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Relationship between Perfectionism and Academic Burnout: Mediating Role of Academic Procrastination and Academic Engagement among Students at Payam Noor University in Shiraz

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ABSTRACT

Objective: Academic burnout is prevalent among students; however, the comprehension of factors that predict this phenomenon remains limited. This investigation explored the correlation between perfectionism and academic burnout, with a focus on the mediating role of academic procrastination and academic engagement among undergraduate students at Payame Noor University of Shiraz in 2023.

Methods: This descriptive correlational investigation involved the selection of 120 students via simple random sampling from the overall student population. Participants were required to complete the Maslach Burnout Inventory, the Savary Academic Procrastination Questionnaire, the Frost Multidimensional Perfectionism Scale, and the Academic Engagement Scale.

Results: The outcomes indicated that academic burnout exerts a positive and significant impact on academic procrastination and maladaptive perfectionism; conversely, it demonstrates a negative and significant association with adaptive perfectionism and academic engagement. Furthermore, it was revealed that the dimensions of perfectionism exert an indirect influence on academic burnout through the mediating variables of academic procrastination and academic engagement.

Conclusions: These findings underscore the significance of considering psychological constructs such as perfectionism, procrastination, and academic engagement in the prevention and mitigation of academic burnout among students. This knowledge can inform the development of effective educational and psychological interventions aimed at enhancing students' academic performance.

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Introduction

With the rapid advancement of higher education, greater emphasis on education has become imperative, as it is a critical driver of cultural, social, and economic development. Education facilitates cultural transmission, nurtures talents, and empowers individuals. Consequently, addressing the challenges and issues within this field is both necessary and unavoidable (Bowers, 2012).

Students in academic settings are frequently exposed to prolonged stressors that may lead to various psychological difficulties, one of which is academic burnout. While burnout research initially focused on occupational contexts (Kim et al., 2018), recent studies have examined its prevalence among students (Paloș et al., 2019). The concept of burnout, first introduced by Freudenberger in the 1970s in relation to service-oriented professions (Shih, 2012; Zhang et al., 2007), is now applied to academic environments, where schools and universities function as students' workplaces. Academic burnout is defined as a set of psychological symptoms resulting from chronic academic stress, manifesting as emotional exhaustion, cynicism, and a reduced sense of efficacy (Salmela-Aro et al., 2008; Schaufeli et al., 2002). These symptoms can include fatigue caused by academic demands, a passive or pessimistic attitude toward studies, and feelings of inadequacy in academic performance (Tran et al., 2023; Chang & Lee, 2020). If left unaddressed, burnout can lead to frustration, boredom, mood disturbances, and diminished academic achievement (Çapri et al., 2013; Palacio Sañudo et al., 2012).

Beyond environmental stressors, cognitive and motivational factors—such as achievement goals (Shih, 2012), perfectionism (Cam et al., 2014), procrastination (Balkıs, 2013; Çakır et al., 2014), and academic engagement (Sapanci, 2021)—have been linked to academic burnout. Among these, perfectionism is particularly influential. Defined as the pursuit of flawlessness, the setting of excessively high standards, and critical self-evaluation (Stoeber et al., 2020), perfectionism can be adaptive or maladaptive (Ocampo et al., 2020). Research consistently shows that adaptive perfectionism is negatively related to academic burnout, whereas maladaptive perfectionism—characterized by unrealistic expectations, self-criticism, and self-blame—exacerbates it (Chang et al., 2016; Garratt-Reed et al., 2018; Chen et al., 2022).

Procrastination is another factor closely associated with academic burnout. Conceptualized as a failure of self-regulation, it involves the unnecessary delay of tasks despite anticipating negative

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outcomes (Ayadi et al., 2021; Steel, 2007). In academic contexts, procrastination has been linked to lower grades, withdrawal from classes, and heightened anxiety (Liu, 2010; Solomon & Rothblum, 1984). Studies have identified a significant positive correlation between procrastination and all dimensions of academic burnout (Balkıs, 2013; Çakır, 2014). Furthermore, research suggests that individuals high in perfectionism may procrastinate to avoid perceived failure, especially under high academic demands (Sapanci, 2021; Cho, 2022). This relationship is supported by findings showing a positive association between perfectionism and procrastination (Serdar et al., 2021; Kathleen & Basaria, 2021).

In contrast, academic engagement—a positive, enduring, and pervasive affective-cognitive state—represents the opposite of burnout. It is characterized by vigor, dedication, and absorption in academic activities, leading to positive learning outcomes (Reeve, 2012; Schaufeli et al., 2006). Research has demonstrated a significant negative relationship between academic engagement and burnout (Cazan, 2015; Zhang et al., 2007).

Given the detrimental consequences of academic burnout—such as academic decline, probation, dropout, and psychological distress including anxiety and depression (Dyrbye et al., 2009)—its prevention and management are critical. Despite its prevalence and potential harm, academic burnout remains insufficiently understood. This study seeks to address this gap by examining the relationship between perfectionism (adaptive and maladaptive) and academic burnout, considering the mediating roles of procrastination and academic engagement.

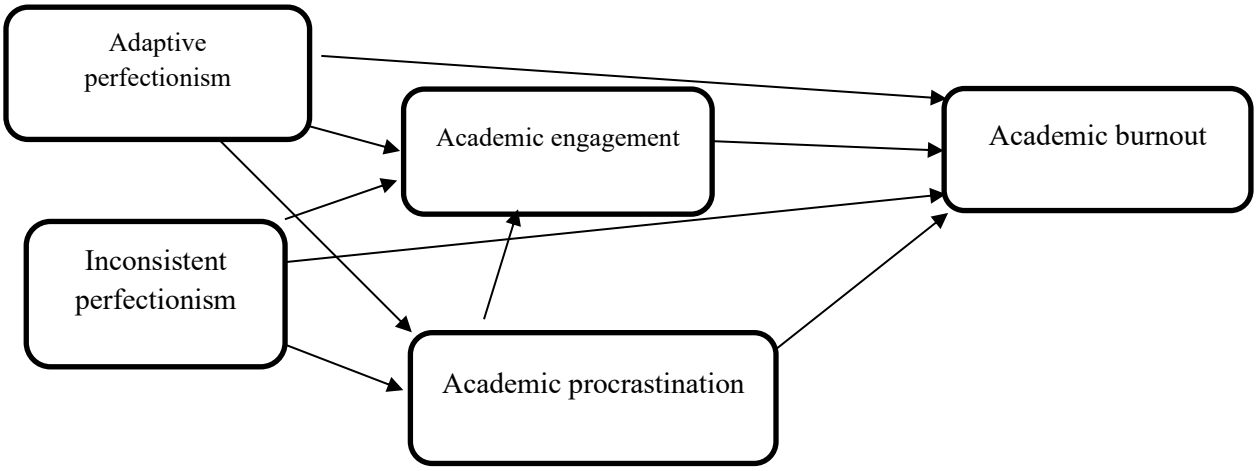

Figure 1. Conceptual research model

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Material and Methods

This study employed an applied research approach in terms of purpose and a descriptive–correlational design for data collection. The statistical population comprised undergraduate students at Payame Noor University of Shiraz during the 2022–2023 academic year. Using Cochran's formula and simple random sampling, 120 students were selected. Participation was voluntary, and willingness to complete the questionnaire was the sole inclusion criterion. Simple random sampling was chosen due to the large population size, absence of substantial geographic dispersion, accessibility of students, and equal probability of selection.

Instruments

Maslach Burnout Inventory–Student Survey (MBI-SS): Developed by Schaufeli et al. (2002) as a revision of the original Maslach Burnout Inventory (1986), the MBI-SS measures three dimensions of academic burnout: academic exhaustion (5 items), academic cynicism (4 items), and academic inefficacy (6 items, reverse-scored). Items are rated on a 5-point Likert scale from *never* (1) to *always* (5). Schaufeli et al. reported reliability coefficients of 0.70, 0.82, and 0.75 for the three subscales, while Yazoff and Dogan reported 0.83, 0.84, and 0.87. In Iran, Rostami et al. (2011) found reliabilities of 0.88 and 0.90. In the present study, Cronbach's alpha was 0.79.

Academic Procrastination Questionnaire: Designed by Sevari (2011) based on Tuckman's Academic Procrastination Scale, this instrument contains 12 items assessing:

- Intentional procrastination (5 items)
- Procrastination due to mental/physical fatigue (3 items)
- Procrastination due to disorganization/lack of order (4 items) Responses are rated on a 5-point scale from *never* (0) to *always* (4). Sevari reported Cronbach's alpha values of 0.77, 0.60, and 0.70 for the subscales, and 0.85 for the total scale. The present study yielded a Cronbach's alpha of 0.73.

Multidimensional Perfectionism Scale (MPS): Developed by Frost et al. (1990), this 35-item scale measures six subscales. Adaptive dimensions include *personal standards* (7 items) and *organization* (6 items), while maladaptive dimensions include *concern over mistakes* (9 items), *doubts about actions* (4 items), *parental expectations* (5 items), and *parental criticism* (4 items) (Hawkins et al., 2006). Items are scored on a 5-point scale from *strongly disagree* (1) to *strongly agree* (5). In the Iranian adaptation, overall reliability was 0.86 (Haghdoost, 2023), with subscale

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reliabilities ranging from 0.47 (parental criticism) to 0.85 (concern over mistakes). In this study, Cronbach's alpha was 0.72 for adaptive perfectionism and 0.79 for maladaptive perfectionism.

Utrecht Academic Engagement Scale (Short Form): This 9-item short form, adapted from the 17-item Utrecht Work Engagement Scale by Schaufeli (2002), measures *vigor*, *dedication*, and *absorption* (3 items each). Items are rated from *never* (1) to *always* (5). Prior research reported internal consistencies of 0.73, 0.76, and 0.70 for the subscales, and 0.84 for the total score. In the present study, Cronbach's alpha was 0.77.

Results

Table 1 presents the descriptive statistics and correlation matrix for the study variables. Skewness and kurtosis values for all variables fell within the acceptable range of –2 to +2, indicating that the data met the normality assumption. Accordingly, path analysis was employed for further analysis.

Table 1. Descriptive indices and correlation matrix of variables

	Variables	Mean (SD)	Skewness	Kurtosis	1	2	3	4	5
1	Academic procrastination	35.49±8.36	-0.05	-0.15	1				
2	Academic burnout	40.51±9.47	-0.28	-0.17	0.61**	1			
3	Adaptive perfectionism	25.75±4.16	-0.44	0.94	0.36**	-0.44**	1		
4	Inconsistent perfectionism	69.30±10.66	0.05	0.24	0.17*	0.16*	-0.32**	1	
5	Academic engagement	29.90±6.28	-0.22	0.15	-0.47**	-0.63**	0.42**	-0.62**	1

*p<0.05 **p<0.01

As shown in Table 1, the strongest correlation was observed between academic engagement and academic burnout (r = –0.63), while the weakest was between adaptive perfectionism and academic procrastination (r = –0.36), which was not statistically significant. Correlations with academic burnout ranged from strongest to weakest as follows: academic engagement (–0.63), academic procrastination (0.61), adaptive perfectionism (–0.44), and maladaptive perfectionism (0.16). The relationship between maladaptive perfectionism and academic burnout was significant at the 0.05 level, whereas all other correlations with academic burnout were significant at the 0.01 level.

Model fit was assessed using several indices: $\chi^2/df = 2.05$, RMSEA = 0.045, CFI = 0.99, GFI = 0.99, and AGFI = 0.96. These indices indicate a good fit for the proposed model of academic burnout.

Path analysis results (Table 2) revealed that both exogenous variables—adaptive perfectionism (β = 0.43) and maladaptive perfectionism (β = 0.26)—and both endogenous variables—academic

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procrastination (β = 0.48) and academic engagement (β = –0.36)—had significant direct effects on academic burnout at the 0.01 level. Academic engagement negatively predicted academic burnout, while academic procrastination emerged as the strongest total predictor.

Table 2. Direct, indirect, and total effects of research variables on each other

Variables	Direct impact	Indirect impact	Overall effect	Explanatory variance
effect of academic burnout on				0.60
Academic engagement	-0.36**	-	-0.36**	
Academic procrastination	-0.36**	0.13**	0.48**	
adaptive perfectionist	-0.12*	-0.31**	-0.43**	
Inconsistent perfectionism	0.09*	0.16**	0.26**	
effect of academic engagement on				0.30
Academic procrastination	-0.34**		-0.34**	
Adaptive perfectionism	0.26**	0.13**	0.40**	
Inconsistent perfectionism	-0.05	-0.10**	-0.13*	
effect of academic procrastination on				0.26
Adaptive perfectionism	-0.31**		-0.31**	
Inconsistent perfectionism	0.22**		0.22**	

*p<0.05 **p<0.01

In terms of indirect effects, adaptive perfectionism (β = 0.31) and maladaptive perfectionism (β = 0.16) influenced academic burnout through academic procrastination and academic engagement, both significant at the 0.01 level. Together, adaptive perfectionism, maladaptive perfectionism, academic procrastination, and academic engagement explained 6% of the variance in academic burnout.

Regarding predictors of academic engagement, academic procrastination (β = –0.34) and adaptive perfectionism (β = 0.26) had significant direct effects at the 0.01 level, whereas maladaptive perfectionism (β = –0.05) did not have a significant direct effect. These variables jointly accounted for 3% of the variance in academic engagement.

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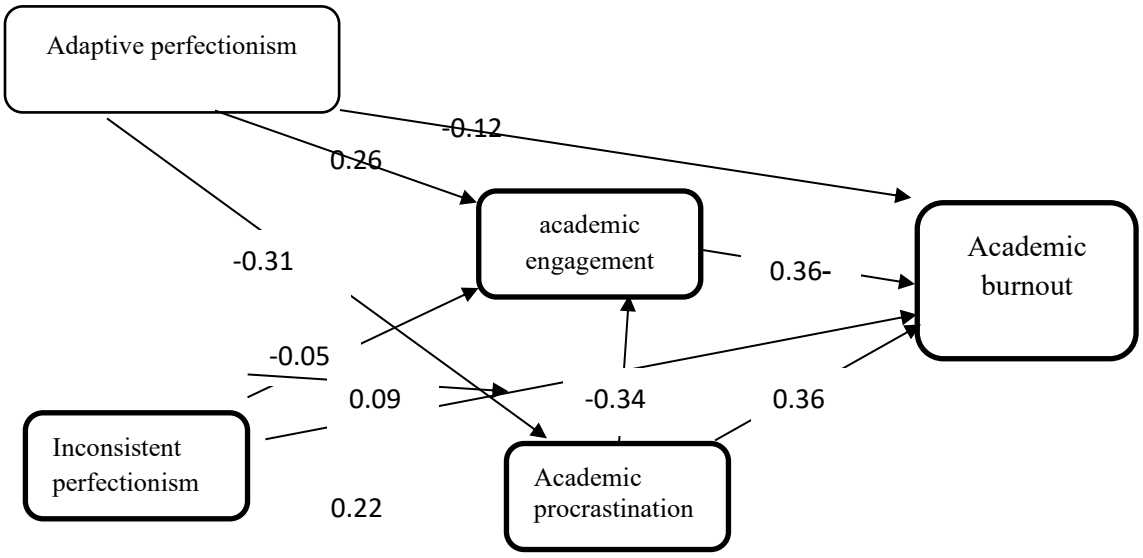

AGFI = 0.96, GFI = 0.99, CFI = 0.99 , AMSEA = 0.045, X^2 / df= 2.05

Figure 2. Fitted model of academic burnout

Discussion

The present study aimed to develop a causal model linking perfectionism—both adaptive and maladaptive—to academic burnout, with academic procrastination and academic engagement as mediating variables, among students of Payame Noor University of Shiraz. Drawing on prior theoretical and empirical work, a conceptual model was proposed and tested. The results indicated that the model demonstrated an acceptable fit to the data.

Findings revealed that adaptive perfectionism was negatively associated with academic burnout, whereas maladaptive perfectionism was positively associated with it. This aligns with previous research (Chang et al., 2016; Choi et al., 2022; Ijaz & Khalid, 2020). Adaptive perfectionists tend to maintain confidence in their academic abilities, commit to their studies, and immerse themselves in learning, which reduces exhaustion, cynicism, and feelings of inefficacy (Balkıs, 2013; Schaufeli et al., 2006; Zhang et al., 2007). In contrast, maladaptive perfectionists set unrealistically high standards, often fail to meet them, and consequently experience reduced self-esteem, heightened anxiety, and diminished self-efficacy, all of which contribute to burnout.

A significant relationship was also found between perfectionism and academic procrastination, supporting earlier findings (Sederlund et al., 2020; Ayadi et al., 2021; Yosopov, 2020). Maladaptive perfectionists, driven by fear of failure and sensitivity to others' evaluations, tend to delay tasks,

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particularly challenging ones, to avoid negative judgment. This avoidance, reinforced by short-term anxiety relief, fosters procrastination (Holloway, 2009). Conversely, adaptive perfectionists, while setting high standards, approach tasks with enthusiasm and precision, are more willing to face challenges, and tend to delay less often (Short & Mazmanian, 2013; Bowers, 2012).

The study also confirmed a positive relationship between academic procrastination and academic burnout, consistent with previous work (Çakır et al., 2014; Shareinia et al., 2019; Zarean & Karami Isheqlou, 2021). High procrastinators typically neglect academic responsibilities, develop negative attitudes toward their studies, and struggle to complete tasks, ultimately leading to burnout (Balkıs, 2013).

The relationship between perfectionism and academic engagement was in line with findings from Shih (2012), Shim et al. (2016), Stoeber & Rambow (2007), and Zhang et al. (2007). Adaptive perfectionists organize their learning environment effectively, maintain focus, and apply sustained cognitive effort, enabling them to remain engaged and resilient in the face of challenges (Fehnel et al., 2004). The absence of a significant link between maladaptive perfectionism and engagement may reflect a lack of positive, rational attitudes toward learning, in contrast to the patterns seen in burnout.

Furthermore, the results demonstrated a significant negative effect of academic procrastination on academic engagement, consistent with Abbasi et al. (2015). Highly engaged students typically devote substantial time and effort to their studies, show persistence in the face of difficulties, and maintain high levels of self-regulation. Procrastinators, however, often exhibit low self-confidence, heightened anxiety, reduced self-control, and diminished vigor, which detract from their academic involvement (Wang et al., 2011; Chun Chu & Choi, 2005).

A significant negative effect of academic engagement on academic burnout was also found, consistent with Chang et al. (2016), Weiss et al. (2015), Tull et al. (2012), and Titelius et al. (2018). These variables can be viewed as opposite poles of a continuum: high engagement supports persistence and academic success, while low engagement increases the risk of dropout and burnout (Archambault et al., 2009). Emotional exhaustion, cynicism, and inefficacy reduce vigor, dedication, and absorption, explaining the inverse relationship (Reeve, 2012).

Importantly, the study confirmed that the relationship between perfectionism and academic burnout is mediated by both procrastination and engagement. Maladaptive perfectionists, faced with numerous tasks and rigid performance standards, tend to delay work, thereby increasing burnout risk (Jokste, 2021). Adaptive perfectionists, by contrast, set challenging but realistic goals, do not tie self-worth to

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performance outcomes, and thus avoid procrastination while maintaining strong performance (Abdollahi et al., 2020).

Limitations and Implications

The study's findings should be interpreted in light of its limitations, particularly the restricted sample of Payame Noor University students in Shiraz, which limits generalizability to other populations. Given the serious consequences of academic burnout, universities should prioritize identifying and addressing its predictors. Reducing procrastination and fostering engagement are promising strategies for mitigating burnout and promoting academic success.

Educators and administrators are encouraged to design supportive learning environments, identify at-risk students, and implement targeted interventions, such as cognitive–behavioral programs, to enhance self-efficacy and engagement. Professors can also play a critical role by fostering autonomy-supportive classrooms that promote motivation and resilience. Finally, future research should extend this work to diverse educational settings and populations to broaden the applicability of these findings.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Payame Noor University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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