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Formulation of an Academic Failure Model Based on Fear of Failure and Academic Procrastination with the Mediating Role of Mindfulness

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A B S T R A C T

Purpose: The main objective of this study was to formulate a model of academic failure based on fear of failure and academic procrastination, with mindfulness as a mediating variable.

Methods and Materials: The research method was structural equation modeling, consisting of four variables: fear of failure and academic procrastination as independent variables, mindfulness as the mediating variable, and academic failure as the dependent variable. The study utilized the Academic Procrastination Questionnaire by Solomon and Rothblum (1984), the Fear of Failure Scale by Conroy (2001), and the Mindfulness Questionnaire by Baer et al. (2006). The participants included 510 male and female high school students in the second cycle of secondary education in Ardabil who had experienced academic failure or were at risk of academic failure. They were selected using a purposive sampling method.

Findings: The results indicated that in examining the direct effects, fear of failure and academic procrastination had a direct, negative, and significant effect on mindfulness (p = .001). Fear of failure and academic procrastination had a direct, positive, and significant effect on academic failure (p = .001). Mindfulness had a direct, negative, and significant effect on academic failure (p = .001). Moreover, in examining the indirect effects, fear of failure and academic procrastination had a positive and significant indirect effect on academic failure through the mediation of mindfulness (p = .001).

Conclusion: Ultimately, the academic failure model based on fear of failure and academic procrastination, with the mediating role of mindfulness, demonstrated a good fit.

Keywords: *Academic failure, fear of failure, academic procrastination, mindfulness*

1. Introduction

Academic failure remains a persistent concern for educators, policymakers, and psychologists due to its far-reaching consequences on students' personal development, future opportunities, and well-being (Fernandes, 2023; Morelli et al., 2021). While the definition

of academic failure varies across contexts, it generally refers to a significant decline in academic performance, inability to meet required standards, or dropping out of the education system (Gajderowicz et al., 2025; Oeun & Heng, 2024). The phenomenon has been observed in diverse educational settings, from primary school transitions (González-Moreira et al., 2024) to higher education environments (Nakhla & Allan, 2025). Its causes are complex and multifaceted, often stemming from an interplay of individual, psychological, social, and institutional factors (Ikram et al., 2025; Morelli et al., 2021). Understanding these underlying mechanisms is essential for developing effective interventions and fostering resilience among students at risk of failure (Hiratsuka & Heath, 2025; Morris et al., 2025; Snyder & Witmer, 2025).

One prominent psychological factor linked to academic failure is fear of failure, which has been extensively examined within motivational and cognitive frameworks (Cashman et al., 2023; Martin, 2025; Nair & Sutar, 2023). Fear of failure encompasses cognitive and emotional responses to the possibility of not meeting personal or external standards, often resulting in avoidance behaviors, decreased engagement, and maladaptive coping (Nakhla & Allan, 2025; Sagar & Jowett, 2023). It is associated with heightened academic stress (Satici & Can, 2023) and diminished self-efficacy (Nair & Sutar, 2023), leading to a cyclical pattern of disengagement that exacerbates academic difficulties (Cashman et al., 2023). In school contexts, maladaptive fear of failure can manifest in various ways, from test anxiety to the reluctance to participate in challenging tasks (Sagar & Jowett, 2023; Wulandari & Rinaldi, 2024). The social-cognitive perspective suggests that such fear is shaped not only by personal beliefs but also by the learning environment, feedback, and perceived social consequences (Martin, 2025).

Closely linked to fear of failure is academic procrastination, a self-regulatory failure in which students voluntarily delay academic tasks despite knowing the potential negative consequences (Garcia, 2024; Hailikari et al., 2021). Academic procrastination has been identified as a significant predictor of poor academic outcomes, contributing to last-minute work, increased stress, and suboptimal performance (Choi & Yang, 2024; González-Brignardello et al., 2023). Research indicates that procrastination often emerges as an avoidance strategy to protect self-worth in the face of anticipated failure (Choi & Yang, 2024; Satici & Can, 2023). It can be influenced by both individual traits, such as perfectionism and impulsivity, and contextual factors, such as unclear instructions or inadequate support (Hailikari et al., 2021; Merati et al., 2022). Particularly among adolescents, procrastination tends to co-occur with heightened fear of failure, creating a reinforcing loop that undermines sustained academic engagement (Garcia, 2024; Wulandari & Rinaldi, 2024).

Recent studies have highlighted mindfulness as a potential protective factor against both fear of failure and academic procrastination (Behrouz, 2024; Lee & Smith, 2024; Soleimani Rad et al., 2024). Mindfulness, often defined as the intentional, nonjudgmental awareness of the present moment (Baer, 2003), can enhance self-regulation, reduce maladaptive emotional responses, and foster adaptive coping strategies (Miles et al., 2023; Soleimani Rad et al., 2024). Empirical evidence suggests that mindfulness training can mitigate the negative impact of academic stressors, improve attentional control, and increase psychological flexibility (Behrouz, 2024; Miles et al., 2023). For example, Lee and Smith (Lee & Smith, 2024) found that high school students with greater dispositional mindfulness demonstrated lower rates of academic failure over time, while Soleimani Rad et al. (Soleimani Rad et al., 2024) demonstrated that mindfulness-based interventions significantly reduced procrastination tendencies.

The interplay between mindfulness, fear of failure, and procrastination has gained increasing scholarly interest (Merati et al., 2022; Wulandari & Rinaldi, 2024). Mindfulness can interrupt the cognitive–emotional patterns that sustain avoidance behaviors by promoting acceptance, reducing rumination, and encouraging task-focused engagement (Baer, 2003; Miles et al., 2023). This is particularly relevant in adolescence, a developmental period characterized by heightened emotional reactivity and evolving self-concept (González-Moreira et al., 2024; Hiratsuka & Heath, 2025). When integrated into educational interventions, mindfulness may help students reinterpret academic challenges not as threats to self-worth but as opportunities for growth (Behrouz, 2024; Lee & Smith, 2024).

From an educational systems perspective, both structural and contextual influences must also be considered in understanding academic failure. Large-scale disruptions such as the COVID-19 pandemic have exacerbated existing inequities and intensified learning gaps (Gajderowicz et al., 2025; Morris et al., 2025). Remote learning environments posed new challenges for maintaining student engagement and self-regulation, particularly for those already struggling academically (Morris et al., 2025; Snyder & Witmer, 2025). In such contexts, the absence of in-person support, increased

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autonomy demands, and technological barriers further compounded risks of failure (Hiratsuka & Heath, 2025; Oeun & Heng, 2024). Research in alternative education settings underscores the importance of addressing trauma, providing relational safety, and fostering a sense of belonging to mitigate disengagement (Hiratsuka & Heath, 2025).

Socio-emotional factors, institutional support mechanisms, and cultural expectations also shape how students respond to academic setbacks (Fernandes, 2023; Nakhla & Allan, 2025). Studies on motivational engagement indicate that supportive teacher–student relationships and environments that normalize learning from mistakes can reduce the detrimental effects of fear of failure (Martin, 2025; Sagar & Jowett, 2023). Conversely, high-stakes testing environments and punitive academic policies may intensify avoidance behaviors (Cashman et al., 2023; Nair & Sutar, 2023). Interventions that integrate mindfulness-based strategies with academic skills training show promise in addressing both the emotional and behavioral dimensions of academic underperformance (Miles et al., 2023; Soleimani Rad et al., 2024).

Furthermore, predictive analytics and early-warning systems are emerging as valuable tools for identifying students at risk of failure (Ikram et al., 2025). Such models, when implemented ethically and supported by targeted interventions, can provide timely assistance before students disengage completely (Gajderowicz et al., 2025; Ikram et al., 2025). However, without addressing underlying psychological variables such as fear of failure and procrastination, these systems may have limited impact (Choi & Yang, 2024; Garcia, 2024). This highlights the need for comprehensive approaches that combine predictive tools with socio-emotional learning and self-regulation support (Satici & Can, 2023; Wulandari & Rinaldi, 2024).

In addition, cross-cultural considerations are essential. The meaning and consequences of academic failure, as well as the acceptability of mindfulness-based interventions, can vary widely across educational systems (Fernandes, 2023; Oeun & Heng, 2024). For example, in collectivist contexts, academic setbacks may carry heightened social stigma, amplifying fear of failure and avoidance behaviors (Nakhla & Allan, 2025; Sagar & Jowett, 2023). Conversely, in systems that emphasize mastery learning and personal growth, students may experience greater resilience in the face of challenges (González-Moreira et al., 2024; Martin, 2025). Tailoring interventions to align with cultural norms and institutional realities is therefore critical (Hiratsuka & Heath, 2025; Snyder & Witmer, 2025).

Given the multifaceted nature of academic failure, this study integrates these theoretical and empirical insights to examine the structural relationships among fear of failure, academic procrastination, and mindfulness. By modeling mindfulness as a mediating variable, the research aims to clarify how emotional and cognitive self-regulation mechanisms can mitigate the detrimental effects of maladaptive motivational patterns on academic outcomes (Behrouz, 2024; Lee & Smith, 2024; Soleimani Rad et al., 2024). This approach builds upon evidence that enhancing mindfulness can simultaneously reduce procrastination (Soleimani Rad et al., 2024) and attenuate fear of failure (Wulandari & Rinaldi, 2024), thereby fostering greater academic persistence and success (Baer, 2003; Miles et al., 2023).

The present research seeks to develop and test a structural model of academic failure based on fear of failure and academic procrastination, with mindfulness as a mediating factor.

2. Methods and Materials

2.1. Study Design and Participants

From the perspective of objectives, the present study is applied research, and from the perspective of data analysis, it is quantitative–analytical.

The statistical population in the present study consisted of male and female students in the second cycle of secondary education in Ardabil who had experienced academic failure or were on the verge of academic failure. According to the official report obtained from the Department of Education, their number was 2,890. The sampling method used in this study was purposive sampling.

The inclusion criteria for individuals at risk of academic failure were as follows: students who had failed their current grade level, experienced a significant decrease in grade point average compared to the previous academic year, had frequent absences (attending school only 2 or 3 days a week), or had dropped out of school.

The exclusion criteria included unwillingness to participate in the study and incomplete or invalid questionnaires.

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2.2. Measures

The Academic Procrastination Questionnaire by Solomon and Rothblum (1984) contains 27 items rated on a five-point Likert scale (from "never" to "always") and measures three main components: preparation for examinations (items 1 to 6), preparation for assignments (items 9 to 17), and preparation for term papers (items 20 to 25). In addition, six items (7, 8, 18, 19, 26, 27) are designed to assess feelings of discomfort about procrastination and the desire to change this habit. Scoring is done on a five-point Likert scale (1 to 5), and items 2, 4, 6, 11, 15, 16, 21, 23, and 25 are reverse-scored. The minimum score is 27, and the maximum is 135, with scores of 27–54 indicating low procrastination, 54–81 moderate procrastination, and above 81 high procrastination. The reliability of this questionnaire was confirmed in the study by Nikbakht et al. (2014) with a Cronbach's alpha of .86, and its validity was examined by Jokar and Dalavarpour (2007) through factor analysis and item–total correlation.

The Fear of Failure Questionnaire: In the present study, the variable "fear of failure" was measured using the Performance Failure Appraisal Inventory (PFAI) developed by Conroy (2001). This questionnaire consists of 41 items and five subscales: fear of experiencing shame and embarrassment, fear of devaluing one's self-esteem, fear of an uncertain future, fear of important others losing interest, and fear of upsetting important others. Responses are rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Some items (numbers 9, 17, 18, 21, 23, and 35) are reverse-scored. The total score ranges from 41 to 205, with scores of 41–82 indicating low fear, 82–123 moderate fear, and above 123 high fear. To calculate the score for each subscale or the total questionnaire, the sum of the relevant items is computed. The face and content validity of the questionnaire was confirmed by Hosseini (2008), and the reliability of the subscales has been reported to be above .70.

The Mindfulness Questionnaire (Baer et al., 2006) is a 39-item tool with five main components: observing, describing, acting with awareness, nonjudging, and nonreactivity. It measures mindfulness on a five-point Likert scale (1 = never to 5 = always). The total score ranges from 39 to 195, with higher scores indicating greater mindfulness (39–78 = low, 78–117 = moderate, above 117 = high). Various studies have confirmed the validity and reliability of this questionnaire, with Cronbach's alpha coefficients ranging from .75 to .91 and inter-component correlations ranging from .15 to .34. In the Iranian sample, reliability coefficients ranged from .55 to .83, and test–retest correlation coefficients ranged from .57 to .84.

2.3. Data Analysis

In this study, measurement models and structural models were used for data analysis. First, the questionnaire data were entered into SPSS software and then into LISREL. Pearson correlation coefficients were calculated with SPSS, and the measurement and structural models were evaluated with LISREL.

3. Findings and Results

Before explaining the research model, assumptions such as the examination of outlier data, skewness and kurtosis, multicollinearity, normality and independence of residuals, correlation matrix, and Durbin–Watson statistic were assessed, and these findings are presented below.

To test the research hypotheses, the assumptions for entering data into structural equation modeling were examined.

In examining Mahalanobis distance, the maximum value in the dataset (5.688) was within the critical value range for the degree of freedom (df = 1), which is 16.27, indicating that none of the participants' data formed multivariate outliers.

Skewness and kurtosis of the variables were examined to ensure that if the values were between –2 and +2, no data transformation would be required. If they were outside this range, data transformation methods would be used for adjustment. In the present study, the skewness and kurtosis of the variables were between –2 and +2 (0.641 to 1.538), thus meeting this assumption.

To ensure the absence of multicollinearity, the tolerance index and variance inflation factor (VIF) were examined. The results showed that the calculated VIF values (ranging from 1.024 to 1.368) and tolerance values (ranging from 0.731 to 0.977) indicated that multicollinearity did not occur among the study variables.

In this study, the Durbin–Watson statistic was 2.01, indicating that the value was at an acceptable level.

Since the foundation of path analysis studies is the correlation between variables, the correlations among the study variables were examined, and the results indicated that they were significant.

To confirm the accuracy of the results obtained from the structural model and the overall relationships, the model's

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overall fit indices are presented below. Table 1 presents the goodness-of-fit indices of the measurement models, which include RMSEA, SRMR, NFI, NNFI, CFI, IFI, AGFI, GFI, and χ^2/df.

Table 1

Goodness-of-Fit Indices for the Structural Model of the Study

Index	Structural Model
RMSEA	0.04
SRMR	0.03
NFI	0.97
NNFI	0.93
CFI	0.97
IFI	0.96
AGFI	0.94
GFI	0.98
χ^2/df	1.67

As shown in Table 1, it should be noted that the two standardized goodness-of-fit indices, RMSEA and SRMR, the closer they are to zero, the better the fit. Conventionally, if these indices are equal to or less than 0.05, they indicate a good fit. In contrast, the fit indices NFI, NNFI, CFI, IFI, AGFI, and GFI, if equal to or greater than 0.90, indicate a good fit. If any of them equals 1, it indicates a perfect fit.

Figure 1

Conceptual model of the study in the standardized factor loading state

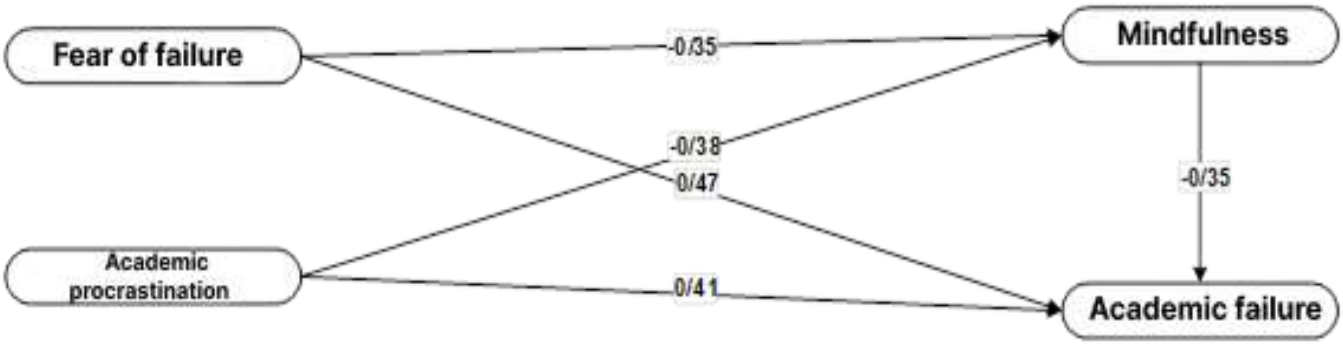
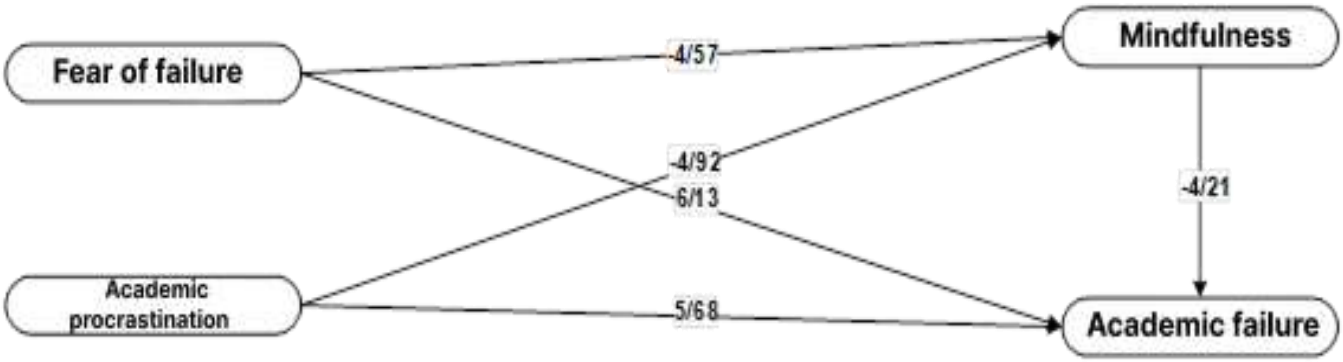


Figure 2

Conceptual model of the study in the t-value state



First, the structural model of the study was examined based on direct effects, and the estimates of the direct effect coefficients are presented in Table 2.

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Table 2

Estimates of Direct Effect Coefficients

Variables and Estimates	Standardized Parameter	Standard Error of Estimate	*t*-value
Fear of failure → Mindfulness	–0.35	1.00	–4.57*
Fear of failure → Academic failure	0.47	—	6.13*
Academic procrastination → Mindfulness	–0.38	1.00	–4.92*
Academic procrastination → Academic failure	0.41	—	5.68*
Mindfulness → Academic failure	–0.35	0.16	–2.04*

As shown in Table 2, the direct effect of fear of failure on mindfulness was –0.35, and given the t-value (–4.57) at the 0.001 level, it was a direct, negative, and significant effect. Therefore, the hypothesis "Fear of failure has a direct, negative, and significant effect on mindfulness" was confirmed.

The direct effect of fear of failure on academic failure was examined. The results indicated that the effect of fear of failure on academic failure was 0.47, and given the t-value (6.13) at the 0.001 level, it was significant. Therefore, the hypothesis "Fear of failure has a direct, positive, and significant effect on academic failure" was confirmed.

The direct effect of academic procrastination on mindfulness was also examined. The results showed that the direct effect of academic procrastination on mindfulness was –0.38, and given the t-value (–4.92) at the 0.001 level, it was significant. Therefore, the hypothesis "Academic procrastination has a direct, negative, and significant effect on mindfulness" was confirmed.

In addition, the direct effect of academic procrastination on academic failure was examined. The results indicated that the direct effect of academic procrastination on academic failure was 0.41, and given the t-value (5.68) at the 0.001 level, it was significant. Therefore, the hypothesis "Academic procrastination has a direct, positive, and significant effect on academic failure" was confirmed.

The direct effect of mindfulness on academic failure was also examined. The results showed that the direct effect of mindfulness on academic failure was –0.35, and given the t-value (–2.04) at the 0.001 level, it was significant. Therefore, the hypothesis "Mindfulness has a direct, negative, and significant effect on academic failure" was confirmed.

In the present study, due to the presence of a mediating variable in the model, indirect relationships among the variables were examined using the Bootstrap macro method. Table 3 presents the results of the multiple mediation test of indirect relationships for the entire sample using the bootstrap method.

Table 3

Multiple Mediation Test of Indirect Relationships for the Entire Sample Using Bootstrap

Path	Data	Boot	Bias	Error	Lower Bound	Upper Bound
Indirect effect of fear of failure on academic failure via mindfulness	0.0379	0.0365	0.0003	0.005	0.029	0.056
Indirect effect of academic procrastination on academic failure via mindfulness	0.0333	0.129	0.0002	0.004	0.026	0.041

As shown in Table 3, the upper and lower bounds of the indirect relationship for the effect of fear of failure on academic failure via mindfulness, and the effect of academic procrastination on academic failure via mindfulness, do not include zero. This means that these indirect paths are significant for the entire sample. Thus, the results of the multiple mediation test of indirect relationships indicate that the indirect effects are significant.

Next, the indirect effects in this structural model were examined. Based on the information in Table 4, the acceptance or rejection of the hypotheses related to the indirect effects of the variables on each other is discussed.

Table 4

Estimates of Indirect Effect Coefficients

Variables and Estimates	Standardized Parameter	*t*-value
Indirect effect of fear of failure on academic failure via mindfulness	0.1225	9.3228*
Indirect effect of academic procrastination on academic failure via mindfulness	0.133	10.0368*

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The indirect effect of fear of failure on academic failure via mindfulness was examined. The results indicated that this indirect effect was 0.1015, and given the t-value (4.9164) at the 0.001 level, it was positive and significant. Therefore, fear of failure has a positive and significant indirect effect on academic failure via mindfulness.

The indirect effect of academic procrastination on academic failure via mindfulness was also examined. The results indicated that this indirect effect was 0.1085, and given the t-value (5.1204) at the 0.001 level, it was positive and significant. Therefore, academic procrastination has a positive and significant indirect effect on academic failure via mindfulness.

One of the features of path analysis is measuring the total, direct, and indirect effects on each other. Accordingly, Table 5 presents the results for the total, direct, and indirect effects of the independent and mediating variables on academic failure.

Table 5

Estimates of Direct, Indirect, and Total Effects (Based on t-value) of Independent and Mediating Variables on Academic Failure

Variables	Direct Effect	Indirect Effect	Total Effect
Fear of failure	6.13*	9.3228*	28.0012*
Academic procrastination	5.68*	10.0368*	—
Mindfulness	–2.04*	—	—

As shown in Table 5, fear of failure and academic procrastination have significant indirect effects on academic failure through the mediating variable mindfulness. The indirect effect of fear of failure was 9.3228, and the indirect effect of academic procrastination was 7.2404, both explaining academic failure indirectly. Therefore, the variables fear of failure and academic procrastination jointly have an indirect effect of 12.7268 on academic failure.

4. Discussion and Conclusion

The results of this study revealed that fear of failure exerts a direct, negative, and significant effect on mindfulness, as well as a direct, positive, and significant effect on academic failure. These findings align with previous research indicating that students who experience high levels of fear of failure are less able to maintain present-focused, nonjudgmental awareness, which is a core characteristic of mindfulness (Baer, 2003; Wulandari & Rinaldi, 2024). Fear of failure often triggers rumination, hypervigilance to negative evaluation, and self-protective avoidance, all of which can undermine the capacity to remain engaged and regulate emotions effectively (Nair & Sutar, 2023; Sagar & Jowett, 2023). As Martin (Martin, 2025) emphasizes, maladaptive failure beliefs can impair cognitive flexibility, leading to performance-avoidance behaviors that disrupt sustained learning. Moreover, the positive relationship between fear of failure and academic failure observed here corroborates earlier studies showing that heightened fear of failure is associated with disengagement, reduced persistence, and higher dropout rates (Cashman et al., 2023; Nakhla & Allan, 2025). This suggests that fear of failure may operate both directly, by eroding academic performance through avoidance, and indirectly, by limiting engagement in effective learning strategies.

The results also demonstrated that academic procrastination has a direct, negative, and significant effect on mindfulness, as well as a direct, positive, and significant effect on academic failure. This is consistent with the conceptualization of procrastination as a form of self-regulatory breakdown that reflects and reinforces cognitive disengagement (Garcia, 2024; Hailikari et al., 2021). In particular, procrastination often involves avoidance of academic tasks perceived as threatening or aversive, which undermines the mindful, purposeful allocation of attention (Choi & Yang, 2024; Satici & Can, 2023). The positive association between procrastination and academic failure has been widely documented, with delays in task initiation and completion contributing to lower grades, missed deadlines, and heightened stress (González-Brignardello et al., 2023; Merati et al., 2022). This pattern suggests that procrastination not only reflects an existing risk for academic underperformance but also acts as a mechanism that amplifies the detrimental effects of fear of failure.

Mindfulness was found to have a direct, negative, and significant effect on academic failure, supporting the view that mindfulness functions as a protective factor in educational contexts (Behrouz, 2024; Lee & Smith, 2024). Students with higher levels of mindfulness are better able to regulate emotional responses, focus on task-relevant

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information, and persist in the face of academic challenges (Miles et al., 2023; Soleimani Rad et al., 2024). These self-regulatory benefits reduce the likelihood of maladaptive coping strategies such as avoidance and disengagement, thereby enhancing academic persistence (Baer, 2003; Wulandari & Rinaldi, 2024). The negative association between mindfulness and academic failure in this study is consistent with longitudinal evidence showing that mindfulness predicts reduced dropout rates and better academic adjustment (Lee & Smith, 2024). This reinforces the argument for integrating mindfulness-based training into school curricula as a means of promoting resilience and sustained academic engagement.

The mediation analysis further revealed that mindfulness significantly mediates the relationship between fear of failure and academic failure, as well as between academic procrastination and academic failure. This finding suggests that mindfulness can partially counteract the detrimental effects of these risk factors by fostering present-moment awareness and nonjudgmental acceptance (Miles et al., 2023; Soleimani Rad et al., 2024). In other words, while fear of failure and procrastination predispose students to academic difficulties, cultivating mindfulness may weaken the pathways through which these factors translate into academic failure. This is consistent with prior intervention studies demonstrating that mindfulness-based programs reduce procrastination tendencies and buffer the impact of fear of failure (Soleimani Rad et al., 2024; Wulandari & Rinaldi, 2024). Moreover, the results align with theoretical models proposing that mindfulness enhances metacognitive awareness and emotional regulation, enabling students to engage with challenging tasks more effectively and persist despite potential setbacks (Baer, 2003; Miles et al., 2023).

These findings can be interpreted within the broader educational and socio-cultural context. The learning crisis exacerbated by the COVID-19 pandemic has intensified challenges for students already at risk of failure, with increased autonomy demands and reduced direct support (Gajderowicz et al., 2025; Morris et al., 2025). In such contexts, fear of failure and procrastination may have been amplified, making mindfulness-based strategies even more critical for sustaining engagement (Hiratsuka & Heath, 2025; Snyder & Witmer, 2025). Furthermore, socio-emotional safety, supportive teacher–student relationships, and environments that normalize mistakes are essential for reducing maladaptive fear responses (Nakhla & Allan, 2025; Sagar & Jowett, 2023). Without such conditions, interventions targeting individual self-regulation may have limited efficacy.

The results also resonate with research on early identification of at-risk students. Predictive models, such as those developed by Ikram et al. (Ikram et al., 2025), can be instrumental in flagging students whose patterns of fear of failure and procrastination place them at heightened risk of academic failure. However, as García (Garcia, 2024) and Choi (Choi & Yang, 2024) caution, predictive analytics must be paired with interventions that address the psychological and behavioral roots of disengagement. Mindfulness offers a promising avenue for such interventions, providing students with tools to remain engaged and resilient in the face of academic challenges (Behrouz, 2024; Lee & Smith, 2024).

Cross-cultural considerations further highlight the importance of context-specific approaches. In educational cultures where academic performance is closely tied to social identity and family expectations, fear of failure may carry heightened emotional weight (Fernandes, 2023; Nakhla & Allan, 2025). In such environments, interventions must be sensitive to the social meaning of failure and incorporate culturally relevant strategies for reframing academic challenges (Hiratsuka & Heath, 2025; Oeun & Heng, 2024). Conversely, in systems that promote mastery learning and resilience, mindfulness-based interventions may complement existing pedagogical approaches by reinforcing adaptive coping and self-regulation (González-Moreira et al., 2024; Martin, 2025).

Taken together, the present findings contribute to the growing body of literature demonstrating that fear of failure and procrastination are significant risk factors for academic failure, but their negative effects can be mitigated by mindfulness. The results suggest a dual pathway for intervention: addressing maladaptive motivational patterns while simultaneously fostering self-regulatory capacities through mindfulness. This integrated approach is consistent with calls for comprehensive educational strategies that combine emotional, cognitive, and behavioral supports (Satici & Can, 2023; Soleimani Rad et al., 2024).

This study, while contributing valuable insights, is not without limitations. First, the cross-sectional design limits causal inferences; longitudinal or experimental studies would provide stronger evidence regarding the temporal relationships among fear of failure, procrastination, mindfulness, and academic failure. Second, the reliance on self-report measures introduces the possibility of response bias, particularly social desirability effects, which may have

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influenced participants' reporting of procrastination and mindfulness levels. Third, the study's sample was drawn from a specific geographic and educational context, which may limit the generalizability of the findings to other cultural or institutional settings. Finally, the absence of qualitative data means that the nuanced personal and contextual experiences underlying these variables remain unexplored, limiting the depth of interpretation.

Future studies should adopt longitudinal designs to examine how changes in mindfulness over time influence the trajectory of fear of failure, procrastination, and academic outcomes. Experimental and quasi-experimental research could assess the efficacy of specific mindfulness-based interventions in reducing academic failure among diverse student populations. Expanding research across different educational levels, including primary, tertiary, and vocational settings, would enhance understanding of developmental differences in these relationships. Additionally, integrating qualitative approaches, such as interviews or focus groups, could capture the lived experiences of students, providing richer insights into how cultural norms, institutional policies, and family expectations shape the dynamics of fear of failure, procrastination, and mindfulness.

Educational practitioners should consider implementing mindfulness-based programs as part of a comprehensive strategy to reduce academic failure, particularly among students exhibiting high levels of fear of failure and procrastination. These programs should be embedded within a supportive learning environment that fosters emotional safety, encourages risk-taking in learning, and normalizes mistakes as part of the growth process. Teachers can be trained to model mindful behaviors, promote self-reflection, and provide feedback that emphasizes effort and progress rather than solely outcomes. Schools should also develop early-warning systems to identify at-risk students and deliver timely, tailored interventions that address both academic skills and socio-emotional competencies. By integrating these practices, educational institutions can better equip students to navigate academic challenges with resilience and sustained engagement.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

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In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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