing the nuances of identity struggles in the adolescent population (Ahmad & Nariman, 2015; Ahmadi et al., 2020; Joharifard et al., 2021).

2.3. Data analysis

Data analysis was conducted using the SmartPLS software, which is suited for structural equation modeling and is particularly useful in behavioral sciences research for testing complex variable relationships and mediation effects. The analysis included:

Assessment of Measurement Models: Evaluating the reliability and validity of the constructs through indicators such as Cronbach’s alpha, Composite Reliability (CR), and Average Variance Extracted (AVE).

Structural Model Evaluation: Testing the hypothesized relationships among the constructs using path coefficients, significance levels (p-values), and goodness-of-fit indices.

Mediation Analysis: Investigating the indirect effects of childhood trauma on academic procrastination through the mediation of identity crisis using bootstrapping methods to estimate the indirect effects and their confidence intervals.

3. Findings and Results

In the study, the demographic characteristics of the participants were comprehensively analyzed to establish a clear understanding of the sample. Out of the 384 female high school students from Karaj, a varied age distribution was observed: 14.7% (n = 56) were aged 14 years, 26.3% (n = 101) were 15 years old, 32.8% (n = 126) were 16 years old, and 26.2% (n = 101) were 17 years old. Regarding their educational streams, 34.1% (n = 131) were in natural sciences, 33.6% (n = 129) studied humanities, and 32.3% (n = 124) were enrolled in the mathematics-physics stream. The participants belonged to diverse socioeconomic backgrounds, with 22.9% (n = 88) reporting low, 49.2% (n = 189) medium, and 27.9% (n = 107) high socioeconomic status.

Table 1

Descriptive Statistics for Study Variables

Variable	Mean	Standard Deviation
Academic Procrastination	3.45	0.88
Childhood Trauma	2.67	1.05
Identity Crisis	3.12	0.92

The descriptive statistics for the variables in this study are presented in Table 1. The mean score for academic procrastination among the participants was 3.45 (SD = 0.88), indicating a moderately high tendency towards procrastination. Childhood trauma had a mean score of 2.67

(SD = 1.05), reflecting a moderate level of traumatic experiences reported by the students. Lastly, the mean score for identity crisis was 3.12 (SD = 0.92), suggesting a relatively high incidence of identity-related challenges among the sample. These statistics provide a quantitative

foundation for understanding the extents of the variables under study and support further analyses regarding their interrelations and impacts on each other.

Table 2

Correlation Matrix between Childhood Trauma and Procrastination in Students

Variable	1	2	3	4	5	6	7	8	9	10
1. Emotional Abuse	1									
2. Physical Abuse	.82**	1								
3. Sexual Abuse	.62**	.64**	1							
4. Emotional Neglect	.57**	.52**	.40**	1						
5. Physical Neglect	.43**	.41**	.28**	.57**	1					
6. Total Childhood Trauma Score	.72**	.75**	.75**	.65**	.65**	1				
7. Procrastination Regarding Exams	.21**	.21**	.20**	.17**	.17**	.16**	1			
8. Procrastination Regarding Assignments	.44**	.42**	.34**	.32**	.31**	.31**	.48**	1		
9. Procrastination Regarding Research	.35**	.32**	.27**	.33**	.29**	.19**	.44**	.70**	1	
10. Academic Procrastination	.42**	.39**	.34**	.34**	.31**	.27**	.70**	.90**	.88**	1

Table 3

Correlation Matrix between Identity Crisis with Academic Procrastination in Students

Variable	1	2	3	4	5
1. Identity Crisis	1				
2. Procrastination Regarding Exams	.34**	1			
3. Procrastination Regarding Assignments	.47**	.48**	1		
4. Procrastination Regarding Research	.47**	.43**	.70**	1	
5. Academic Procrastination	.52**	.70**	.90**	.87**	1

Note: **p < .01, *p < .05, n = 384

Table 2 presents the correlation matrix between different forms of childhood trauma and various aspects of academic procrastination among students. Emotional abuse showed significant correlations with physical abuse ($r = .82, p < .01$) and sexual abuse ($r = .62, p < .01$), indicating strong relationships among these types of trauma. Physical neglect was moderately correlated with emotional neglect ($r = .57, p < .01$). Notably, the total childhood trauma score was strongly correlated with all specific trauma types, with coefficients ranging from .65 to .75 ($p < .01$). In terms of procrastination, the strongest correlations were seen between academic procrastination and procrastination regarding assignments ($r = .90, p < .01$) and research ($r = .88, p < .01$), suggesting that students who procrastinate in one academic area are likely to do so in others.

Table 3 explores the correlations between identity crisis and various dimensions of academic procrastination. The findings indicate a significant relationship between identity crisis and academic procrastination ($r = .52, p < .01$). This correlation is even stronger when looking specifically at procrastination related to exams ($r = .34, p < .01$) and assignments ($r = .47, p < .01$). The highest correlation is

between procrastination regarding assignments and procrastination in research ($r = .70, p < .01$), highlighting that students who procrastinate on their assignments are also likely to procrastinate on research tasks. This table underscores the impact of identity issues on academic procrastination, suggesting that students experiencing identity crises are more prone to delay academic responsibilities.

Prior to the main analyses, several statistical assumptions were checked and confirmed to ensure the validity of the study's findings. The assumption of normality was verified using the Shapiro-Wilk test, which showed no significant departure from normality for all continuous variables ($p > .05$). Homoscedasticity was assessed through visual inspection of scatterplots between predicted values and residuals, confirming equal variance across the range of predictors. Multicollinearity was evaluated using Variance Inflation Factor (VIF) scores, which were all well below the threshold of 10, indicating no multicollinearity issues (VIF range: 1.04 - 1.77). Additionally, the Durbin-Watson statistic was used to check for the independence of errors, resulting in a value of 2.03, suggesting no autocorrelation in

the residuals. These checks affirm that the data met all necessary assumptions for conducting reliable structural equation modeling.

Table 4

Direct Effects Between Variables in Female Students

Path	β	T	P
Childhood Trauma → Academic Procrastination	.201	3.813	.001
Childhood Trauma → Identity Crisis	.290	6.000	.001
Identity Crisis → Academic Procrastination	.309	5.647	.001

Table 5

Indirect Effects of Childhood Trauma on Academic Procrastination Mediated by Identity Crisis in Female Students

Path	β	T	P
Childhood Trauma → Identity Crisis → Academic Procrastination	.091	3.965	.001

Table 4 details the direct effects of childhood trauma on academic procrastination and identity crisis in female students. The path from childhood trauma to academic procrastination was statistically significant ($\beta = .201, p < .001$), illustrating that childhood trauma has a measurable impact on the likelihood of academic procrastination. Similarly, childhood trauma significantly predicted identity crisis ($\beta = .290, p < .001$). Additionally, identity crisis itself was a significant predictor of academic procrastination ($\beta = .309, p < .001$), indicating that identity struggles not only arise from traumatic experiences but also contribute to educational delays among female students.

Table 5 reports the indirect effects of childhood trauma on academic procrastination mediated by identity crisis in female students. The pathway from childhood trauma through identity crisis to academic procrastination was statistically significant ($\beta = .091, p < .001$). This result demonstrates that the impact of childhood trauma on academic procrastination is partially mediated by identity crisis, providing evidence that the psychological impact of trauma through identity struggles plays a critical role in influencing academic behaviors. This mediation underscores the complex interplay between personal history and current academic challenges.

4. Discussion and Conclusion

The primary aim of this study was to model the impact of childhood trauma on academic procrastination with the mediating role of identity crisis among female high school students in Karaj. Our findings demonstrated a significant direct effect of childhood trauma on academic

procrastination and identity crisis. Moreover, identity crisis served as a meaningful mediator in the relationship between childhood trauma and academic procrastination, underscoring the intricate pathways through which early adverse experiences can influence later academic behaviors. This direct impact aligns with previous research indicating that adverse childhood experiences can significantly disrupt cognitive and emotional development, which in turn affects educational outcomes (Berhanu, 2023). The presence of trauma can lead to heightened emotional distress and poorer self-regulation, both of which are known contributors to procrastinatory behaviors (Ye et al., 2023).

The mediating role of identity crisis in our findings suggests that the struggle with self-identity can exacerbate the tendency towards procrastination. Adolescents grappling with identity crises may experience increased uncertainty and stress, which could make academic engagement more challenging and thereby increase procrastination (Piotrowski, 2013). This is particularly significant in the context of our study, as it highlights the role of psychological and developmental processes in the manifestation of academic behaviors.

Furthermore, our research supports the notion that interventions aimed at mitigating the effects of childhood trauma should consider the complex interplay between trauma, identity formation, and academic behaviors. The indirect pathway through identity crisis underscores the importance of supportive educational and psychological interventions that address both the trauma and the ongoing identity development issues (Jackson et al., 2020).

The direct relationship between trauma and academic procrastination observed in this study echoes findings from

Huang et al. (2022), who noted that psychological distress stemming from perfectionism, which can be a consequence of trauma, significantly predicts procrastination (Huang et al., 2022). Similarly, the role of identity crisis as a mediator is in line with studies by Legette and Kurtz-Costes (2020), which found that academic identity and feelings of belonging in school can impact academic engagement and success (Legette & Kurtz-Costes, 2020).

The structural model's good fit suggests that addressing components such as trauma and identity crisis could be crucial in reducing academic procrastination. This approach is supported by Azizah (2022), who pointed out that self-regulatory learning and external support systems are vital in managing procrastination (Azizah, 2022). Thus, our findings add to the literature by suggesting that interventions should not only focus on skill development but also on resolving deeper psychological issues.

The results indicate that educational and counseling professionals should consider both the direct impacts of childhood trauma and the mediating effects of identity crises when designing interventions for academic procrastination. Schools and mental health professionals might need to implement programs that provide psychological support and promote healthy identity development to mitigate the effects of past trauma (Lin & Chang, 2022).

Programs that foster a positive school climate and promote school identity may also help reduce feelings of alienation among students, thereby potentially decreasing procrastination and improving academic outcomes (Yu et al., 2022). Such interventions could include therapy sessions focused on trauma recovery, workshops to support identity exploration and formation, and curricular adjustments to ensure that all students feel valued and supported in their educational environment.

5. Limitations & Suggestions

This study, while insightful, is not without limitations. First, the cross-sectional design limits our ability to draw causal inferences from the data. Additionally, the sample comprised only female high school students from Karaj, which may not represent other demographics or geographical regions, potentially limiting the generalizability of the findings. The reliance on self-reported measures for assessing trauma and procrastination also raises concerns about the subjectivity and potential bias in reporting, which could affect the accuracy of the data.

Future research should consider longitudinal designs to better understand the causal relationships and long-term effects of childhood trauma and identity crisis on academic procrastination. Expanding the demographic scope to include male students and students from other regions or countries could provide a more comprehensive view of these relationships across different cultural contexts. Furthermore, incorporating qualitative methods could enrich the quantitative findings, offering deeper insights into the personal experiences and contexts that influence academic procrastination.

The findings of this study have important implications for educational practitioners and psychologists. Schools and mental health professionals should consider developing targeted interventions that address both the psychological impacts of childhood trauma and the ongoing challenges related to identity crisis. Implementing supportive programs that focus on trauma-informed care and identity development could help mitigate the effects of past adversities on current academic outcomes. Additionally, training for educators on the signs of trauma and its effects on learning could enhance the support provided to students, fostering an environment that promotes both academic success and psychological well-being.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed in this article.

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