



# Potential associations among procrastination, motivation and academic achievement of midwifery and nursing students in Hormozgan

Sara Derakhshanfard<sup>1</sup> , Fatemeh Moshiri Fallah<sup>1</sup> , Zahra fereidouni<sup>2</sup> , Somayeh Elahi<sup>2</sup> , Omolbanin Delashoub<sup>1</sup> , Shideh Rafati<sup>3</sup> , Mahboubeh Masoumbeigi<sup>4</sup> , Reza Afzalipour<sup>4,5\*</sup>

<sup>1</sup>Student Research Committee, Faculty of Para-Medicine, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

<sup>2</sup>Student Research Committee, Faculty of Nursing and Midwifery, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

<sup>3</sup>Social Determinants in Health Promotion Research Center, Hormozgan Health Institute, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

<sup>4</sup>Department of Radiology, Faculty of Para-Medicine, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

<sup>5</sup>Molecular Medicine Research Center, Hormozgan Health Institute, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

## Abstract

**Background and aims:** Procrastination is a common issue among students and is often linked to a lack of motivation. The main aim of this study was to evaluate the relationship between procrastination, motivation, and academic achievement of midwifery and nursing students.

**Methods:** In this cross-sectional study in 2023, 258 participants were enrolled, and data were collected by online distribution of three primary questionnaires, including the Procrastination Assessment Scale for Students and Hermans' Questionnaire Measure of Achievement Motivation, along with a customized questionnaire. The chi-squared test was used for statistical analysis.

**Results:** The mean score of achievement motivation among participants with academic achievement was considerably higher ( $P=0.006$ ). When adjusted for confounding factors, female participants were found to have a higher likelihood of academic achievement (4-fold) than male counterparts. A significant inverse correlation was found between academic motivation and procrastination ( $r=-0.492$ ,  $P<0.001$ ). We also noted a significant association between interest in the field of study and achievement motivation ( $P=0.039$ ).

**Conclusion:** The study showed that academic achievement and motivation significantly influence one another, and strategies aimed at improving motivation can lead to a higher incidence of academic achievement and, thus, academic performance.

**Keywords:** Procrastination, Motivation, Academic success, Academic performance, Nursing

## \*Corresponding Author:

Reza Afzalipour,  
Email: [reza.afzalipour@hums.ac.ir](mailto:reza.afzalipour@hums.ac.ir)

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## Introduction

Procrastination is a common issue among students and can significantly impact their academic performance. Procrastination is often linked to a lack of motivation or difficulty focusing on tasks. This can lead to a cycle of procrastination, where students delay completing assignments or studying for exams until the last minute, resulting in poor academic performance (1). Motivation plays a crucial role in overcoming procrastination and achieving academic success. Students motivated to succeed in their studies are more likely to stay on track with their coursework, set goals, and work diligently towards achieving them. Motivated students are also more likely to seek resources and support when encountering challenges, enabling them to overcome obstacles and succeed academically (2). In midwifery and nursing, an

essential goal of the educational system is to improve students' educational performance, as this may help both the system and students prosper as a whole. Like many other indicators, educational performance is affected by several factors including, but not limited to, motivation, emotions, anxiety, and procrastination (3). A factor of utmost importance, motivation is what renders a student inclined to becoming successful or attaining academic achievements (4), i.e., the more motivated an individual is, the more successful they might turn out to be (5). On the other end of the spectrum, though, lies procrastination, which is the arbitrary postponement of tasks despite knowing of potentially negative consequences that might ensue (6). In this sense, academic procrastination is manifested by a tendency for delayed studying and unpreparedness for exams or other academic affairs. A

frequently reported issue is procrastination, which can be as prevalent as 70% in particular communities of students (7).

Research has shown a correlation between procrastination, motivation, and academic achievement among students in various fields of study (8). In this line, many investigations have explored high and very high levels of procrastination in Iranian college students (9). Anxiety, perfectionism, indecisiveness, low self-esteem, irresponsibility, fear of failure, laziness, and helplessness stand among the most prominent factors that may predispose individuals to procrastination (10), which itself can result in internal (e.g., anxiety and frustration) and external (e.g., academic failure) consequences (11). Attitude plays a significant role, as well. The students' attitudes toward their universities are significantly associated with their academic performance and procrastination (12). According to several studies, there is a significantly negative correlation between motivation and procrastination (13,14). The negative impact of procrastination on mental health was demonstrated while highlighting an association between procrastination and frustration (15). Consistently avoiding procrastination can increase motivation and academic achievements (4). Since procrastination negatively affects the capacity of students to learn, it might also harm their career and professional lives (16). When combined with anxiety, procrastination mitigates academic motivation (17), resulting in a reduced sense of self-efficacy and an increased incidence of dropping out of college (18). Even worse, procrastinating individuals adversely impact those with whom they interact (19). Understanding these relationships can help educators and institutions develop targeted interventions to support students in managing their time effectively, staying motivated, and achieving academic excellence. In midwifery and nursing, where time management and organization are crucial skills, understanding the potential association between procrastination, motivation, and academic achievement is particularly important (20). As the interactions between motivation and procrastination and their ultimate effects on academic achievements have not been thoroughly investigated in southern coastal regions of Iran, the present study seeks to explore the outcomes of procrastination on the academic performance of midwifery and nursing students and provide insights for overcoming educational and social issues associated with procrastination.

## Materials and Methods

This cross-sectional study evaluated the relationship between motivation and procrastination among nursing, midwifery, and allied health professions (AHP) students at Hormozgan University of Medical Sciences in 2023. A total of 800 students were deemed potentially eligible for participation in the current study, though only 258 participants were ultimately enrolled, who then proceeded to take a questionnaire. Inclusion criteria for participation

were: 1) nursing or midwifery students, 2) no history of deceased loved ones within a year before study, 3) and personal consent.

Participants were asked to take three distinct questionnaires, including 1) Procrastination Assessment Scale for Students (PASS), 2) Hermans' Questionnaire Measure of Achievement Motivation (QMAM), and 3) a customized questionnaire designed for obtaining demographic information about the participants, such as age, sex, field of study, economic status, place of residence, degree of interest to the field of study, and history of academic probation.

PASS is a measure of assessing procrastination in students developed by Solomon and Rothblum in 1984 (12). It consists of 27 questions that evaluate three primary components, including 1) studying for an exam (8 questions), 2) keeping up with academic assignments (11 questions), and 3) writing a term paper (8 questions). Participants must answer each question on a scale of 1 to 5, where one indicates "never," and five indicates "always".

Comprising 29 questions, QMAM was developed by Hermans in 1970 to distinguish highly motivated individuals from unmotivated persons based on ten distinct features (21).

Lastly, participants were asked to take a customized questionnaire to obtain demographic information while collecting data regarding their motivation status. This questionnaire featured incomplete statements, and the participants were asked to complete each statement by selecting an option that described their attitude toward that statement better than others. Based on the options selected, a score was calculated for each subject to indicate their degree of motivation comparatively.

Participants were randomly selected from a population of potentially eligible individuals. Links to questionnaire forms were shared with participants, who were then asked to fill out each form online. The sampling process was concluded once 258 individuals had filled out and sent their forms. Statistical analysis was performed with IBM SPSS via the independent t-test. A p-value below 0.05 was regarded as statistically significant. Logistic regression analysis was used to evaluate the association between academic achievement, motivation level, and procrastination based on age, marital status, place of residence, economic status, and field of study. A multivariate logistic regression test assessed the relation between academic motivation and other variables regarding odds ratio (OR) with a 95% confidence interval (CI).

## Results

The majority of participants, 102 out of 250 (39.5%), were aged 20-22. Nursing students comprised the subpopulation, with 88 (34%) participants. More than half of the subjects were female (149, 57.7%) and resided in institutional dormitories (58.1%). About 88% of the population were unmarried, and 54.7% of participants

were genuinely interested in their field of study. Demographic information of the participants can be viewed in Table 1.

Two primary subgroups to be analyzed in this work were individuals with or without academic achievement, including 244 (94.6%) and 14 (5.4%) participants. Table 2 shows a statistically significant inverse correlation between motivation and procrastination ( $P < 0.001$ ) with a Pearson correlation coefficient of  $r = -0.492$ . Participants with perceptible improvements in their grades, i.e., those with academic achievements, had a significantly higher mean motivation score than those who failed to attain specific achievements ( $P = 0.006$ ). Nevertheless, we did not find any difference of significance in the mean score of procrastination (based on PASS) between the two groups ( $P = 0.263$ ).

Based on the information provided in Table 3, there was a considerable positive association between interest in the field of study and motivation ( $P = 0.039$ ), with an OR of 2.21. When adjusted for confounding factors, the likelihood of attaining academic achievements for female participants was four times higher than that of male participants (OR: 4.32, 95% CI: 1.27-18.61), which was statistically significant ( $P = 0.017$ ). Besides this, no meaningful associations were found between the other variables.

## Discussion

This article explores the potential association between procrastination, motivation, and academic achievement among midwifery and nursing students. Academic

performance and achievement stand at the pinnacle of academic goals that any educational system could provide for its students. However, these sublime goals are subject to several factors, such as motivation, procrastination, emotions, anxiety, etc (4).

In their 2019 investigation on nursing students, Rasoli Khorshidi et al. demonstrated a direct correlation between motivation and academic achievement while highlighting an inverse association between the latter and procrastination (4). Consistent with these findings, we revealed a significant inverse correlation between motivation and correlation among our participants, who were found to achieve higher scores in QMAM as their academic performance increased.

In 2016, Kutlu Abu and Saral classified the positive regulators of procrastination into two major categories: internal and external. While internal factors include perfectionism, fear of failure, reluctance to exhaust oneself, and preference for exhilarating activities, external factors comprise the social environment, physical conditions, and faculty practices (22). In line with this account, we found a meaningful correlation between interest in the field of study and academic motivation while also noting a solid association between sex and academic achievement in favor of the female participants.

Based on the literature, procrastination is a negative regulator of one's motivation for academic achievements (3). However, due to the complex nature of this issue, not all factors that might contribute to the adverse effects of procrastination can be identified (23). Most students tend to postpone their assignments until the very last moment,

**Table 1.** Demographic information of participants

| Variables      | Participants                  |                  |                |            |
|----------------|-------------------------------|------------------|----------------|------------|
|                | Total (n = 258)               | Female (n = 149) | Male (n = 109) |            |
| Age            | 18–20                         | 86 (33.3%)       | 56 (21.7%)     | 30 (11.6%) |
|                | 20–22                         | 102 (39.5%)      | 58 (22.5%)     | 44 (17.0%) |
|                | 22–24                         | 44 (17.1%)       | 22 (8.5%)      | 22 (8.5%)  |
|                | >24                           | 26 (10.1%)       | 13 (5.0%)      | 13 (5.0%)  |
| Field of study | Surgical technologist         | 36 (14%)         | 21 (8.1%)      | 15 (5.8%)  |
|                | Nursing                       | 88 (34.1%)       | 41 (15.9%)     | 47 (18.2%) |
|                | Radiography                   | 39 (15.1%)       | 24 (9.3%)      | 15 (5.8%)  |
|                | Laboratory sciences           | 22 (8.5%)        | 14 (5.4%)      | 8 (3.1%)   |
|                | Information technology        | 19 (7.4%)        | 17 (6.6%)      | 2 (0.8%)   |
|                | Emergency medicine technician | 15 (5.8%)        | 0 (0%)         | 15 (5.8%)  |
|                | Midwifery                     | 26 (10.1%)       | 26 (10.1%)     | 0 (0%)     |
|                | Anesthesiology                | 13 (5.0%)        | 6 (2.3%)       | 7 (2.7%)   |

**Table 2.** Association between procrastination and achievement motivation in participants with/without academic achievement. Scores of procrastination and achievement motivation were calculated based on the responses of participants to PASS and QMAM questionnaires, respectively

| Variable               | Academic Achievement |               | P value |
|------------------------|----------------------|---------------|---------|
|                        | Yes (n = 244)        | No (n = 14)   |         |
| Procrastination        | 78.60 (11.22)        | 82.07 (12.04) | 0.263   |
| Achievement motivation | 85.04 (8.11)         | 78.79 (9.05)  | 0.006   |

The chi-squared test was used for statistical analysis.

**Table 3.** Correlation of demographic variables with academic achievement and achievement motivation

| Variable                   | Academic Achievement |                      | Achievement Motivation |                      |       |
|----------------------------|----------------------|----------------------|------------------------|----------------------|-------|
|                            | Adjusted OR          | P value <sup>a</sup> | Adjusted OR            | P value <sup>b</sup> |       |
| Age                        | 18–20                | 1.02 (0.21–6.16)     | 0.978                  | 1.12 (0.37 – 3.41)   | 0.840 |
|                            | 20–22                | 1.60 (0.27–10.73)    | 0.597                  | 1.10 (0.37 – 3.27)   | 0.859 |
|                            | 22–24                | 1.79 (0.20–15.47)    | 0.590                  | 0.76 (0.22 – 2.58)   | 0.658 |
|                            | >24                  | N/A                  | N/A                    | N/A                  | N/A   |
| Gender                     | Male                 | N/A                  | N/A                    | N/A                  | N/A   |
|                            | Female               | 4.32 (1.27–18.61)    | 0.017                  | 1.51 (0.85 – 2.68)   | 0.160 |
| Field of Study             | AHP                  | N/A                  | N/A                    | N/A                  | N/A   |
|                            | Midwifery            | 1.60 (0.12–22.71)    | 0.754                  | 1.66 (0.67 – 4.09)   | 0.296 |
|                            | Nursing              | 0.97 (0.08–13.93)    | 0.988                  | 1.76 (0.99 – 3.12)   | 0.055 |
| Place of Residence         | Dormitory            | N/A                  | N/A                    | N/A                  | N/A   |
|                            | Apartment            | 0.47 (0.11–1.75)     | 0.270                  | 1.28 (0.72 – 2.27)   | 0.402 |
| Wage                       | Below minimum        | N/A                  | N/A                    | N/A                  | N/A   |
|                            | Above minimum        | 1.34 (0.40–4.18)     | 0.622                  | 1.02 (0.59 – 1.77)   | 0.940 |
| Marital Status             | Single               | N/A                  | N/A                    | N/A                  | N/A   |
|                            | Married              | 4.96 (0.94–25.03)    | 0.058                  | 1.18 (0.44 – 3.14)   | 0.738 |
| Interest in Field of Study | Low                  | N/A                  | N/A                    | N/A                  | N/A   |
|                            | High                 | 0.47 (0.13–1.88)     | 0.273                  | 2.21 (1.04 – 4.68)   | 0.039 |
| Procrastination            | Infrequent           | N/A                  | N/A                    | N/A                  | N/A   |
|                            | Moderate             | 0.66 (0.08–8.52)     | 0.712                  | N/A                  | N/A   |
|                            | Frequent             | 0.23 (0.001–7.96)    | 0.420                  | N/A                  | N/A   |

Abbreviations; AHP: allied health professions.

<sup>a</sup> Binary logistic regression.

<sup>b</sup> Ordinal logistic regression. Due to the non-normal data distribution, procrastination was not analyzed using this method.

which is postulated to stem from the inadequacy of the promised reward or aversion from assignments (15). Procrastinating individuals are usually affected by stress and anxiety and often fail to achieve their desired goals (23).

In conclusion, understanding the potential association between procrastination, motivation, and academic achievement is essential for supporting the success of midwifery and nursing students. By addressing these factors and providing students with the necessary support and resources, educators can help students overcome procrastination, stay motivated, and achieve academic excellence in their chosen field.

The present work is limited in scope due to restrictions on a particular time and location, and it might have been subject to overestimation due to the self-report nature of data collection. Regardless, our findings may still contribute to planning strategies in academic institutions to promote students' motivation to attain academic achievements while avoiding procrastination. The present study's authors hope that the methods adopted by this study will be enhanced by prospective investigations in a way that accounts for a more diverse range of qualitative and quantitative variables associated with motivation and procrastination.

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#### Authors' Contribution

**Conceptualization:** Omolbanin Delashoub.

**Data curation:** Somayeh Elahi.

**Formal analysis:** Mahboubeh Masoumbeigi

**Funding acquisition:** Sara Derakhshanfard, Fatemeh Moshiri Fallah. Investigation: Omolbanin Delashoub, Somayeh Elahi, Sara Derakhshanfard, Fatemeh Moshiri Fallah, Zahra Fereidouni

**Methodology:** Zahra Fereidouni.

**Project administration:** Reza Afzalipour.

**Supervision:** Reza Afzalipour.

**Writing—original draft:** Shideh Rafati and Reza Afzalipour.

**Writing—review & editing:** Mahboubeh Masoumbeigi.

#### Competing Interests

The authors declare that there is no conflict of interest.

#### Ethical Approval

Ethical considerations in this study included obtaining permission from the Ethics Committee of Hormozgan University of Medical Sciences (Approved ethics code: IR.HUMS.REC.1400.033) and obtaining written consent from the participants.

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