





# Academic Burnout in University Students: The Roles of Cognitive Fusion, Perceived Social Interaction, and Cognitive Avoidance

Mohamad Mehdi Aref Yeganeh <sup>1</sup>, Marjan Alizadeh <sup>1,\*</sup>

<sup>1</sup> Department of Psychology, CT.B., Islamic Azad University, Tehran, Iran

\*Corresponding Author: Department of Psychology, CT.B., Islamic Azad University, Tehran, Iran. Email: [ma.alizadeh@iau.ac.ir](mailto:ma.alizadeh@iau.ac.ir)

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## Abstract

**Background:** Academic burnout is a major factor affecting students' mental health and educational outcomes. Identifying underlying cognitive and social mechanisms is essential for developing targeted interventions.

**Objectives:** This study aimed to examine the relationships among cognitive fusion, perceived social interaction, and the 5 components of cognitive avoidance and academic burnout and to determine the predictive roles of these variables.

**Methods:** This descriptive-correlational study included 210 students selected through multistage cluster sampling from public and Islamic Azad universities in Tehran during the 2024 - 2025 academic year. Data were collected using the Academic Burnout Questionnaire, the Cognitive Fusion Questionnaire, the Cognitive Avoidance Questionnaire, and the Social Interaction Perception Scale. Data were analyzed using Pearson correlation coefficients and multiple regression analyses.

**Results:** The findings indicated significant positive correlations between cognitive fusion and cognitive avoidance and academic burnout, whereas perceived social interaction showed a significant negative correlation ( $P < 0.001$ ). Regression analysis showed that the predictor variables collectively explained 53.6% of the variance in academic burnout (adjusted  $R^2 = 0.536$ ). Among the predictors, cognitive fusion was the strongest contributor to burnout symptoms.

**Conclusions:** These findings suggest that cognitive and social factors play pivotal roles in the development and maintenance of academic burnout and may serve as potential targets for intervention. Interventions incorporating cognitive defusion techniques and enhancing perceptions of social interaction warrant further investigation to reduce burnout and preserve students' psychological resources.

**Keywords:** Academic Burnout, Cognitive Fusion, Perceived Social Interaction, Cognitive Avoidance, University Students

## 1. Background

Recent studies indicate that academic burnout affects a substantial proportion of university students worldwide, with prevalence rates ranging from approximately 35% for high levels to more than 50% for moderate to severe symptoms. University students represent a dynamic yet vulnerable demographic, frequently navigating a transitional period marked by intense academic pressure, social realignment, and identity formation (1). In recent years, the prevalence of psychological distress in this population has increased, with academic burnout emerging as a critical concern (2). This syndrome, characterized by emotional exhaustion, cynicism toward studies, and a sense of

academic inefficacy, is a major determinant of students' mental health and may lead to decreased motivation, poor performance, and, in severe cases, attrition from higher education (3). As university environments in metropolitan hubs such as Tehran become increasingly competitive, students often face chronic stressors that deplete their cognitive and emotional resources, underscoring the need for deeper exploration of the mechanisms that exacerbate or mitigate burnout (4).

The present study is guided by Acceptance and Commitment Therapy (ACT), which provides a robust theoretical framework for understanding psychological distress through processes such as cognitive fusion and experiential avoidance. One of the most important

cognitive mechanisms linked to psychological distress is cognitive fusion. Derived from the ACT framework, cognitive fusion occurs when individuals become overidentified with their thoughts, treating them as literal truths rather than passing mental events (5). In the academic context, a student experiencing cognitive fusion may become entangled with thoughts of failure or inadequacy, restricting behavioral flexibility and heightening emotional exhaustion (6). Research has consistently shown that higher levels of cognitive fusion are associated with increased stress and decreased resilience, as students lose the ability to detach from dysfunctional self-evaluations, thereby perpetuating the cycle of academic burnout (7).

In parallel with internal cognitive processes, perceptions of social interaction play a decisive role in students' psychological well-being. Perceived social interaction refers to an individual's subjective evaluation of social exchanges and the support received from the environment (8). Positive social perceptions act as a psychological buffer, providing students with the emotional security needed to navigate academic challenges (9). Conversely, when students perceive their social interactions as negative or insufficient, they often experience isolation, which accelerates the onset of burnout symptoms (10). Empirical evidence suggests that students with more positive perceptions of social interaction are better equipped to manage the demands of higher education, as these interactions foster a sense of belonging and collective efficacy (11).

Furthermore, cognitive avoidance strategies contribute substantially to the persistence of academic burnout. Cognitive avoidance involves deliberate efforts to escape or suppress unpleasant thoughts and images related to perceived threats (12). Although these strategies, such as thought substitution or distraction, may offer short-term relief, they are fundamentally maladaptive in academic settings (13). By avoiding core academic stressors, students hinder the development of effective problem-solving skills, leading to the accumulation of unresolved demands and heightened anxiety (14). Studies have indicated that specific components of cognitive avoidance, such as the transformation of images into thoughts, are strongly predictive of chronic exhaustion and cynicism among university students (15).

From an ACT perspective, cognitive fusion and avoidance represent interrelated internal processes that may be exacerbated by unfavorable social contexts. Negative perceptions of social interaction may reinforce cognitive entanglement and avoidance by increasing feelings of isolation and reducing opportunities for

values-based action and psychological flexibility. The need for this research arises from the increasing prevalence of academic burnout and the scarcity of integrated models that simultaneously examine internal cognitive processes, including fusion and avoidance, alongside external social perceptions. Although previous studies have often investigated these variables in isolation, a notable gap remains in the Iranian higher-education context, particularly in highly competitive metropolitan settings such as Tehran, where cultural, academic, and socioeconomic pressures may uniquely shape the interplay between cognitive rigidity, avoidance strategies, and perceived social support. Understanding their combined impact is essential for developing holistic counseling interventions in university health centers. By identifying the factors that most strongly predict burnout, educators and psychologists can tailor defusion techniques and social-skills training to safeguard students' psychological resources.

## 2. Objectives

This study aimed to examine the relationships among cognitive fusion, perceived social interaction, the five components of cognitive avoidance, and academic burnout among university students.

## 3. Methods

### 3.1. Design and Participants

This study employed a descriptive-correlational research design. The statistical population comprised all undergraduate and graduate students enrolled in public and Islamic Azad universities in Tehran during the 2024 - 2025 academic year. The sample size of 210 was determined based on the number of research variables (3 main predictors) and established guidelines for multiple regression analysis. Using multistage cluster sampling, 210 students were selected. In the first stage, 4 universities, including 2 public universities and 2 Islamic Azad universities, were randomly selected from the list of institutions in Tehran. In the second stage, departments were randomly selected as clusters within each university. In the third stage, classes were randomly selected within departments. A total of 12 clusters were approached, and all students present in the selected classes were invited to participate.

Inclusion criteria were active student status during the data collection period and the provision of informed consent. Exclusion criteria were incomplete questionnaire responses or a self-reported history of

severe psychiatric disorders, defined as any current or past diagnosis of psychotic disorders, bipolar disorder, or severe mood or anxiety disorders requiring hospitalization or ongoing specialist psychiatric treatment, as assessed using a brief self-report screening question at the beginning of the survey. Ethical considerations were strictly observed. All participants were informed of the study objectives and the confidentiality of their data and were assured of their right to withdraw at any time without academic penalty. The overall response rate was approximately 68% (210 completed questionnaires out of 310 distributed). No systematic differences were observed between completers and noncompleters in the available demographic variables of age and gender.

### 3.2. Procedure

Following institutional ethical approval, data collection was conducted in a structured manner. After coordination with university administrators and obtaining the necessary permissions, the researchers distributed the instruments to the selected clusters. A brief orientation session was conducted before administration to explain the study purpose and provide instructions for each scale. Data collection spanned approximately 8 weeks, and questionnaires were completed either in person or via a secure online platform to maximize response rates. All returned forms were checked for completeness and consistency before data entry.

### 3.3. Instruments

#### 3.3.1. Academic Burnout Questionnaire

This 15-item scale, developed by Bresó et al. (16), assesses 3 dimensions: emotional exhaustion, cynicism, and reduced academic efficacy. Items are rated on a 5-point Likert scale from 1 = never to 5 = always, yielding a total score ranging from 15 to 75; higher total scores indicate greater academic burnout. The total score was used in the present analyses as the primary outcome measure, consistent with common practice in academic burnout research when examining overall syndrome severity. The Persian version has demonstrated strong validity in Iranian contexts (17). In the present study, internal consistency was excellent (Cronbach's  $\alpha = 0.88$ ).

#### 3.3.2. Cognitive Fusion Questionnaire

Developed by Gillanders et al. (18), the Cognitive Fusion Questionnaire is a 7-item unidimensional measure of the degree to which individuals become

entangled with their thoughts. Items are rated on a 7-point Likert scale from 1 = never true to 7 = always true, with possible scores ranging from 7 to 49; higher scores indicate greater cognitive fusion. The Persian version has demonstrated excellent psychometric properties in prior Iranian research (19). In this study, Cronbach's  $\alpha$  was 0.84.

#### 3.3.3. Cognitive Avoidance Questionnaire

Designed by Sexton and Dugas (20), this 25-item instrument comprises 5 subscales, including thought suppression and the substitution of worrying thoughts. Items are scored on a 5-point Likert scale from 1 = not at all typical to 5 = very typical, with possible scores ranging from 25 to 125; higher scores reflect greater use of avoidance strategies. The Persian adaptation has demonstrated strong validity in academic populations (21). For the current sample, Cronbach's  $\alpha$  was 0.86.

#### 3.3.4. Social Interaction Perception Scale

Developed by Glass et al. (22), this 15-item scale measures individuals' subjective perceptions and interpretations of social exchanges. Items are rated on a 5-point Likert scale, with possible scores ranging from 15 to 75; higher scores indicate more positive perceptions of social interactions, whereas lower scores suggest perceived isolation or negativity. In this study, Cronbach's  $\alpha$  was 0.82.

### 3.4. Data Analysis

Analyses were conducted using SPSS version 26. Descriptive statistics, including means and standard deviations, were computed, along with inferential statistics. Before Pearson correlation and multiple regression analyses, statistical assumptions were examined and met, including approximate normality of distributions, confirmed using skewness and kurtosis values and visual inspection; linearity; homoscedasticity, assessed using residual plots; and the absence of multicollinearity, with variance inflation factor values  $< 2$ . Pearson correlation coefficients were used to examine bivariate relationships between variables, and multiple regression analysis was used to assess the predictive contributions of cognitive fusion, perceived social interaction, and cognitive avoidance components to academic burnout.

## 4. Results

The sample comprised 210 university students from public universities and Islamic Azad universities in Tehran. Regarding gender, 60% ( $n = 127$ ) were female and

40% (n = 83) were male. The age distribution indicated that 40% (n = 83) were aged 18 - 20 years, 22% (n = 47) were aged 21 - 23 years, 11% (n = 24) were aged 24 - 26 years, 14% (n = 29) were aged 27 - 29 years, and 13% (n = 27) were 30 years or older. Regarding educational level, 14% (n = 29) were associate degree students, 49% (n = 101) were bachelor's degree students, and 37% (n = 77) were master's degree students or higher.

Descriptive statistics for the study variables, including means, standard deviations, skewness, and kurtosis, are presented in Table 1. The mean academic burnout score was 43.19 (SD = 9.45), suggesting moderate levels in this university sample. Cognitive fusion had a mean score of 34.76 (SD = 8.22), cognitive avoidance had a mean score of 72.35 (SD = 13.68), and perceived social interaction had a mean score of 64.89 (SD = 11.54). For all variables, skewness and kurtosis values were within acceptable ranges (-2 to +2), supporting approximate normality of the distributions and justifying the use of parametric tests, such as Pearson correlation and multiple regression.

**Table 1.** Descriptive Statistics, Skewness, and Kurtosis for Study Variables

Variables	Means	SD	Skewness	Kurtosis
Academic burnout	43.19	9.45	-0.12	0.35
Cognitive fusion	34.76	8.22	0.18	-0.22
Cognitive avoidance	72.35	13.68	0.25	0.41
Perceived social interaction	64.89	11.54	-0.31	0.28

Bivariate associations among the variables are summarized in Table 2. Academic burnout showed significant positive correlations with cognitive fusion ( $r = 0.62$ ,  $P < 0.001$ ) and cognitive avoidance ( $r = 0.58$ ,  $P < 0.001$ ), indicating that greater cognitive entanglement and greater reliance on avoidance strategies were associated with higher burnout levels. Conversely, perceived social interaction showed a significant negative correlation with academic burnout ( $r = -0.55$ ,  $P < 0.001$ ), suggesting that more favorable perceptions of social exchanges acted as a buffer against burnout symptoms. Additional interpredictor correlations were as follows: cognitive fusion and perceived social interaction ( $r = -0.42$ ,  $P < 0.001$ ) and cognitive avoidance and perceived social interaction ( $r = -0.38$ ,  $P < 0.001$ ).

**Table 2.** Pearson Correlation Coefficients Among Academic Burnout and Predictor Variables

Variables	Academic Burnout (r)	P-Value
Cognitive fusion	0.62	0.001
Cognitive avoidance	0.58	0.001
Perceived social interaction	-0.55	0.001

Multiple regression analysis using the stepwise method was performed to evaluate the predictive roles of the variables in explaining academic burnout. The results are detailed in Table 3. The predictor variables collectively explained 53.6% of the variance in academic burnout (adjusted  $R^2 = 0.536$ ). Cognitive fusion was the strongest predictor ( $B = 0.51$ ,  $SE = 0.08$ , 95% CI, 0.35 - 0.67;  $\beta = 0.48$ ,  $t = 6.73$ ,  $P < 0.001$ ), followed by cognitive avoidance ( $B = 0.29$ ,  $SE = 0.06$ , 95% CI, 0.17 - 0.41;  $\beta = 0.39$ ,  $t = 4.45$ ,  $P < 0.001$ ) and perceived social interaction ( $B = -0.30$ ,  $SE = 0.06$ , 95% CI, -0.42 to -0.18;  $\beta = -0.37$ ,  $t = -5.14$ ,  $P < 0.001$ ). Tolerance values ranged from 0.62 to 0.78, and variance inflation factor values ranged from 1.28 to 1.61, indicating no problematic multicollinearity among the predictors. All predictors retained significance in the final model, and the constant was also significant. These findings underscore the prominent role of cognitive fusion in academic burnout, while positive perceptions of social interaction provided meaningful protective effects, supporting an integrated view of cognitive and social mechanisms in academic burnout.

## 5. Discussion

The present study examined the interplay between internal cognitive mechanisms and external social perceptions in relation to academic burnout among university students. The findings indicated that cognitive fusion, cognitive avoidance, and perceived social interaction collectively accounted for 53.6% of the variance in burnout symptoms. Although these variables explained more than half of the variance, a considerable proportion remained unexplained, suggesting that other factors, such as academic workload, perfectionism, sleep quality, or institutional support, may also play important roles. This substantial explanatory power suggests that academic burnout extends beyond workload demands and is strongly influenced by how students process internal thoughts and interpret their social environments. By moving beyond simplistic stress-response models, these results offer a more holistic framework for understanding the psychological processes associated with burnout in competitive higher-education settings, such as those in Tehran.

Cognitive fusion was associated with academic burnout and had the largest standardized coefficient in the regression model. However, the magnitudes of the beta coefficients for cognitive avoidance and the protective effect of perceived social interaction were relatively similar, and the interpretation of relative predictor importance in multiple regression should be made cautiously because of potential multicollinearity

**Table 3.** Summary of Stepwise Multiple Regression Analysis Predicting Academic Burnout

Predictor Variables	R <sup>2</sup>	B	SE	95% CI	$\beta$	t	P-Value
Cognitive fusion	0.384	0.51	0.08	0.35 to 0.67	0.48	6.73	0.001
Perceived social interaction	0.492	-0.30	0.06	-0.42 to -0.18	-0.37	-5.14	0.001
Cognitive avoidance	0.536	0.29	0.06	0.17 to 0.41	0.39	4.45	0.001
Constant term	-	18.45	3.21	-	-	5.75	0.001

and the cross-sectional nature of the data. Drawing from the ACT framework, cognitive fusion entails overidentification with self-critical thoughts, such as "I am a failure," and treating them as literal truths rather than transient mental events. This rigidity is associated with the depletion of psychological resources needed for sustained academic engagement, ultimately fostering cynicism and diminished efficacy. These results align with those of Soleimani et al. (23), who demonstrated that fusion limits behavioral flexibility and heightens distress across diverse populations. Similarly, Eyni and Mousavi (24) provided evidence in Iranian samples that elevated fusion increases vulnerability to chronic stressors through impaired detachment from maladaptive self-evaluations.

Cognitive avoidance strategies were also associated with burnout symptoms. Although short-term tactics, such as thought suppression or distraction, may temporarily alleviate academic pressure, they may prove maladaptive over time. By sidestepping core stressors, such as difficult assignments or examinations, students impede the development of adaptive problem-solving skills, resulting in escalating unresolved demands and intensified anxiety. This pattern corroborates Sexton and Dugas (20), who posited that cognitive avoidance perpetuates chronic anxiety by sustaining perceived threats. The present findings further echo Hayatipoor et al. (21), who linked reliance on avoidance to heightened emotional dysregulation and, consequently, greater emotional exhaustion in student populations.

In contrast, perceived social interaction was associated with lower burnout levels, serving as a significant protective factor. Students who viewed their social exchanges as supportive and meaningful appeared to benefit from a psychological buffer that mitigated the adverse effects of academic stress. Such positive perceptions cultivate belonging and collective efficacy, sustaining motivation amid challenges. These observations support Dong et al. (25), who emphasized that the subjective quality of social interactions is more consequential for mental health than interaction frequency alone. Moreover, they resonate with broader evidence that perceived social support buffers against

cynicism by bolstering emotional security in higher education contexts (26).

From an ACT perspective, these findings underscore the value of multifaceted interventions. Promoting cognitive defusion, that is, observing thoughts without becoming entangled with them, alongside strategies to reduce cognitive avoidance and enhance perceptions of social support, may help preserve psychological resources. For example, social-skills training could include structured peer mentoring programs, communication-skills workshops focused on building reciprocal support networks, or group-based activities designed to foster a sense of belonging and collective efficacy within academic settings. This study addresses an important gap by demonstrating how burnout is associated with intertwined cycles of cognitive entanglement and perceived social isolation. Accordingly, university counseling services should prioritize comprehensive programs targeting both intrapersonal cognitive processes and interpersonal social dynamics to build enduring academic resilience.

Despite these contributions, this study has limitations. The sample was drawn exclusively from universities in Tehran, potentially restricting generalizability to other regions or cultural contexts in Iran. Reliance on self-report measures may introduce social desirability or recall bias. Additionally, the exclusive use of self-report instruments collected at a single time point raises the possibility of shared method variance or common method bias. The cross-sectional design precludes causal inferences and prevents examination of the directionality of the observed relationships. Future research should adopt longitudinal designs, incorporate objective measures, such as physiological indicators, and recruit participants from diverse geographical and institutional settings to elucidate the developmental course of academic burnout.

### 5.1. Conclusions

This study contributes to the literature by demonstrating that cognitive fusion, cognitive avoidance, and perceived social interaction are

meaningfully associated with academic burnout among university students in Iran, collectively explaining a substantial portion of the variance. The results provide strong empirical support that these cognitive and social factors are key correlates of burnout. Notably, although cognitive fusion showed the largest standardized coefficient, the effects of cognitive avoidance and the protective role of perceived social interaction were of comparable magnitude. These insights underscore the need for university counseling centers to adopt holistic intervention models. Integrating ACT-based cognitive defusion techniques with efforts to reduce avoidance and social-skills training holds promise for supporting student well-being. In summary, by highlighting the combined roles of cognitive and social processes in academic burnout, the present findings advance understanding of modifiable psychological mechanisms in competitive higher-education environments and point toward promising directions for prevention and intervention efforts.

## Footnotes

**AI Use Disclosure:** The authors declare that no generative AI tools were used in the creation of this article.

**Authors' Contribution:** M.M.A.Y. contributed to the study concept and design, acquisition of data, analysis and interpretation of data, and statistical analysis. M.A. provided administrative, technical, and material support and supervised the study. M.M.A.Y. and M.A. critically revised the manuscript for important intellectual content.

**Conflict of Interests Statement:** The authors declare no conflict of interest.

**Data Availability:** The dataset used in the present study will be provided by the corresponding author upon reasonable request.

**Ethical Approval:** This study was approved by the Ethics Committee of Islamic Azad University, Central Tehran Branch (Approval No: IR.IAU.CTB.REC.1404.204).

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