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Original Article

The Prevalence of Academic Procrastination among Students of the School of Rehabilitation Sciences at Shiraz University of Medical Sciences

Sara Abolahrari-Shirazi[1a,b], PhD; Farzaneh Moslemi Haghighi[2], PhD; Farahnaz Emami[3a,b*], PhD

[1a] Department of Physical Therapy, School of Rehabilitation Sciences, Shiraz University of Medical Sciences, Shiraz, Iran.
[1b] Rehabilitation Sciences Research Center, Shiraz University of Medical Sciences, Shiraz, Iran.
[2] Department of Physical Therapy, School of Rehabilitation Sciences Research Center, Shiraz University of Medical Sciences, Shiraz, Iran.
[3a] Department of Physical therapy, School of Rehabilitation Sciences, Shiraz University of Medical Sciences, Shiraz, Iran.
[3b] Rehabilitation Sciences of Research Center, Shiraz University of Medical Sciences, Shiraz, Iran.

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ABSTRACT

Background: Academic procrastination is an irrational tendency to delay starting or completing academic tasks. It is reportedly associated with negative emotions, psychological distress, a sense of failure, guilt, lower levels of self-regulated learning and self-efficacy, and unsatisfactory academic performance. Academic procrastination is a common phenomenon among university students. Therefore, this study was designed to investigate the prevalence of academic procrastination among students at the School of Rehabilitation Sciences, Shiraz University of Medical Sciences.

Methods: All university students (a total of 368), including 230 (62.5%) females and 138 (37.5%) males, voluntarily participated in this cross-sectional descriptive study. The participants were undergraduate and postgraduate students from different academic levels across five departments. The mean age of students was 21.66 ± 2.27 years. To ascertain the prevalence of procrastination, we used the Solomon and Rothblum Academic Procrastination Questionnaire. This questionnaire consists of 27 items designed to measure three areas: preparing for exams, preparing assignments, and preparing the final paper. Descriptive statistics, Pearson correlation coefficient, one-way ANOVA, and independent t-tests were applied. A p-value less than 0.05 was regarded as statistically significant.

Results: A total of 297 students completed all items on the procrastination questionnaire. Among the participants, 44.2% reported being moderate procrastinators, and 54.5% reported severe procrastination behaviors. Specifically, 40.9% of males reported moderate procrastination, while 57.3% reported severe procrastination. Among females, 46% reported moderate procrastination, and 52.9% exhibited severe procrastinator behaviors. Furthermore, 42.5% of undergraduate students reported a tendency toward moderate procrastination, while 56% exhibited severe procrastination behaviors. Among postgraduates, 58.1% reported moderate procrastination, and 41.9% reported severe procrastination behaviors. In addition, academic procrastination was prevalent across all components of the questionnaire, with undergraduate students exhibiting significantly higher procrastination levels in preparing assignments ($P < 0.05$).

Conclusion: Academic procrastination behaviors were equally prevalent across all educational levels, disciplines, and sexes. Students exhibited tendencies towards procrastination across all components of academic procrastination. These findings may help institutions develop more effective intervention strategies to mitigate the impact of academic procrastination and improve academic achievement.

*Corresponding author: Farahnaz Emami; PhD of Physiotherapy, Physical therapy Department, School of Rehabilitation Sciences, Shiraz University of Medical Sciences, Chamran Blvd., Abivardi 1 Street, Shiraz, Iran, **E-mail:** emamif@sums.ac.ir; **Tel:** 009836289269

Introduction

Procrastination is a pervasive self-regulatory failure with potentially severe outcomes [1]. It is defined as the voluntary postponement of an intended course of action, despite being aware of the negative consequences that such a delay may have. Five types of procrastination have been identified: general or life routine procrastination, decisional procrastination, neurotic procrastination, compulsive or dysfunctional procrastination, and academic procrastination [2].

Academic procrastination has been recognized as a significant issue for university students [3] and is a common phenomenon in academic settings [4–6]. Academic procrastination is defined as an irrational tendency to postpone the initiation or completion of an academic task [3]. Deliberate academic delays, such as handing in assignments, preparing for exams, and writing final term papers, exemplify academic procrastination [7].

Academic procrastination has significant negative external and internal consequences. External consequences include compromised performance and progress, decreased long-term learning, loss of opportunities, lower self-efficacy, diminished quality of life, financial difficulties, and strained relationships. Internal consequences of procrastinator behavior include anxiety, poor mental health or decreased well-being, irritation, despair, and feelings of guilt [8–10]. Furthermore, several psychosomatic diseases can arise due to the postponement of academic tasks [11].

In recent years, promoting students' academic achievement has been one of the most pressing concerns in education. Various studies have examined the factors influencing improvements in students' achievement, and one of the most significant factors is procrastination [12]. It appears that academic procrastination affects over 70% of college students and can lead to learning difficulties [13]. Turkish undergraduate students have reported evidence of academic procrastination [14]. Moreover, 52% of Middle East Technical University students also procrastinate on their academic tasks [15], and 97% of students at the University of Bristol were found to be affected by different impacts of procrastination [16].

The results of previous studies on university students revealed that procrastinators had lower scores and poorer educational performance than their peers [17, 18]. One of the fields in which students have experienced significant procrastination is medical sciences [6]. The consequences of procrastination among those preparing to take on critical responsibilities can be irreparable. Rehabilitation sciences, a branch of medical sciences, focus on reducing disability and improving quality of life [19].

The need for research on the prevalence of academic procrastination is a crucial first step in proposing academic support for students. The present study may help institutions develop more effective intervention strategies to mitigate the effects of academic procrastination and enhance academic outcomes [20]. Although one study has been conducted on procrastination within medical sciences, concluding that a considerable number of medical students revealed high levels of academic procrastination [6], to our knowledge, only one study has been carried out at Shiraz University of Medical Sciences on procrastination. However, no research has yet been conducted in the field of rehabilitation sciences in Asian countries, particularly in Iran. Therefore, this study aimed to investigate the prevalence of procrastination among students at the School of Rehabilitation Sciences, Shiraz University of Medical Sciences (SUMS).

Methods

Study Design and Participants

The present cross-sectional descriptive study was conducted at the School of Rehabilitation Sciences, Shiraz University of Medical Sciences (SUMS), Shiraz, Iran. Approval for the study was obtained from the SUMS Ethics Committee, by the Helsinki Declaration (IR.SUMS.REC.1396.S1035).

The study population consisted of all undergraduate and postgraduate students enrolled in the School of Rehabilitation Sciences. A total of 368 university students voluntarily participated in the survey. Participants' ages ranged from 18 to 33 years. They represented different grade levels (Bachelor's and Master's programs) and were enrolled across five departments.

All participants provided informed consent before participation and were asked to complete a questionnaire on academic procrastination. This questionnaire has been used in several Iranian studies and has been demonstrated to be a reliable and valid tool for assessing academic procrastination [21].

The inclusion criteria encompassed all students at the School of Rehabilitation Sciences, SUMS. The exclusion criteria were students undergoing psychiatric medication treatment and those who provided incomplete responses to the questionnaire.

Data Collection

To ascertain the prevalence of academic procrastination, the Procrastination Assessment Scale for Students (PASS) was used [22]. This scale, developed by Solomon and Rothblum, consists of 27 items that measure three areas: exam preparation (8 items), assignment preparation (11 items), and writing term papers (8 items).

PASS uses a 5-point Likert scale to evaluate procrastinatory behavior (1 = never procrastinated, 2 = almost never procrastinated, 3 = sometimes procrastinated, 4 = nearly always procrastinated, 5 = always procrastinated) [23]. Items 2, 4, 6, 11, 13, 15, 16, 21, 23, and 25 are reverse-scored [24].

PASS is a highly reliable and valid instrument, suitable for the quantitative assessment of procrastination behavior in the Iranian population [25].

Statistical analysis

Data were analyzed using SPSS software version 23. Descriptive statistics were used to determine the prevalence of academic procrastination among students. To examine correlations between procrastination and demographic variables (age, sex, and educational status), Pearson's Chi-square test was performed.

Additionally, a one-way ANOVA was conducted to assess whether procrastination levels differed across the independent variables. Furthermore, an independent samples t-test was used to compare male and female students on the components of procrastination.

A *p*-value of less than 0.05 was considered statistically significant.

Table 1: Frequency Distribution of Students

Education Status	N (%)
Physiotherapy	153 (41.6%)
Occupational Therapy	108(29.3%)
Speech and Language Therapy	87(23.6%)
Technical Orthopaedia	12(3.3%)
Audiology	8(2%)

N= 368

Table 2: Prevalence of Academic Procrastination among Male and Female

Academic Procrastination Level	Low (%)	Moderate (%)	Sever (%)
Gender			
Male	1.8%	40.9%	57.3%
Female	1.1%	46%	52.9%

Table 3: Association between Academic Procrastination with Education Status

Procrastination Education Status	Moderate N (%)	Sever N (%)
Physiotherapy	52(43.7%)	67(56.3%)
Occupational Therapy	40(43%)	53(57%)
Speech and Language Therapy	34(47.9%)	37(%52.1)
Technical Orthopaedia	5(50%)	5(50%)
Audiology	4(100%)	0(0%)

N=297

Table 4: Comparison of scores of procrastination components between various educational statuses

Components	Educational	Mean ±SD	P-value
Procrastination in Preparing for Exams	**Physiotherapy**	25.30±4.56	0.16
	Occupational therapy	25.09±4.70	
	Speech & language therapy	25.10±4.56	
	Technical orthopaedia	23.64±3.32	
	Audiology	21.14±5.24	
Procrastination in Preparing Assignments	**Physiotherapy**	33.35± 5.93	0.73
	Occupational therapy	33.94±5.74	
	Speech & language therapy	33.32±6.27	
	Technical orthopaedia	34.36± 3.23	
	Audiology	31.00±7.21	
Procrastination in the Preparation of Final Paper	**Physiotherapy**	25.55±4.24	0.51
	Occupational therapy	25.85±4.16	
	Speech & language therapy	24.80±4.69	
	Technical orthopaedia	24.92±4.34	
	Audiology	20.40± 3.71	

Significance Level: P<0.05*

Table 5: Comparison of Scores of Procrastination Components between Academic Grade Levels

Components	Academic Grade Levels		P-value
	Undergraduate (Mean ± SD)	Postgraduate (Mean ± SD)	
Procrastination in Preparing for Exams	25.13±4.56	24.45±4.95	0.38
Procrastination in Preparing Assignments	33.83±5.87	30.91±5.54	0.006*
Procrastination in the Preparation of Final Paper	25.50±4.34	24.17±4.44	0.08

Significance Level: P<0.05*

Table 6: Comparison of Scores of Procrastination Components between Male and Female Students

Components	Sex		P-value
	Male (Mean ± SD)	Female (Mean ± SD)	
Procrastination in Preparing for Exams	24.68±4.59	25.27±4.60	0.24
Procrastination in Preparing Assignments	34.21±5.92	33.12±5.85	0.10
Procrastination in the Preparation of Final Paper	25.63±4.26	25.20±4.43	0.38

Significance Level: P<0.05*

Results

A total of 368 students from the School of Rehabilitation Sciences at SUMS participated in the present study. Of these participants, 230 (62.5%) were female and 138 (37.5%) were male. The mean age of participants was 21.66 ± 2.27 years. The frequency distribution of students is presented in Table 1.

Regarding educational level, 325 (88.3%) of participants were undergraduate students, while the remaining participants were postgraduate students. Among the participants, 297 students completed all items on the procrastination questionnaire, and data from these respondents were included in the final analysis.

The prevalence of academic procrastination by gender is shown in Table 2. Among respondents, 1.3% reported being low procrastinators, 44.2% identified as moderate procrastinators, and 54.5% indicated they were severe procrastinators.

Specifically, among males, 1.8% reported low procrastination, 40.9% reported moderate procrastination, and 57.3% reported severe procrastination. Among females, 1.1% reported low procrastination, 46.0% moderate procrastination, and 52.9% severe procrastination.

However, no significant gender differences in procrastination levels were found in the present study ($P > 0.05$).

The sample size of audiology students was small; therefore, the low and moderate levels of procrastination were combined for analysis. Regarding differences in academic procrastination by educational status, no significant association was observed, as indicated by the Pearson Chi-square test ($P = 0.24$) (Table 3). The results showed that students from all disciplines demonstrated procrastinator behaviors.

Concerning academic grade levels, 42.5% of undergraduate students reported a tendency toward moderate procrastination, and 56.0% demonstrated severe procrastinator behavior. Among postgraduate students, 58.1% reported moderate procrastination, 41.9% severe procrastination, and only 1.5% reported mild procrastination. Many students noted that these procrastination behaviors impeded their academic achievement.

However, the analysis revealed no significant difference in procrastination levels between undergraduate and postgraduate students ($P > 0.05$).

To test whether the levels of procrastination behaviors among students differed according to the age variable, a one-way ANOVA (analysis of variance) was performed. Based on the findings, no significant main effect due to age differences was observed ($F = 1.44$, $P = 0.238$).

According to the ANOVA results, the mean academic procrastination scores for its components are presented across different educational statuses in Table 4. The analysis revealed no significant differences between the various educational statuses in terms of the components of procrastination ($P > 0.05$).

Table 5 presents the results of the ANOVA comparing the prevalence of procrastination components between the two academic grade levels. The findings indicate a significant difference in procrastination related to preparing assignments ($P < 0.05$). This suggests that academic procrastination is more prevalent among undergraduate students when preparing assignments.

An independent sample t-test was conducted to compare procrastination components by sex. According to the results listed in Table 6, there was no statistically significant difference between male and female students ($P > 0.05$).

Additionally, the relationships between age and the components of academic procrastination were evaluated using Pearson's correlation coefficient. The analysis revealed weak negative correlations for all components, including preparing for exams (r = -0.03), preparing assignments (r = -0.06), and preparing the final paper (r = -0.09).

None of these correlations were statistically significant ($P > 0.05$). These results indicate that younger and older students procrastinate to a similar extent.

Discussion

The current study aimed to gain a better understanding of academic procrastination among students of the School of Rehabilitation Sciences at SUMS. To this end, the Persian version of the Procrastination Assessment Scale for Students (PASS) was administered to students in rehabilitation programs. Descriptive statistics revealed that 54.5% of students exhibited severe procrastination. These findings are consistent with previous studies [4, 6, 26–28], which reported a high prevalence of academic procrastination among university students.

Procrastination is a common phenomenon in academic settings. The majority of university students report procrastinating for more than one hour each day [29]. The primary reasons for this behavior include task avoidance, laziness, risk-taking, difficulty with decision-making, low self-confidence, perfectionism, and a desire for rebellion against control. Overall, procrastination can be a persistent trait often linked to temperament. This harmful habit has a detrimental impact on learning and academic achievement [4, 29]. Additional consequences of procrastination include reduced psychological well-being, a sense of failure, low tolerance, difficulty making decisions, and diminished self-confidence [30].

Based on the results, 52.9% of females and 57.3% of males exhibited severe procrastination. Previous studies have reported inconsistent findings regarding the role of gender in procrastination [31, 32]. Some studies have found no significant relationship between gender and procrastination [33, 34], whereas the majority of evidence suggests that males tend to procrastinate more on their tasks [5, 18, 22, 35]. The results of the present study align with those of previous studies reporting no significant gender differences [31, 36, 37]. Moreover, our findings showed no significant difference between male and female students in the components of academic procrastination.

One possible explanation for academic procrastination among students may be internet addiction. The internet is an indispensable tool in educational settings [38, 39]. However, overuse or addiction to the internet is a widespread phenomenon among university students. Previous studies have shown a relationship between academic procrastination and the amount of internet use. This preoccupation causes students to prioritize their social life over their education. The internet or social media can become the central focus of students' lives, leading to procrastinatory behavior. Additionally, when a task is perceived as boring, complex, or unpleasant, individuals tend to avoid it. Consequently, students may spend more time engaged in online activities and postpone their academic duties. Internet addiction can negatively affect learning efficacy and academic achievement. Furthermore, a negative correlation between internet addiction and poor emotional well-being has been reported [40].

Another possible explanation for this discrepancy may be cultural differences. Overall, researchers have suggested that the influence of gender on procrastination is difficult to predict [41].

The results of this study indicated that students across different disciplines (physiotherapy, occupational therapy, speech and language therapy, technical orthopedics, and audiology) exhibited procrastinatory behavior. No directly comparable or conflicting findings were identified in previous studies. The university students in this study ranged in age from 18 to 33 years, a demographic characterized by significant social engagement. As a result, they often prioritize time with friends and family, which may lead to the postponement of academic deadlines [42].

The results of the present study indicate that procrastination is a widespread issue across various educational levels. Approximately 56% of undergraduate students and 41.9% of postgraduate students in the School of Rehabilitation Sciences reported severe procrastination. This finding is consistent with previous research [42, 43]. Academic procrastination is a widespread phenomenon among undergraduate students, with more than 70% of university students exhibiting procrastinatory behavior regularly, and 20% doing so habitually [44].

One factor attributed to procrastination is poor time management. Lower levels of time management have been linked to increased academic stress and failure. Conversely, time management skills enhance students' engagement, participation in the learning process, and academic motivation. Procrastination may be a strong predictor of lower self-regulation and self-esteem, avoidant behaviors, and self-handicapping in undergraduate settings, and is associated with adverse outcomes such as higher levels of anxiety, stress, and illness [43]. Therefore, time management skills play an essential role in reducing anxiety and depression [45].

In addition, laziness, lack of motivation, excessive internet use, social problems, and peer influence have been identified as contributing factors to academic procrastination among undergraduates [16]. Moreover, procrastination in rehabilitation sciences students may be caused by poor planning and goal setting. The greater the fear or effort required to complete a task, the more likely it is to be procrastinated [28].

In contrast to our results, some researchers have reported that graduate students tend to procrastinate more on their tasks than undergraduates [46]. This discrepancy may be attributable to differences in sample size.

In the present study, no significant main effect regarding age differences was observed. This finding is consistent with the results of previous studies [47, 48]. However, it contrasts with other studies that reported age-related differences in procrastination [16, 43]. The variation in findings may be due to differences in the age range of participants, as prior studies included broader age distributions.

In the present study, the prevalence of procrastination was assessed among various educational courses in three areas of academic functioning: preparing for exams, completing assignments, and writing the final paper. Results demonstrated that procrastination did not differ among various disciplines. No similar or conflicting findings were encountered in previous literature. Academic tasks include writing a term paper, studying for exams, and completing weekly reading assignments [49].

Many factors contribute to the emergence of academic procrastination behavior. One of the most significant contributing factors to procrastination in students is the influence of social and environmental factors, including peers and family. Students are inherently social beings, and a multitude of social and exogenous agents beyond the student's control may create unnecessary delays. They interact with other friends in both academic settings and during their free time, and these factors may serve as role models for procrastinating tendencies.

Another possible explanation for procrastination is task characteristics. Different aspects of tasks—such as aversiveness, boredom, and unpleasantness—are strong predictors of procrastination [50]. DeBruin and Rudnock suggested that increased anxiety when facing exams, failure to meet assignment submission deadlines, poor writing skills, and low grades are consequences of procrastination behavior [51].

Understanding academic procrastination and the factors that lead to it may help instructors prevent its adverse outcomes [52]. Additionally, therapeutic intervention methods should focus on modifying environmental stimuli and developing time management skills [53].

Consistent with the results of previous studies, our findings revealed a higher frequency of procrastination in preparing assignments among undergraduates [54]. It is essential to identify the factors that may contribute to the development of procrastination habits. These factors include environmental influences, individual personal characteristics, and parenting styles. Some researchers have noted that the development of procrastination is linked to university students' perceptions of high levels of parental criticism and parental expectations [55].

Research also indicates relationships between procrastination behavior, goal orientation, and learning strategies among undergraduate students. It was concluded that disorganization and lower use of cognitive or metacognitive learning strategies were positively associated with academic procrastination behavior in undergraduates [56]. Solomon and Rothblum emphasized that the use of metacognitive learning strategies is essential for students and has the most significant effects on their academic achievements [22].

In the present study, no significant relationship was found between components of academic procrastination tendency and age. In other words, students of all ages generally showed procrastination behavior. There is a limited number of studies examining the association between academic procrastination behavior and age. The majority of these studies did not report significant age differences in terms of procrastination scores [33].

University students are at the beginning of adulthood or in late adolescence. These periods are characterized by social compatibility and growing independence. They attempt to juggle and plan their time with friends, and this newfound sense of autonomy adds to this challenge. Consequently, they may tend to disregard the deadlines of academic assignments and opt to work or socialize with friends instead. Therefore, socialization may exacerbate procrastination behaviors [42, 57].

The present study has several limitations. First, the data were collected solely from the School of Rehabilitation Sciences, Shiraz University of Medical Sciences; therefore, the results cannot be generalized to all educational settings. Second, this study employed a cross-sectional descriptive design, and data were collected over a specific period. Future longitudinal studies should be conducted to determine different levels of academic procrastination among students. Third, the study measured procrastination behavior at a single time point and did not track changes in behavior over time. Future research should be designed to examine procrastination behavior longitudinally. Finally, the sample size of some disciplines, such as audiology, was small, which may limit the generalizability of the findings for those specific disciplines.

Conclusions

Academic procrastination behaviors were equally prevalent across all educational levels, disciplines, and sexes. Students exhibited procrastination behaviors in all components of academic procrastination, including preparing for exams, assignments, and final papers. These findings may help institutions develop more effective intervention strategies to mitigate the impact of academic procrastination and improve academic achievement.

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