

ORIGINAL RESEARCH

Academic procrastination among postgraduate diploma students: A cross-sectional study

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ABSTRACT

Procrastination is a common problem in academic contexts, affecting students' performance. To address this problem, the current research investigated its prevalence and factors among postgraduate diploma students. A cross-sectional design and a self-administered online questionnaire were used at the Higher Institute of Health Specialties. The study included all postgraduate diploma students in higher institute programmes. Data were analysed using SPSS Statistics. Findings showed that many Post Graduate Diploma students exhibited above-average levels of procrastination, especially on challenging tasks. Students were willing to reduce procrastination. Key factors included fear of failure, low motivation, task overload, and social influences. Factor analysis identified three main dimensions: risk-taking, fear of failure, and laziness. No significant link was found between procrastination and demographic variables.

Key Words: Academic performance, Academic postponement, Academic procrastination, College Students, Health professional students, Impact of procrastination, Level of procrastination, Postgraduate students, Postponing, Prevalence of procrastination, Reasons of procrastination, Students, University students

1. INTRODUCTION

Procrastination has been defined as the voluntary and unnecessary postponement of initiating or completing significant intended tasks, even when aware of potential negative consequences.^[1] Building on this, the tendency of students to deliberately delay academic tasks despite anticipating negative consequences is known as academic procrastination. Academic procrastination has mainly been evaluated in terms of study behaviours, such as the amount of time spent learning, approaches to studying, and completion of self-directed learning courses. Furthermore, Solomon and Rothblum^[2] explained that academic procrastination is associated with writing papers, preparing for tests, doing weekly reading assignments and studying.

Several factors, such as perfectionism, motivational deficit,

fear of failing, or ineffective time management, can contribute to academic procrastination. As a result, students frequently struggle with procrastination, which can lead to higher stress levels, poorer academic achievement, and a vicious cycle of guilt and anxiety.^[3–5] In addition, Budury et al.^[6] found that task averseness, reliance, and a lack of assertion significantly contribute to students' procrastination. Farooq et al.^[7] discussed additional vital factors contributing to academic procrastination and performance, including learners' demographic characteristics (e.g., age, gender, background, ethnicity). Students' procrastination style was influenced by their age, level of life satisfaction, and whether they had children (Liu, 2024). However, these are still less often explored in the existing literature.

One of the earliest studies to identify different types of pro-

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crastinators among university students was conducted by Rothblum et al.^[8] They recognised high and low procrastinators. High procrastinators showed higher test anxiety, state anxiety, and anxiety-related symptoms than low procrastinators. Recent studies have identified distinct features of procrastination across different circumstances. Three procrastination types were identified in the Turkish sample by Özberk and Kurtça^[9] using latent profile analysis among Turkish and international university students: those who prefer fun tasks, those who avoid both work and lessons, and those who are driven to succeed academically. The international sample identified two types of academic procrastinators: those who procrastinate by focusing on academic tasks but avoid starting them, and those who procrastinate by engaging in enjoyable, non-academic tasks. Liu^[10] categorised three forms of procrastination in the industry context into three levels: lowest, lower, and high. Ragusa et al.^[5] evaluated the relationship between academic performance and procrastination among university students and found a significant negative relationship between the two.

By contrast, Güngör^[11] reported no compelling relationship between academic procrastination and academic achievement. However, a strong negative association was observed between academic self-efficacy and procrastination, while a significant positive association was observed between academic self-efficacy and academic achievement. Furthermore, regression analyses indicated that academic self-efficacy serves as a predictive factor for both academic procrastination and academic achievement. Talebian et al.^[12] examined the relationships among perceived competence, self esteem, and self efficacy and academic procrastination among health professional students. They found that academic procrastination was positively associated with perceived competence and negatively associated with self-esteem and self-efficacy.

George and Madkhali^[13] discussed other factors contributing to poor academic performance. They explained that the most prominent reasons for procrastination are social media addiction, dull or challenging tasks, vague guidelines, stress, and avoidance resulting from low self-confidence. They have also found that students with lower academic performance are more likely to procrastinate than their higher-performing peers. Huang et al.^[14] found that the prevalence of academic procrastination among students is associated with a lack of interest in completing academic tasks and impulsiveness, which makes it easier to move from academic to entertaining activities. They also found that procrastination is very closely associated with the type of task assigned. It is observed that the learners often put off uninteresting tasks.

The above review of studies shows that procrastination is

a concerning phenomenon. Some researchers have categorised it as an incorrect behaviour, while others view it as destructive. Supporting these distinctions, several studies have specifically linked each category to aspects of individual performance and student well-being.

Although several empirical studies have examined academic procrastination, little is known about procrastination among postgraduate diploma students, as most research focuses on undergraduate or PhD students. The nature of study differs significantly among undergraduate, postgraduate, and PhD students, for example, in terms of years of study, curriculum structure, teaching methods, age and motivation, supervision practices, tendencies towards procrastination, and coping mechanisms. Postgraduate diploma programmes in health specialities attract a different group of students, many of whom balance their studies with professional commitments. Postgraduate diploma students are licensed nurses and allied health professionals who have completed an undergraduate qualification and are undertaking a structured postgraduate diploma programme to develop specialised clinical competencies and enhance their knowledge, skills, values, and ethical practices required for advanced healthcare roles.

While PhD students also face cross-complicated accountabilities, postgraduate diploma students often face exceptional difficulties due to the shorter duration of their programmes and the practical, career-oriented nature of their coursework and other commitments; this may lead them to procrastinate, which can negatively affect their educational attainment and well-being. This research seeks to address this gap in the evidence base to improve students' learning and experience while undertaking their postgraduate diploma in health specialities.

1.1 Research questions

- 1) What is the prevalence of academic procrastination among postgraduate diploma students?
- 2) What are the factors influencing academic procrastination among postgraduate diploma students?

1.2 Secondary research questions

- 1) Is there a relationship between the prevalence of academic procrastination and selected demographic variables (gender, age, qualification and marital status) among postgraduate diploma students?
- 2) Is there a relationship between the factors of academic procrastination and selected demographic variables (gender, age, qualification and marital status) among postgraduate diploma students?

1.3 Research hypothesis

H1 (Alternative hypothesis): There is a significant relationship between the prevalence of academic procrastination and selected socio-demographic variables (gender and qualification) among postgraduate diploma students.

H0 (Null hypothesis): There is no relationship between the prevalence of academic procrastination and selected demographic variables (gender and qualification) among postgraduate diploma students.

H1 (Alternative hypothesis): There is a significant relationship between the factors of academic procrastination and selected socio-demographic variables (gender and qualification) among postgraduate diploma students.

H0 (Null hypothesis): There is no relationship between the factors of academic procrastination and selected demographic variables (gender and qualification) among postgraduate diploma students.

1.4 The context of the study

The Higher Institute of Health Specialities (HIHS) offers nine academic programmes, each worth 30 to 42 credit hours. Students are assessed through a comprehensive system that includes exams, research projects, change-management assignments, oral presentations, and other tasks. This rigorous academic structure demands that students juggle multiple tasks and deadlines concurrently. In such a challenging environment, effective time management and self-regulation are crucial. However, the heavy workload may lead to academic procrastination.

2. METHOD

A cross-sectional study was conducted to assess the prevalence of academic procrastination and its contributing factors among postgraduate diploma students.

2.1 Ethical consideration

Ethical approval for this study was obtained from the HIHS Research Ethics Committee. In line with established ethical guidelines, a consent statement was provided at the start of the survey. Participants were also given a detailed information sheet outlining the study's purpose, the voluntary nature of participation, potential risks and benefits, and measures taken to ensure confidentiality. Participation in the study was entirely voluntary, and participants were informed of their right to withdraw at any time without penalty. Completion and submission of the online questionnaire were considered to constitute implied consent to participate in the study.

2.2 The inclusion and exclusion criteria

The inclusion criterion was postgraduate students enrolled in all Postgraduate Diploma Programmes for the 2024-2025

academic year. The exclusion criterion was Professional Diploma students.

2.3 Data collection

The sample size was calculated using the Raosoft sample size calculator, with a mean and standard deviation for academic procrastination, a significance level of 5%, a test power of 80%, and a medium effect size of 0.5. It is determined that a minimum sample size of 108 participants is required. However, because the target population is small and easily identifiable, a total sampling technique was used.

The data were collected using the Procrastination Assessment Scale for Students (PASS) by Solomon and Rothblum,^[2] which has previously been used with students. This instrument has two sections. The first determines procrastination prevalence across six academic areas with 18 items, divided into: 1) writing a term paper, 2) studying for an exam, 3) keeping up with weekly reading, 4) academic administration duties, 5) attendance tasks, and 6) general faculty activities. Each category includes three items, rated on a 5-point Likert scale: 1- The degree to which students procrastinate on the tasks (frequency of procrastination), 2- The degree to which procrastination on the task is a problem for them (how problematic the procrastination is), 3- The extent to which they want to decrease their procrastination behaviour (willingness to decrease procrastination). The second section examines factors related to procrastination. It presents a scenario about delaying a term paper and then lists 26 possible reasons for procrastination. Participants rate each reason on a 5-point scale (1 = not at all; 5 = definitely reflects why they procrastinated last time). Researchers developed a demographic data sheet to collect participant information, such as age, gender, qualifications, and marital status.

2.4 Reliability and validity

Face and content validity were established by a panel of five (5) experts, each possessing at least five years of teaching experience. The instrument was distributed via email with a formal cover letter, and experts provided feedback on item clarity, additions, or omissions. The experts provided minimal feedback, confirming the instrument's readiness for data collection without significant modification. A pilot study was conducted with 9 students to assess the instrument's clarity and readability. The piloted participants reported that all items were clear, and the average time for completion was estimated at 10-15 minutes. To ensure the integrity of the results, these 9 students were excluded from the final study sample. For internal reliability, Cronbach's alpha was used.

2.5 Data analysis

Data were analysed using descriptive and inferential statistics in the Statistical Package for the Social Sciences (SPSS) version 26. Statistical analyses were conducted by the researchers. Descriptive statistics, including measures of central tendency and variability (frequencies, percentage distributions, means, and standard deviations), were used at baseline to describe participants' socio-demographic characteristics. Means and standard deviations were used to describe the levels of various academic tasks in which students often procrastinate, as well as the contributing factors to procrastination. Inferential statistics, such as Pearson's correlation and multiple regression, were used to determine relationships among the study variables. Finally, principal components analysis was performed to determine the self-reported reasons for academic procrastination.

3. FINDINGS

This section presents the study findings organised based on the study research questions. Data were collected from 119

students, representing a response rate of (80.4%). Tables 1-2 represent reliability statistics and Sociodemographic variables.

Table 1 presents the reliability analysis, which showed excellent internal consistency for the overall instrument, with a Cronbach's alpha of 0.953 across 44 items, indicating that the tool is highly reliable and suitable for use in this study.

Table 1. Reliability statistics

Cronbach's Alpha	N of Items
0.953	44

Table 2 shows the sociodemographic details of the 119 participants. Most were female (79.0%), with 21.0% male. The largest age group was 26 to 30 years (41.2%), followed by 31 to 35 years (34.5%). Regarding education, 59.7% held a Bachelor of Science, and 31.9% possessed a General Health professional Diploma. Most participants were married (63.9%), while 34.5% were single.

Table 2. Sociodemographic variables

Sociodemographic variables	Category	Frequency	Percent (%)
Gender	Male	25	21.0
	Female	94	79.0
	Total	119	100
Age (year)	25 or less	1	0.8
	26- 30	49	41.2
	31-35	41	34.5
	36 and above	28	23.5
	Total	119	100
Last certificate	General Health professional Diploma	38	31.9
	BSC	71	59.7
	Post Basic Diploma	4	3.4
	Post graduate diploma	6	5.0
	Total	119	100
Marital status	Single	41	34.5
	Married	76	63.9
	Other	2	1.7
	Total	119	100

The following findings are presented in alignment with the research questions, which examine the extent of academic procrastination and the factors influencing it.

3.1 Question 1

What is the prevalence of academic procrastination among postgraduate diploma students?

Table 3 shows that 56.3% of students reported academic procrastination below the mean (33.38), while 43.7% reported levels above the mean. These findings indicate that although more than half of the students demonstrated lower-than-average procrastination, a substantial proportion experienced higher levels of academic procrastination.

Table 3. Academic procrastination (Mean = 33.38)

Procrastination	Total (n)	Percentage (%)
Procrastination less than average	67	56.3
Procrastination more than average	52	43.7
Total	119	100

Table 4 indicates that students most often reported procrasti-

nation as “sometimes” across academic tasks, especially for reading weekly assignments (46.6%), writing term papers (45.4%), and institute activities (43.3%). High procrastination levels (“nearly always and always”) were notable in writing term papers (32.9%) and studying for exams (29.0%), while administrative and attendance tasks showed lower procrastination. This indicates that procrastination is more common in self-directed and academically demanding tasks.

Table 4. Postgraduate student scores regarding academic procrastination dimensions among studied students (n = 119)

Academic Procrastination dimensions	1	2	3
	Never and Almost Never	Sometimes	Nearly Always and Always
	n (%)	n (%)	n (%)
Writing a term paper	73 (30.5)	108 (45.4)	57 (32.9)
Studying for an exam	80 (33.6)	89 (37.4)	69 (29)
Reading weekly assignments	68 (28.6)	111 (46.6)	59 (24.8)
Academic administrative tasks	101 (42.4)	101 (42.4)	36 (15.2)
Attendance tasks	121 (50.8)	69 (29)	48 (20.2)
Institute activities in general	77 (32.3)	103 (43.3)	58 (24.4)

Table 5 shows students’ willingness to reduce their academic procrastination across different tasks. The majority of students reported a strong tendency to reduce procrastination (“nearly always and always”), particularly for writing term papers (53.8%) and studying for exams (52.1%). Moderate willingness (“sometimes”) was observed for tasks such

as participating in institute activities (30.3%) and reading weekly assignments (26.1%). Lower willingness (“never and almost never”) was less common across all tasks. Overall, these findings indicate that students are motivated to reduce procrastination, especially in critical and academically demanding tasks.

Table 5. Post graduate students’ scores regarding students’ tendency to decrease academic procrastination among studied students (n = 119)

To what extent do you want to decrease your tendency to procrastinate on following task?	1	2	3
	Never and Almost Never	Sometimes	Nearly Always and Always
	n (%)	n (%)	n (%)
Writing a term paper	25 (21)	30 (25.2)	64 (53.8)
Studying for an exam	28 (23.5)	29 (24.4)	62 (52.1)
Reading weekly assignments	39 (32.7)	31 (26.1)	49 (41.2)
Academic administrative tasks	39 (32.8)	30 (25.2)	50 (42)
Attendance tasks	43 (36.1)	23 (19.3)	53 (44.5)
Institute activities in general	40 (33.6)	36 (30.3)	43 (36.1)

3.2 Question 2

What are the factors influencing academic procrastination among postgraduate diploma students?

Table 6 presents the factors influencing academic procrastination among postgraduate diploma students. The findings show that both personal and contextual factors contribute to procrastination. Key personal factors included lack of self-confidence in completing tasks (58.8%), laziness or low

motivation (45.4%), and setting very high standards and worrying about meeting them (44.5%). Contextual and task-related factors were also prominent, such as peer pressure or waiting for classmates (62.2% and 53.8%), disliking deadlines or assigned tasks (54.6% and 47.9%), and feeling overwhelmed by the task or workload (34.4%–41.2%). Other contributing factors included concerns about grades, teacher reactions, and social expectations. Overall, the data suggest that academic procrastination among students is shaped by a

combination of personal, social, and academic task-related factors, highlighting the complex nature of procrastination in a demanding higher education environment.

Table 6. Factors influencing academic procrastination (n = 119)

Response Scale	1 Not at all reflects and almost not reflect why I Procrastinated	2 Somewhat reflect	3 Nearly always and definitely reflects why I Procrastinated
Students' perceptions of factors influencing Procrastination	n (%)	n (%)	n (%)
You were concerned the teacher wouldn't like your work.	49 (41.2)	50 (42.0)	20 (16.8)
You had a hard time knowing what to include and what not to include in your paper.	32 (26.9)	42 (35.3)	45 (37.8)
You waited until a classmate did his or hers, so that he/she could give you some advice.	68 (57.1)	32 (26.9)	19 (16)
You had too many other things to do.	30 (25.2)	40 (33.6)	49 (41.2)
There's some information you needed to ask the teacher, but you felt uncomfortable approaching him/her.	46 (38.6)	48 (40.3)	25 (21)
You were worried you would get a bad grade.	49 (41.2)	32 (26.9)	38 (31.9)
You resented having to do things assigned by others.	57 (47.9)	40 (33.6)	22 (18.5)
You didn't think you knew enough to write the paper.	48 (40.3)	46 (38.7)	25 (21)
You really disliked writing term papers.	51 (42.8)	38 (31.9)	30 (25.2)
You felt overwhelmed by the task.	41 (34.4)	38 (31.9)	40 (33.6)
You had difficulty requesting information from other people.	58 (48.7)	33 (27.7)	28 (23.6)
You looked forward to the excitement of doing this task at the last minute.	62 (52.1)	31 (26.1)	26 (21.8)
You couldn't choose among all the topics.	55 (46.2)	42 (35.3)	22 (18.5)
You were concerned that if you did well, your classmates would resent you	68 (57.1)	31 (26.1)	20 (16.8)
You didn't trust yourself to do a good job.	70 (58.8)	25 (21.0)	24 (20.2)
You didn't have enough energy to begin the task.	52 (43.7)	38 (31.9)	29 (24.3)
You felt it just takes too long to write a term paper.	48 (40.3)	26 (21.8)	39 (32.7)
You liked the challenge of waiting until the deadline.	60 (50.4)	36 (30.3)	23 (19.3)
You knew that your classmates hadn't started the paper either.	64 (53.8)	31 (26.1)	24 (20.1)
You resented people setting deadlines for you.	65 (54.6)	34 (28.6)	20 (16.8)
You were concerned you wouldn't meet your own expectations.	53 (44.5)	40 (33.6)	26 (21.8)
You were concerned that if you got a good grade, people would have higher expectations of you in the future.	63 (52.9)	27 (22.7)	29 (24.3)
You waited to see if the teacher would give you some more information about the paper.	51 (42.8)	42 (35.3)	26 (21.8)
You set very high standards for yourself and you worried that you wouldn't be able to meet those standards.	53 (44.5)	35 (29.4)	31 (26)
You just felt too lazy to write a term paper.	54 (45.4)	30 (25.2)	35 (29.4)
You friends were pressuring you to do other things.	74 (62.2)	22 (18.5)	23 (19.3)

Factor analysis was conducted using principal component analysis with varimax rotation for the second part of the instrument. Table 7 presents the results, which clearly revealed

three factors (fear of failure, risk-taking behaviours, and laziness) with Eigenvalues greater than 1.00, together explaining 60.5% of the total variance. The first factor, with 13 items,

accounted for 47.1% of the variance and focused on risk-taking, including task delays due to waiting for classmates, disliking assigned tasks, and doing last-minute work. The second factor, composed of 10 items and explaining 8% of the variance, focused on fear of failure, including concerns about grades, meeting personal or social expectations, and

teacher reactions. Three items loaded onto the third factor, which focused on laziness, marked by low motivation and engagement in non-academic activities, and explained 5.4% of the variance. These findings show that procrastination results from behavioural, emotional, and motivational factors in the academic environment.

Table 7. Factor loading and items of the second part of the instrument (factors of Procrastination)

Item Numbers	Item	Factor 1 Risk Taken	Factor 2 Fear of Failure	Factor 3 Laziness
19	You were concerned the teacher wouldn't like your work.		0.586	
20	You had a hard time knowing what to include and what not to include in your paper.		0.731	
21	You waited until a classmate did his or hers, so that he/she could give you some advice.	0.63		
22	You had too many other things to do.		0.706	
23	There's some information you needed to ask the teacher, but you felt uncomfortable approaching him/her.		0.634	
24	You were worried you would get a bad grade.		0.617	
25	You resented having to do things assigned by others.	0.71		
26	You didn't think you knew enough to write the paper.		0.494	
27	You really disliked writing term papers.		0.615	
28	You felt overwhelmed by the task.		0.595	
29	You had difficulty requesting information from other people.	0.545		
30	You looked forward to the excitement of doing this task at the last minute.		0.456	
31	You couldn't choose among all the topics.	0.633		
32	You were concerned that if you did well, your classmates would resent you	0.778		
33	You didn't trust yourself to do a good job.	0.651		
34	You didn't have enough energy to begin the task.			0.789
35	You felt it just takes too long to write a term paper.			0.525
36	You liked the challenge of waiting until the deadline.	0.708		
37	You knew that your classmates hadn't started the paper either.	0.684		
38	You resented people setting deadlines for you.	0.812		
39	You were concerned you wouldn't meet your own expectations.	0.634		
40	You were concerned that if you got a good grade, people would have higher expectations of you in the future.	0.738		
41	You waited to see if the teacher would give you some more information about the paper.	0.591		
42	You set very high standards for yourself and you worried that you wouldn't be able to meet those standards.		0.568	
43	You just felt too lazy to write a term paper.			0.735
44	Your friends were pressuring you to do other things.	0.825		
Eigenvalue (total) 60.5%		47.1%	8%	5.4%
Cronbach's Alpha		0.782	0.771	0.842

Findings of secondary research questions:

3.3 Question 3

Is there a relationship between the prevalence of academic procrastination and selected demographic variables (gender, age, qualification and marital status) among postgraduate diploma students?

The regression analysis assessed whether the prevalence

of academic procrastination was related to selected demographic variables (gender, age, qualification, and marital status). The ANOVA results in Table 8 indicated that the overall regression model was not statistically significant ($F = 0.809$, $p = 0.522$), showing that these demographic variables do not significantly predict the prevalence of academic procrastination in this specific sample. This suggests that procrastination behaviour among this sample is independent of gender, age, marital status, and prior qualification.

Table 8. ANOVA for the regression model or (regression ANOVA for prevalence of academic procrastination)

ANOVA [†]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	229.665	4	57.416	0.809	0.522*
	Residual	8086.318	114	70.933		
	Total	8315.983	118			

[†]Dependent Variable: proc level; *Predictors: (Constant), Marital status, Gender, Last certificate, Age year

Table 9. Model summary (1)

Change Statistics										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics	df1	df2	Sig. F Change	Durbin-Watson
1	0.166*	0.028	0.007	8.42215	0.028	0.809	4	114	0.522	0.897

*Predictors: (Constant), Maritalstatus, Gender, Lastcertificate, Ageyear

These results in Table 9 suggest that there is no statistically meaningful association between the prevalence of academic procrastination and demographic variables.

3.4 Question 4

Is there a relationship between the factors of academic procrastination and selected demographic variables (gender, age, qualification and marital status) among postgraduate diploma students?

The ANOVA findings presented in Table 10 indicated that none of the regression models associating academic procrastination factors and demographic variables were significant ($p > .05$).

Table 11 shows that the model summary results reveal weak predictive power of demographic variables for all three factors of academic procrastination.

Table 10. Regression ANOVA for factors of academic procrastination

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
Fear of Failure	Regression	2.741	4	0.685	0.935	.446 [†]
	Residual	83.505	114	0.732		
Risk Taken	Regression	3.095	4	0.774	.922	.454 [†]
	Residual	95.629	114	.389		
Laziness	Regression	9.584	4	2.396	2.233	.070 [†]
	Residual	122.317	114	1.073		

[†]Predictors: (Constant), Marital status, Gender, Last certificate, Age year

Table 11. Model Summary (2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	Change Statistics	df1	df2	Sig. F Change	Durbin-Watson
1- Fear of Failure	.178*	.032	-.002	.85586	.032	.935	4	114	.446	1.422
2- Risk Taken	.177*	.031	-.003	.91589	.031	.922	4	114	.454	1.896
3- Laziness	.270*	.073	-.040	1.03584	.073	2.233	4	114	.070	1.838

*Predictors: (Constant), Maritalstatus, Gender, Lastcertificate, Ageyear

4. DISCUSSION

The results of this research indicate that academic procrastination is common among postgraduate diploma students, with a significant proportion reporting above-average levels, mainly in cognitively challenging academic responsibilities such as preparing for examinations, writing term papers, and completing institute-related tasks. These results propose that tasks demanding continued effort, self-regulated learning, and high cognitive active workload and stimulation are more likely to be postponed, a pattern that is coherent with the latest research recognising task difficulty and academic workload as main contributors to procrastination in higher education.^[15, 16]

Despite the observed prevalence, most students reported strong readiness to reduce procrastination, particularly on essential academic tasks. This suggests a high level of awareness of the adverse effects of procrastination on academic performance and personal well-being. This supports recent evidence signifying that students with better self-awareness and intrinsic motivation are more motivated to embrace adaptive self-regulatory tactics.^[17, 18]

Exploration of contributing factors revealed that both psychological and contextual effects play critical roles in shaping procrastination behaviour. Students identified fear of failure, low self-confidence, task overload, competing responsibilities, and social influences as key determinants. These findings are consistent with contemporary research demonstrating that emotional factors, particularly anxiety and fear of negative evaluation, along with external academic pressures, significantly influence procrastination behaviours.^[15, 19] Furthermore, factor analysis confirmed the multidimensional structure of academic procrastination, identifying three core dimensions: fear of failure, risk-taking behaviours, and laziness. This supports theoretical models that conceptualise procrastination as the result of interactions among emotional regulation difficulties, motivational deficits, and behavioural tendencies.^[20, 21]

Regression analysis further demonstrated that selected demographic variables, including gender, age, qualification, and marital status, did not significantly predict either the preva-

lence or underlying factors of academic procrastination ($F = 0.809$, $p = .522$). This indicates that procrastination behaviours among postgraduate diploma students at the HHHS are largely independent of demographic characteristics. Instead, the findings suggest that psychological, emotional, and academic-contextual factors exert a stronger influence, which is consistent with recent studies emphasising the dominant role of self-regulation capacity, emotional control, and academic stress in shaping procrastination patterns.^[16, 17]

Overall, these results highlight that academic procrastination among postgraduate diploma students is a complex, multifactorial phenomenon, shaped primarily by emotional, motivational, and task-related factors rather than by demographic attributes. Consequently, interventions aimed at strengthening students' self-regulatory abilities, emotional coping strategies, time management skills, and academic self-efficacy can directly reduce procrastination and improve academic performance in higher education environment.

5. CONCLUSION

This study concludes that academic procrastination is prevalent among postgraduate diploma students at the HHHS, particularly for tasks requiring high cognitive effort, independent learning, and sustained academic engagement. Although students reported notable levels of procrastination, they also demonstrated strong awareness of its negative consequences and a clear willingness to reduce procrastination behaviours. The findings further establish that academic procrastination is a multidimensional construct comprising fear of failure, risk-taking behaviours, and laziness, reflecting the complex interplay among emotional, motivational, and behavioural factors. Notably, the study found no statistically significant relationship between academic procrastination and selected demographic variables, including gender, age, qualification, and marital status—suggesting that these behaviours are largely independent of demographic characteristics. Together, the findings underscore that psychological, emotional, and academic-contextual factors exert a greater influence on procrastination behaviours than demographic attributes. Consequently, targeted educational and psychological interventions focusing on self-regulation, emotional cop-

ing, time management, and building academic confidence are highlighted as essential for reducing procrastination and enhancing academic performance among postgraduate diploma students.

5.1 Clinical implications

The findings of this study have important implications for health professional education, academic counselling, and clinical training programmes. Given the high prevalence of academic procrastination and its association with emotional and motivational factors, educators and clinical supervisors should prioritise early identification of students at risk of chronic procrastination. Incorporating structured training programmes that enhance self-regulation skills, emotional resilience, time management, and stress-coping strategies into postgraduate health professional curricula may help mitigate procrastination. Additionally, mentorship programmes, academic coaching, and counselling services can support students in managing academic workloads, improving confidence, and developing effective study habits. From a clinical perspective, reducing academic procrastination may contribute to improved academic performance, enhanced clinical competence, better patient safety practices, and overall professional development, as health professional students who effectively manage academic demands are more likely to demonstrate greater responsibility, accountability, and clinical preparedness.

5.2 Strengths and limitations

This study provides empirical evidence on academic procrastination among postgraduate diploma healthcare students, a population that has received limited research attention, particularly within the regional context. Also, the study utilised validated instruments and robust statistical analyses, including factor analysis and regression modelling, which enhanced the reliability and validity of the findings. Despite these strengths, the reliance on self-reported data may introduce response bias, including social desirability and recall bias. Additionally, the study was conducted at a single institution, which may limit the generalizability of the findings to other educational settings or student populations. Future studies using longitudinal and multi-centre designs are recommended to overcome these limitations.

5.3 Future research

Longitudinal study designs should be conducted to investigate the causal relationships and developmental routes of academic procrastination among health professional students across different phases of their academic journey. Including more educational institutions and diverse geographic settings would enhance the generalisability of the findings. Further

investigations should explore the effectiveness of targeted intervention programmes, such as cognitive-behavioural strategies, time-management workshops, stress-reduction programmes, and self-regulation training, in reducing procrastination and improving academic outcomes. Furthermore, examining the role of evolving factors, such as technology-related distractions, digital learning environments, and emotional intelligence, may provide greater insight into contemporary procrastination patterns in higher education.

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AUTHORS CONTRIBUTIONS

Dr. Jamal Al Manasrah and Dr Raya Al Habsi, contributed equally to this study. All authors were responsible for writing the research proposal, collecting data, analyzing data, and preparing the final report. All authors reviewed, revised, and approved the final manuscript.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

INFORMED CONSENT

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

DATA SHARING STATEMENT

No additional data are available.

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