The Role of Mindfulness and Teaching Preferences in Academic Adjustment and Achievement

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Abstract: Academic adjustment is a critical factor influencing students' success in higher education. While previous research has extensively explored the institutional and social determinants of academic adjustment, limited studies have examined the role of individual attributes such as mindfulness and teaching preferences in shaping students' academic experiences. This study investigates the relationships between mindfulness, academic adjustment, and academic achievement among university students in Jordan. A cross-sectional survey was conducted among 352 students using validated measures, including the Academic Adjustment Questionnaire and the Five Facet Mindfulness Questionnaire. Analyses revealed that higher mindfulness was significantly associated with better academic adjustment and higher academic achievement ($p < 0.001$). Mindfulness, along with higher Grade Point Average and choosing an academic field based on personal preference, were significant predictors of academic adjustment ($R^2 = 0.291$, $p < 0.01$). Additionally, teaching preferences were not strongly correlated with academic adjustment or mindfulness, though certain student-centered teaching methods were preferred. These findings suggest that mindfulness plays a vital role in fostering academic success and adaptation. Future interventions targeting mindfulness training may enhance students' coping mechanisms and academic outcomes.

Keywords: Academic Achievement, Academic Adjustment, Higher Education, Jordan, Mindfulness, Student Success, Teaching Preferences

1. Introduction

Success in higher education is contingent on students' ability to adapt to the academic and social demands of university life. Academic adjustment, which encompasses students' capacity to navigate coursework, integrate into their institutional environment, and manage psychological well-being, is a well-documented determinant of both academic performance and persistence (Lan, Sam, Keo, & Roeut, 2024; Mao, 2025; Purnamasari, Kurniawati, & Rifameutia, 2022; Kritikou & Giovazolias, 2022). However, while extensive research highlights the importance of academic adjustment, fewer studies have examined the underlying mechanisms that contribute to it, particularly in non-Western contexts such as Jordan. Furthermore, while institutional and social factors have been extensively studied, there is a growing recognition that individual attributes play a crucial role in shaping students' academic adjustment and success. Despite this, research gaps persist, particularly in non-Western educational contexts, where cultural and systemic differences may influence how students navigate academic challenges (Boulter, 2002; Elias et al., 2010; Bailey & Phillips, 2016; Van Rooij et al., 2018). Understanding these challenges requires an examination of national higher education systems that shape

students' academic experiences (Alias & Razak, 2023). Recent studies in regional settings have underscored the importance of adapting teaching practices to meet diverse learner needs and highlight the growing pressure on universities to foster academic motivation and engagement (Fitriah & Razak, 2023; Chin et al., 2024).

Jordan's higher education system has expanded significantly over the past two decades, characterised by an increase in both the number of institutions and student enrollment. The country currently has 10 public universities, 19 private universities, and 54 community colleges, which include 14 public and 24 private institutions (Ministry of Higher Education and Scientific Research, n.d.; Wikipedia, 2024). Community colleges in Jordan offer non-university and vocational studies in diverse fields, including arts, science, management, business administration, and engineering, catering to students seeking specialized technical training (CEIC Data, 2024).

Enrollment in tertiary education has also seen a notable rise. As of 2023, the gross enrollment ratio for tertiary education in Jordan stood at 33.06%, indicating that approximately one third of the eligible population is pursuing higher education (Trading Economics, 2024). This reflects the high cultural and economic value placed on university education, which is often regarded as a gateway to employment in the public sector and career opportunities abroad, particularly in Gulf states (GAGE, 2023).

Despite these advancements, Jordanian university students encounter several significant challenges that affect their academic and personal well-being. One major issue is the high levels of academic and non-academic stressors, which make students particularly vulnerable to mental health issues such as depression. Research indicates that university students in Jordan exhibit higher depression rates compared to other population groups, highlighting the psychological burden associated with academic pressures (PMC, 2024). In addition to mental health concerns, infrastructure and governance issues pose significant obstacles to higher education sustainability in Jordan. Many universities suffer from inefficient infrastructure, centralised academic policies, and a lack of institutional autonomy, which hinder their ability to expand programs, improve facilities, and foster academic innovation. Since universities heavily depend on government funding, their capacity to implement reforms remains limited.

Considering these structural and systemic obstacles, students' ability to adapt and succeed in higher education depends not only on external institutional support but also on individual level factors that influence their academic adjustment (Credé & Kuncel, 2008; Richardson, Abraham, & Bond, 2012; Van Rooij, Jansen, & Van de Grift, 2018; Robbins et al., 2004). While higher education policies and infrastructure play a crucial role, personal characteristics, behaviours, and cognitive strategies may determine how effectively students manage stress, overcome academic barriers, and engage with their learning environments. One such factor is mindfulness, a psychological trait characterised by present moment awareness and nonjudgmental acceptance of experiences (Baer, Samuel, & Lykins, 2012). Evidence suggests that mindfulness enhances self-regulation, emotional resilience, and stress management, all of which are crucial for academic success (Gu et al., 2016; Haktanir et al., 2018; Hassan et al., 2023). However, while studies have linked higher mindfulness to reduced academic stress and improved well-being, its direct association with academic adjustment and achievement remains underexplored.

Teaching preferences, including the balance between teacher-centered and student-centered methods, significantly influence learning outcomes (Alzahrani et al., 2023; Garrett, 2008; Halif et al., 2020; Muganga & Ssenkusu, 2019). While student-centered approaches promote active engagement, critical thinking, and deeper learning (Murphy, Eduljee, & Croteau, 2020), some students may thrive in structured, lecture-based environments (Chamorro-Premuzic, Furnham, & Lewis, 2007). Despite the relevance of these preferences in shaping academic experiences, little is known about their role in facilitating mindfulness or improving academic adjustment. Moreover, motivation has been highlighted as a key mediator between instructional approaches and learning outcomes (Halif et al., 2020), with further support suggesting that student choice and academic alignment significantly affect adjustment and satisfaction (Baliyan & Mokoena, 2024). Additionally, motivated students are more likely to adopt effective learning strategies (Mistar et al., 2023), suggesting a need to understand the interplay of personal attributes and instructional context.

Given these gaps, this study aims to explore the relationships between mindfulness, academic adjustment, teaching preferences, and academic achievement among university students in Jordan. Specifically, it seeks to:

1. Examine differences in academic adjustment and mindfulness across demographic and academic variables.
2. Investigate the correlation between mindfulness, academic adjustment, and teaching preferences.
3. Identify the key predictors of academic adjustment.
4. Assess whether mindfulness moderates the relationship between Grade Point Average and academic adjustment.

2. Materials and Methods

2.1 Design

This study employed a cross-sectional survey design to assess the relationships between mindfulness, academic adjustment, and academic achievement among university students in Jordan. Data was collected via an online survey distributed through university networks, student organisations, and social media platforms. Prior to participation, students were informed about the study objectives and procedures. The study was conducted in accordance with ethical guidelines for research involving human subjects. Ethical approval was obtained from the institutional review board of the author's university. Informed consent was obtained electronically from all participants before they proceeded with the survey. Confidentiality was maintained by anonymising responses, and no personally identifiable information was collected. Participants were provided with contact details of the research team for any queries or concerns regarding the study.

2.2 Sample and Sampling

A stratified sampling method was used to ensure a diverse representation of students across different academic years, fields of study, and gender groups. The inclusion criteria were: (1) currently enrolled in a Jordanian university, (2) at least 18 years of age, and (3) willing to provide informed consent. Participants who did not complete the survey in its entirety were excluded from the final analysis.

2.3 Power analysis

A prior power analysis was conducted to determine the required sample size for detecting significant effects in the study. Using G*Power 3.1 (Faul et al., 2009), we estimated the sample size needed for a multiple regression analysis with an expected medium effect size ($f^2 = 0.15$), an alpha level of 0.05, and a power ($1 – \beta$) of 0.80. The analysis indicated that a minimum of 107 participants would be required to detect significant relationships between the predictor variables and the dependent variables. Given that our final sample size of 352 participants exceeds this minimum requirement, the study is sufficiently powered to detect moderate to large effects. This ensures that statistical tests can reliably identify meaningful associations without a high risk of Type II errors (false negatives) (Cohen, 1988). Additionally, post-hoc power analysis was performed to confirm that the achieved power remained adequate for the statistical tests conducted.

2.4 Measures

1. The demographics questionnaire collected data on participants' gender, age, secondary education stream (e.g., arts and humanities, sciences), year of study, reasons for choosing their academic field, employment status, and weekly working hours. This section also included questions about students' level of enjoyment in their chosen field of study.

Academic achievement was measured using self-reported Grade Point Average (GPA), categorised into "acceptable," "good," "very good," and "excellent."

2. The Academic Adjustment Questionnaire (AAQ) is a standardised self-report instrument designed to assess students' adaptation to university life across four key domains: academic, social, personal-emotional, and institutional adjustment (Baker & Siryk, 1986). The scale consists of 28 items, with responses rated on a nine-point Likert scale, where higher scores indicate better adjustment. It includes six items on academic adjustment, eight on social adjustment, seven on personal-emotional adjustment, and seven on institutional adjustment (Sarif, Ngasainao, & Vandana, 2021). The AAQ has demonstrated strong reliability and validity, with a Cronbach's alpha of .841, ensuring its effectiveness in evaluating students' ability to cope with the academic environment (Sarif et al., 2021). The scale is widely used in higher education research to identify students at risk of poor academic adaptation and to develop targeted interventions that enhance university success.
   The Five Facet Mindfulness Questionnaire (FFMQ) is a validated self-report measure designed to assess mindfulness across five distinct domains: observing, describing, acting with awareness, non-judging, and non-reactivity (Baer et al., 2012). It is a shortened version of the original 39-item FFMQ, developed by selecting three items per facet based on their factor loadings while maintaining the breadth of content covered in the full scale. The FFMQ-15 has demonstrated strong psychometric properties, with its factor structure closely mirroring that of the FFMQ-39, suggesting that both versions measure highly similar constructs (Gu et al., 2016). Each facet of the FFMQ-15 captures different aspects of mindfulness: 1. Observing (Items: 1, 6, 11) – The tendency to notice internal and external experiences, such as bodily sensations, thoughts, and emotions. 2. Describing (Items: 2, 7R, 12) – The ability to express internal experiences using words. 3. Acting with Awareness (Items: 3R, 8R, 13R) – The capacity to remain attentive and intentional in actions rather than operating on autopilot. 4. Non-Judging (Items: 4R, 9R, 14R) – The ability to accept thoughts and emotions without self-criticism or negative evaluation. 5. Non-Reactivity (Items: 5, 10, 15) – The ability to experience thoughts and emotions without becoming overwhelmed or automatically reacting to them. Responses are rated on a Likert scale, with some items being reverse scored (denoted as "R") to ensure balanced measurement. Higher scores indicate greater mindfulness across the five facets.
3. The Preferred Teaching Styles Questionnaire assesses students' preferences for different instructional methods, categorised into teacher-centered and student-centered approaches. Teacher-centered methods emphasise direct instruction, where the professor primarily conveys knowledge through lectures, structured presentations, and assessments such as quizzes (Garrett, 2008; Muganga & Ssenkusu, 2019). In contrast, student-centered methods encourage active participation, including group discussions, experiential learning, and interactive exercises, which have been shown to enhance engagement and knowledge retention (Murphy, Eduljee, & Croteau, 2020). The questionnaire includes multiple items assessing preferences for various teaching formats. These include lectures (with or without visuals), films, classroom discussions, experiential activities, games/demonstrations, student presentations, case studies, quizzes, and research-based methods (Chamorro-Premuzic, Furnham, & Lewis, 2007). Some teaching methods combine both teacher and student-centered elements, such as professor led discussions, demonstrations with student practice, and lectures with interaction. The scale helps identify how students engage best in learning and provides insights for educators to optimize their teaching strategies (Garrett, 2008; Murphy et al., 2020).

2.5 Data Analysis

All data analyses were conducted using IBM SPSS Statistics Version 28. The analysis followed a structured approach designed to address the study's four main research aims. First, descriptive statistics (means, standard deviations, frequencies, and percentages) were computed to summarise participants' demographic characteristics and scores on the academic adjustment and mindfulness

questionnaires. Second, to examine group differences in academic adjustment and mindfulness scores based on demographic and academic variables (Aim 1), independent samples t-tests and one-way ANOVA were used, followed by post hoc comparisons where appropriate. Third, to investigate the relationships among mindfulness, academic adjustment, and teaching preferences (Aim 2), Pearson correlation analyses were conducted. Fourth, to identify the key predictors of academic adjustment (Aim 3), a multiple linear regression model was performed with academic adjustment score as the dependent variable and variables such as mindfulness, GPA, and teaching preferences as predictors. Lastly, to assess whether mindfulness moderated the relationship between GPA and academic adjustment (Aim 4), a moderation analysis was conducted using interaction terms within a regression framework. Statistical significance was set at $p < 0.05$. Confidence intervals (95%) were reported where applicable to support interpretation of the results.

3. Results

3.1 Participants

This study included a total of 352 participants from Jordanian universities. The majority of the included sample was female (63%) and over the age of 21 (55%). Participants' secondary education was primary in the arts & humanities stream (55%), followed by sciences (33%). Most participants were in their 3rd year or earlier (67.9%) and have 'good' GPA (43%). When asked about their field of study, 53% responded that they have entered such field due to personal preference. Of the 164 counterparts, 70% enjoy their field. Among all the included sample, 18% work in addition to their university studies with a mean work time of 8.25 ± 2.55 hours per week. [Refer to table 1].

Table 1

Sample characteristics (N=352)

Characteristic	**n (%); Mean ± SD**
Sex	
Female	220 (63%)
Male	132 (38%)
Age	
18	19 (5.4%)
19	60 (17%)
20	79 (22%)
21	86 (24%)
22	64 (18%)
23	44 (13%)
Tawjihi*	
Arts & Humanities	194 (55%)
Other	40 (11%)
Sciences	117 (33%)
Year of Study	
1	35 (9.9%)
2	77 (22%)
3	126 (36%)
4	105 (30%)
5	7 (2.0%)
6	2 (0.6%)
Grade Point Average (GPA)	
Acceptable	38 (11%)
Excellent	40 (11%)
Good	152 (43%)

Very Good	122 (35%)
Field Chosen by Personal Preference	188 (53%)
Enjoying Current Field of Study	115 (70%)
Employed	65 (18%)
Work Hours	8.25 ± 2.55

** Tawjihi is the General Secondary Education Examination mandatorily required for Jordanian students who want to attend a university.*

3.2 Participants' Reports on Main Study Outcomes

Most teaching styles were well accepted by included participants (Figure 1). However, lectures with no visuals (45%) and unscheduled quizzes (66%) were the most disliked. Mean scores for academic adjustment and mindfulness scales and sub-scales are presented in table 2. Mean academic adjustment score for the entire sample was 151.9 ± 32.5. Individual responses for the academic adjustment questionnaire and associated subscales are presented in Figure 2.

Figure 1

Preferences of Teaching Styles [SP: Student Presentations; R: Research; QZ: Quizzes; L: Lectures; GD: Games and Demonstrations; F: Films; EA: Experiential Activities; CD: Class Discussion]

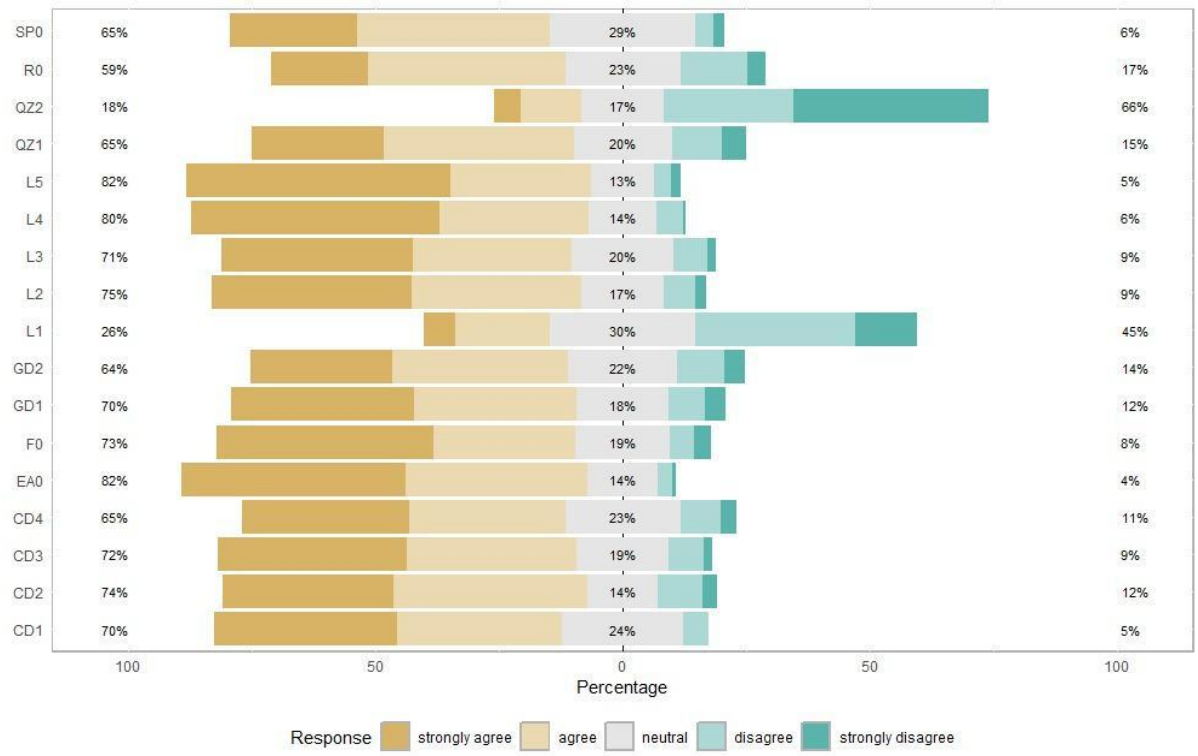


Table 2

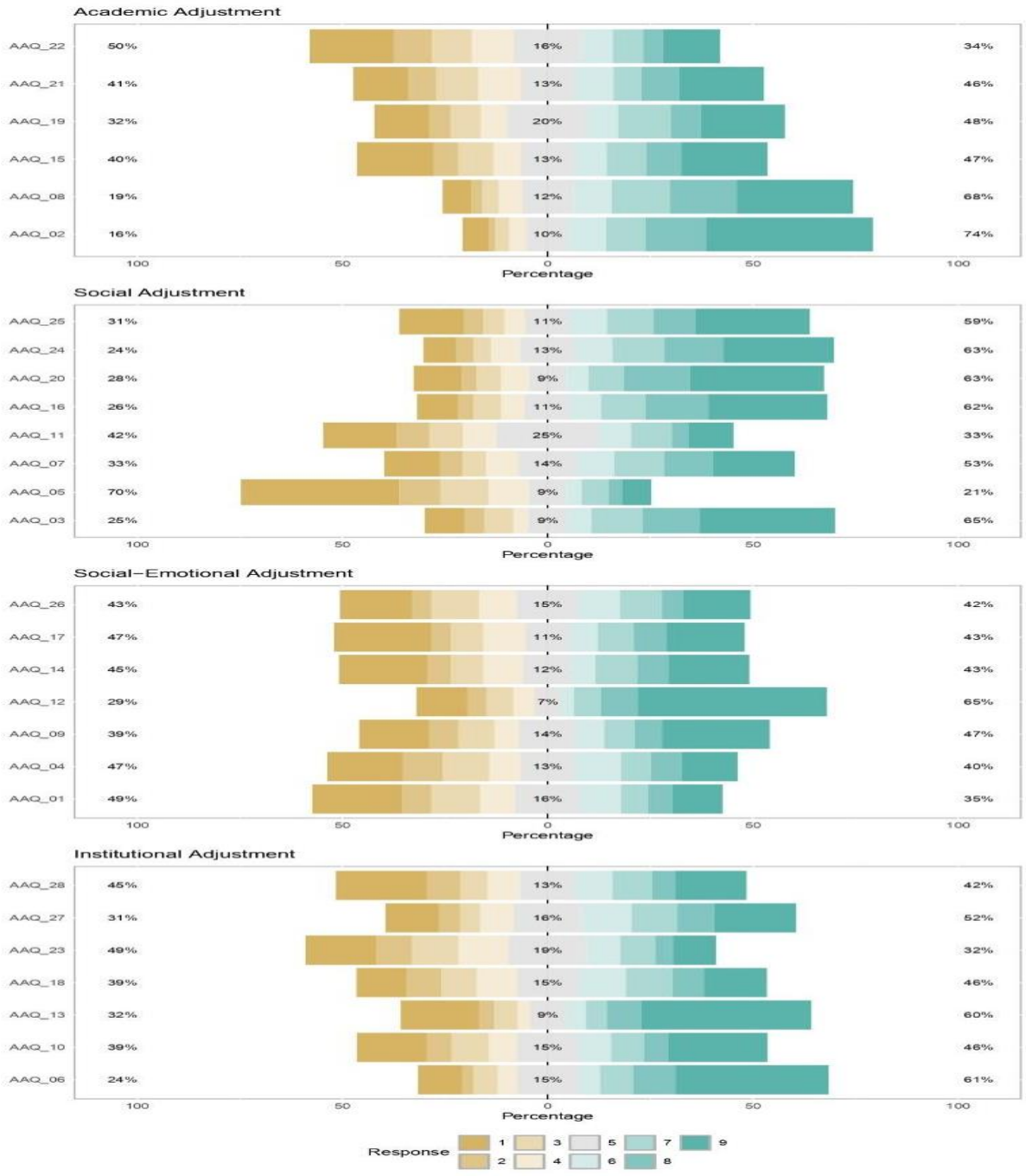
Mean scores for academic adjustment and mindfulness scales and sub-scales (N = 352)

Characteristic	**Mean ± SD**
Academic Adjustment Total Score	151.90 ± 32.45
Academic Adjustment	33.93 ± 9.23
Social Adjustment	44.47 ± 12.41
Personal Emotional Adjustment	35.81 ± 13.40
Institutional Adjustment	37.69 ± 11.82

Characteristic	Mean ± SD
Mindfullness Total Score	3.26 ± 0.47
Observation	3.35 ± 0.88
Description	3.11 ± 0.86
Acting with Awareness	3.29 ± 0.87
Non-Judgmental	3.27 ± 0.94
Non-Reactivity	3.26 ± 0.82

Figure 2

The academic adjustment [AAQ] subscales scores

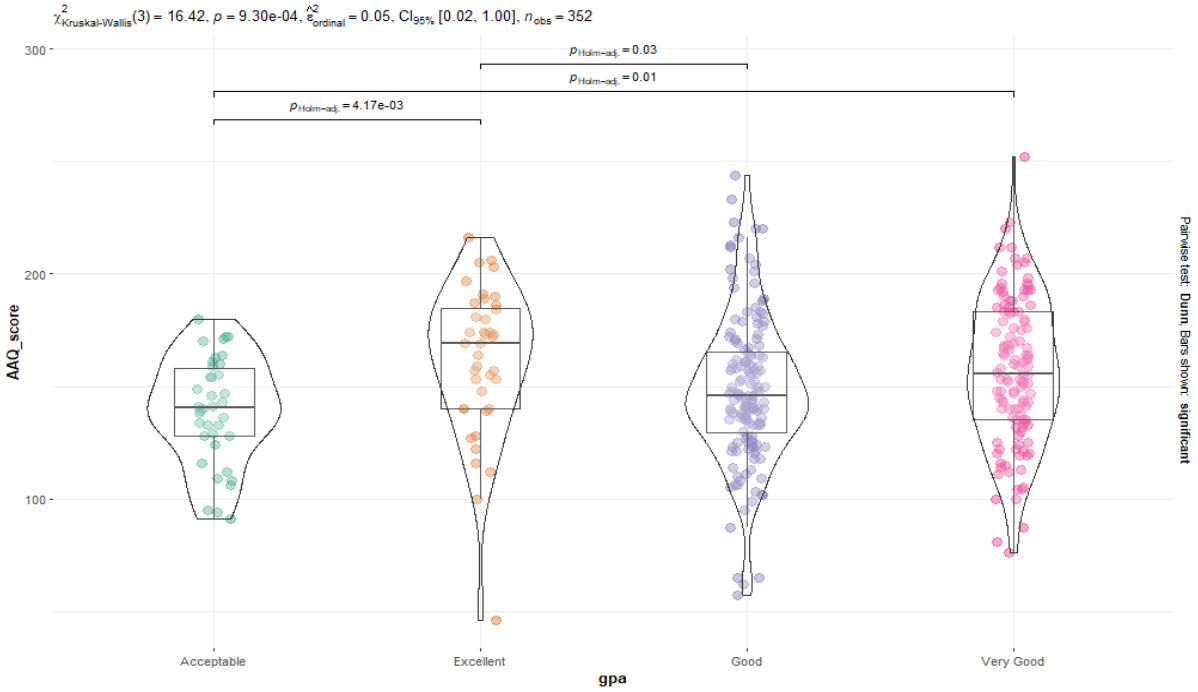


3.3 Results on Aim 1: Examine differences in academic adjustment and mindfulness across demographic and academic variables

Total academic adjustment scores did not significantly differ by gender (p = 0.2), Tawjihi stream (p = 0.7), or work status (p = 0.5). However, total academic adjustment scores did significantly differ by GPA (p <0.001). In post-hoc testing, those with excellent GPA had significantly higher academic adjustment scores than those with acceptable GPA or good GPA. Similarly, participants with a very good GPA had significantly higher academic adjustment scores than those with an acceptable GPA (Figure 3).

Figure 3

Differences in academic adjustment scores [AAQ scores] based on students' GPA



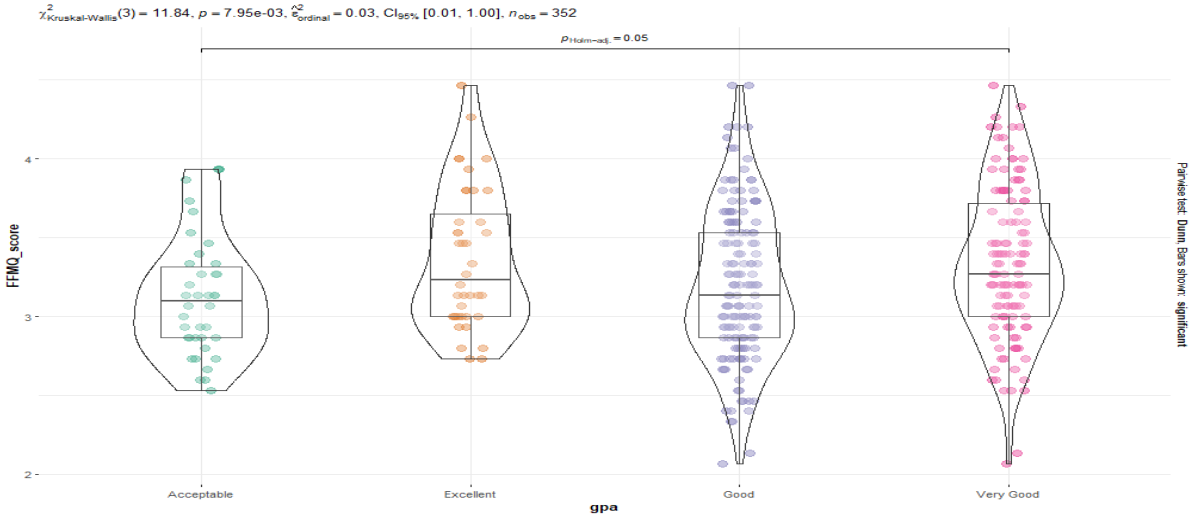
The mean mindfulness score for the entire sample was 3.3 ± 0.5. Individual responses for the mindfulness questionnaire and associated subscales are presented in Figure 4. Total mindfulness scores did not significantly differ by gender (p = 0.11), Tawjihi stream (p = 0.3), or work status (p = 0.4). However, total mindfulness scores did significantly differ by GPA (p = 0.008). In post-hoc testing, significant differences in mindfulness were only observed between those with very good GPA and acceptable GPA (Figure 5).

Figure 4

The Five Facets Mindfulness [FFM] subscales scores

Figure 5

Differences in mindfulness scores [FFMQ Scores] based on students' GPA



3.4 Results on Aim 2: Investigate the correlation between mindfulness, academic adjustment, and teaching preferences

When stratified per preferred teaching style, total academic adjustment score was only significantly different between students who prefer free flowing classroom discussion versus those who didn't ($p = 0.026$). On the other hand, the total mindfulness score was higher for students who prefer lectures with handwritten notes ($p = 0.049$), and lectures with PowerPoint visuals ($p = 0.032$). Similarly, students preferring learning through professor led questions had also significantly higher mindfulness score ($p = 0.049$). [Refer to table 3 for results using Kruskal-Wallis rank sum test].

Table 3

Students preferred teaching styles

Teaching style	Academic adjustment scores (Mean ± SD)	p-value	Mindfulness scores (Mean ± SD	p-value
Lectures with no visuals		0.05		0.7
Doesn't Prefer	147.80 ± 32.92		3.27 ± 0.48	
Neutral	157.45 ± 34.48		3.26 ± 0.50	
Prefer	152.67 ± 28.26		3.22 ± 0.42	
Lectures with handwritten notes		0.093		0.049
Doesn't Prefer	140.70 ± 32.48		3.12 ± 0.50	
Neutral	149.98 ± 32.76		3.19 ± 0.49	
Prefer	153.60 ± 32.22		3.29 ± 0.46	
Lectures with PowerPoint visuals		0.12		0.032
Doesn't Prefer	142.83 ± 33.83		3.11 ± 0.44	
Neutral	153.85 ± 24.69		3.20 ± 0.41	
Prefer	152.42 ± 34.15		3.29 ± 0.49	

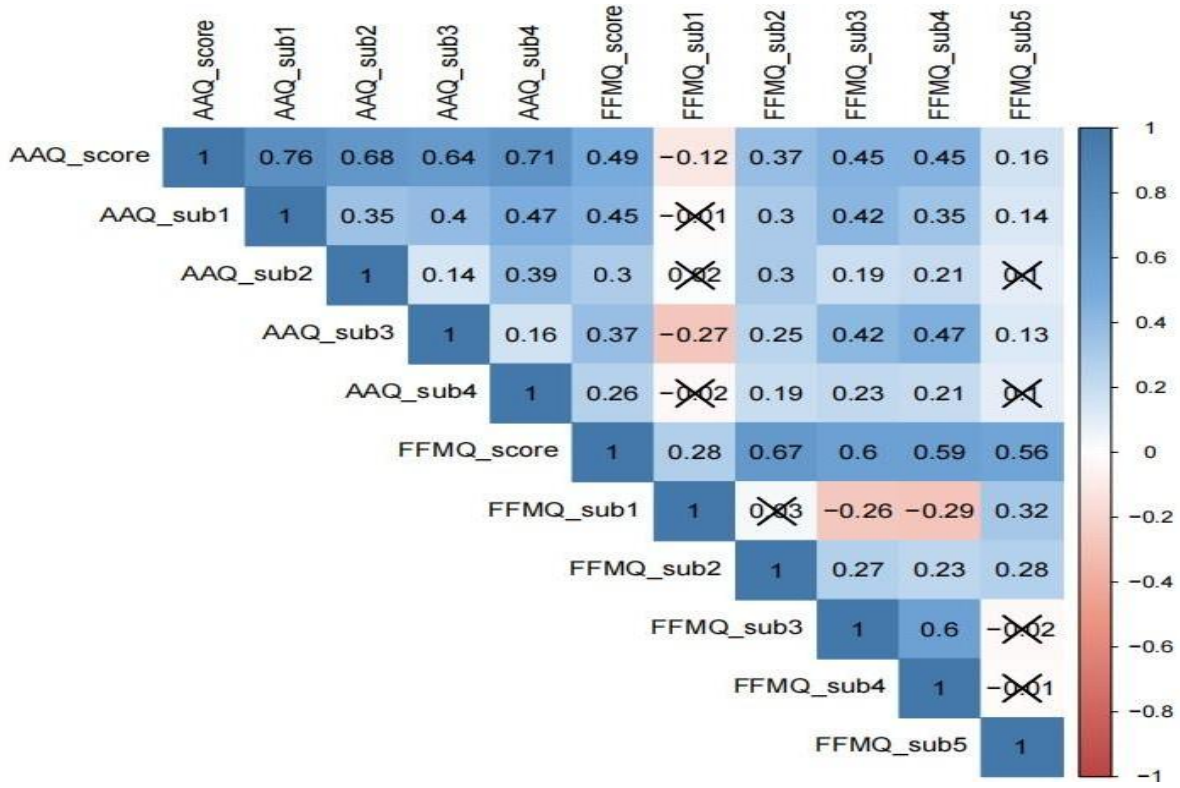
Teaching style	Academic adjustment scores (Mean ± SD)	p-value	Mindfulness scores (Mean ± SD	p-value
Lectures with videos and pictures		>0.9		0.055
Doesn't Prefer	152.62 ± 26.74		3.33 ± 0.43	
Neutral	152.94 ± 25.20		3.13 ± 0.40	
Prefer	151.67 ± 33.97		3.27 ± 0.48	
Lectures with Student Interaction		0.11		0.2
Doesn't Prefer	142.63 ± 34.91		3.21 ± 0.59	
Neutral	145.40 ± 28.29		3.16 ± 0.40	
Prefer	153.52 ± 32.77		3.27 ± 0.47	
Watching Educational Films		0.4		0.2
Doesn't Prefer	158.34 ± 25.18		3.32 ± 0.40	
Neutral	148.88 ± 30.80		3.18 ± 0.40	
Prefer	151.96 ± 33.57		3.27 ± 0.49	
Free flowing classroom discussion		0.026		0.2
Doesn't Prefer	142.26 ± 31.30		3.23 ± 0.50	
Neutral	145.18 ± 34.29		3.17 ± 0.48	
Prefer	154.81 ± 31.73		3.28 ± 0.47	
Teacher teaches by questioning students		0.3		0.8
Doesn't Prefer	144.33 ± 28.99		3.32 ± 0.49	
Neutral	148.83 ± 28.81		3.23 ± 0.42	
Prefer	153.51 ± 33.80		3.26 ± 0.49	
Teachers leads a classroom discussion on readings		0.7		0.049
Doesn't Prefer	148.36 ± 28.70		3.20 ± 0.45	
Neutral	150.52 ± 26.15		3.13 ± 0.38	
Prefer	152.73 ± 34.12		3.29 ± 0.49	
Guest Speakers		0.9		0.8
Doesn't Prefer	153.58 ± 27.63		3.31 ± 0.46	
Neutral	151.50 ± 30.43		3.23 ± 0.44	
Prefer	151.75 ± 34.00		3.26 ± 0.48	
Experiential Activities		>0.9		0.077
Doesn't Prefer	157.31 ± 34.30		3.35 ± 0.53	
Neutral	150.90 ± 30.39		3.13 ± 0.42	
Prefer	151.83 ± 32.80		3.27 ± 0.47	
Game-based Learning		0.6		0.3
Doesn't Prefer	153.66 ± 32.28		3.32 ± 0.46	
Neutral	149.65 ± 29.46		3.18 ± 0.45	
Prefer	152.20 ± 33.31		3.26 ± 0.48	
Students Presentation		0.078		0.5
Doesn't Prefer	141.75 ± 31.30		3.21 ± 0.48	
Neutral	153.14 ± 28.32		3.22 ± 0.39	
Prefer	153.62 ± 33.74		3.28 ± 0.50	
Case Studies		0.6		0.2
Doesn't Prefer	150.81 ± 25.28		3.22 ± 0.36	

Teaching style	Academic adjustment scores (Mean ± SD)	p-value	Mindfulness scores (Mean ± SD	p-value
Neutral	148.17 ± 30.41		3.20 ± 0.44	
Prefer	153.68 ± 33.86		3.28 ± 0.49	
Scheduled Weekly Quizzes		0.5		0.12
Doesn't Prefer	145.72 ± 34.45		3.23 ± 0.51	
Neutral	151.07 ± 29.59		3.17 ± 0.45	
Prefer	153.58 ± 32.76		3.29 ± 0.47	
Unscheduled Quizzes		0.7		0.5
Doesn't Prefer	151.76 ± 33.39		3.27 ± 0.47	
Neutral	149.58 ± 34.59		3.23 ± 0.48	
Prefer	154.63 ± 26.58		3.22 ± 0.46	
Research activities		0.14		0.6
Doesn't Prefer	147.97 ± 37.32		3.31 ± 0.50	
Neutral	146.46 ± 28.87		3.21 ± 0.40	
Prefer	155.18 ± 32.00		3.26 ± 0.49	

Total academic adjustment score was positively and significantly correlated with total mindfulness score (r = 0.49), description subscale (r = 0.37), acting with awareness subscale (r = 0.45), non-judgmental subscale (r = 0.45), and non-reactivity subscale (r = 0.16) (Refer to Figure 6). Conversely, total academic adjustment score was inversely correlated with the observation subscale (r = -0.12).

Figure 6

Correlations between academic adjustment and mindfulness scores [AAQ: Academic Adjustment total scores; FFMQ: Five-Facet Mindfulness total scores].



Similarly, total mindfulness score was significantly and positively correlated with all four academic adjustment subscales (academic adjustment, r = 0.45; social adjustment, r = 0.30; personal-emotional adjustment, r = 0.37; and institutional adjustment, r = 0.26). Preference for student-centered teaching methods score did not correlate with total mindfulness scores nor total academic adjustment scores. While the preference for student-centered teaching methods did not correlate with total mindfulness scores, they significantly, yet weakly correlated with total academic adjustment scores (r = 0.11; p <0.001).

3.5 Results on Aim 3: Identify the key predictors of academic adjustment

On multivariate linear regression, higher mindfulness score (B: 31.53; 95%CI: 25.11 – 37.96), excellent GPA (B: 15.65; 95%CI: 2.48 – 28.82), and those who entered their field of study out of preference (B: 9.26; 95%CI: 3.18 – 15.33) significantly predicted higher total academic adjustment scores. This current model explained 29.1% of variation in total academic adjustment scores. [Refer to table 4].

Table 4

Regression results using academic adjustment total score as the criterion

Predictor	*b*	*b* 95% CI [LL, UL]	sr^2	sr^2 95% CI [LL, UL]
(Intercept)	67.06*	[4.46, 129.65]		
Mindfulness score	31.53**	[25.11, 37.96]	.20	[.13, .27]
Sex (Male)	-2.05	[-9.42, 5.31]	.00	[-.00, .01]
Age	-1.31	[-4.50, 1.87]	.00	[-.01, .01]
Tawjihi stream (Other)	-3.31	[-13.15, 6.52]	.00	[-.00, .01]
Tawjihi stream (Sciences)	-4.25	[-11.92, 3.42]	.00	[-.01, .01]
Year	2.79	[-1.60, 7.18]	.00	[-.01, .01]
GPA (Excellent)	15.65*	[2.48, 28.82]	.01	[-.01, .03]
GPA (Good)	5.45	[-4.70, 15.60]	.00	[-.01, .01]
GPA (Very Good)	10.14	[-0.45, 20.72]	.01	[-.01, .02]
Field Chosen by Personal Preference	9.26**	[3.18, 15.33]	.02	[-.01, .04]
Currently working	-5.86	[-13.98, 2.26]	.00	[-.01, .02]
Teacher-centered Teaching styles Score	0.01	[-0.84, 0.86]	.00	[-.00, .00]
Student-centered Teaching styles Score	-0.44	[-1.47, 0.59]	.00	[-.01, .01]
R^2 = .291** 95% CI[.19,.34]				

Note. A significant b-weight indicates the semi-partial correlation is also significant. b represents unstandardized regression weights*. sr^2 represents the semi-partial correlation squared. LL and UL indicate the lower and upper limits of a confidence interval, respectively.*
** indicates p < .05. ** indicates p < .01.*

3.6 Aim 4: Assess whether mindfulness moderates the relationship between GPA and academic adjustment

On moderation analysis, mindfulness was maintained as a significant predictor of academic adjustment score. However, it did not contribute significantly in terms of modulation. Moreover, GPA

lost its significance in the moderation analysis due to shared competition in terms of variance. A similar phenomenon can be observed when GPA is exchanged with field preference. [Refer to table 5].

Table 5

Regression results using academic adjustment total score as the criterion

Predictor	*b*	*b* 95% CI [LL, UL]	sr^2	sr^2 95% CI [LL, UL]
(Intercept)	-2.35	[-71.56, 66.86]		
GPA	19.54	[-7.23, 46.32]	.00	[-.01, .02]
Mindfulness score	44.22**	[22.83, 65.61]	.04	[.00, .07]
GPA: Mindfulness score	-4.68	[-12.84, 3.48]	.00	[-.01, .01]
R^2 = .256**				
95% CI[.18,.32]				

*Note. A significant b-weight indicates the semi-partial correlation is also significant. b represents unstandardized regression weights. sr^2 represents the semi-partial correlation squared. LL and UL indicate the lower and upper limits of a confidence interval, respectively. * indicates p < .05. ** indicates p < .01.*

4. Discussion

Ultimately, our study demonstrated that higher mindfulness is significantly associated with both higher academic achievement and adjustment. These findings were well echoed within the literature (Mettler et al., 2023; Mettler et al., 2019; Bordbar et al., 2024). Studies show that students with higher levels of mindfulness are able to effectively mitigate the impact of stressors across both undergraduate and postgraduate levels (Masomeh et al., 2018). This phenomenon has been also observed among patients and healthcare workers, in which mindfulness was consistently an effector of resilience or perceptions of stress (Uzdil & Günaydın, 2022; Wu et al., 2022). It appears that mindfulness allows for a more appropriate response to everyday stressors by influencing the timing and coordination of adaptive behaviors.

Masomeh et al. (2018) suggests that the greater adaptability exhibited by those with higher mindfulness originates in how those individuals are aware of their "current" moment; thus, they are able to cultivate a non-judgmental attitude and acceptance of surrounding phenomena. Similarly, Ramler et al. (2016) notes that mindfulness is not merely a coping strategy but rather develops a more mature approach to crisis management through improved learning, problem-solving, and flexibility.

However, mindfulness and academic adjustment are both multifaceted and are impacted by a variety of internal and external factors. Abedi et al. (2023) modeled the relationship between mindfulness, adjustment, hope, and anxiety. The study demonstrated that mindfulness is positively related to academic hope and is mediated by it. This is explained by the active component of both mindful practices and hope as an emotion. Moreover, in addition to the improved psychological adaptations fostered by mindfulness, the authors indicate that it also includes a physiological component as mindfulness has been shown to reduce the intensity of central nervous system arousals (Sass et al., 2019).

On the other hand, the association between mindfulness or academic adjustment with certain socio-demographic characteristics has exhibited significant variability across literature. For example, a number of studies found a positive trend between age and mindfulness implying an impact of social

development into the practice and mastery of mindfulness techniques (Alomari, 2023). However, this was not the case in our study. Our findings might be explained by the inherent characteristics of our target population, which do not allow for enough temporal variety to examine the aforementioned relationship. Similarly, studies are yet to reach a consensus on the effect of gender on mindfulness (Greeson et al., 2011).

Even differences in academic achievements were not spared this fate as a minority of reports failed to observe differences in mindfulness per GPA categories. Nonetheless, the greater body of literature and the findings of this study support a relationship between mindfulness and academic achievement (Petrillo et al., 2009; Sears & Kraus, 2009). It is believed that individuals with higher mindfulness have higher self-expectations, choose appropriate academic goals within their scope of resources, and develop a focused attitude towards the achievement of their goals (Hamid Musa & Novikova, 2024; Mohammadi et al., 2016).

In terms of teaching styles, the majority of those include, irrespective of being teacher or student centered, were well accepted by the included cohort of university students. Lectures with no visual component and unscheduled quizzes stand out as the only two forms of teaching that were rejected by the majority of students. The earlier can be attributed to the preference of students to visual teaching styles (Chetty et al., 2019). It can be also attributed to the dynamics of the attention economy as the lack of any complementary teaching materials is more than likely to lose students' attention and interest, especially in this age of information speed and visuals. On the other hand, the latter can be attributed to the psychological and academic burden imposed by unscheduled quizzes. Students tend to shy away from such form of examination due to the constant stress it enforces and its impact on their academic achievement should they be not well prepared at all times.

It appears that preference for certain teaching styles has a limited impact on either adjustment or mindfulness. The available, yet limited, evidence demonstrates that teaching styles are correlated with academic motivation and significantly impact the student's perceptions of their teachers' competence (Keerthigha & Singh, 2023). Additionally, Khandaghi and Farasat (2011) demonstrated that active teaching styles hold significant influence on the emotional, educational, and social adjustment of elementary school students. Mudhovozi (2012) found that the use of different, inconsistent teaching styles may further augment the levels of anxiety and stress among first-year university students.

Literature provides an alternative factor that might be the central effector of either academic adjustment or motivation, which is the role of teacher-centered behaviors and how those are perceived by students. Learning for students is shaped by internal factors, such as mindfulness, and external factors (i.e., learning environment). It is the role of teachers to enforce, present, and dynamically alter those environments to fit their students' needs. Such may manifest as either innovative teaching styles or better mentorship at the individual student level; both of which impacts students' interest and intrinsic motivations (Pintrich, 2003). Maulana et al. (2016) demonstrate a link between students' perceptions of teachers' instructional behaviors and their academic motivation, of which, clarity appears to be the most impactful. Zee et al. (2016) also notes that the self-efficacy of teachers does also show positive links with students' academic adjustment and students' psychological well-being.

In light of what's above, our findings should be interpreted within the context of the following limitations. The use of a survey-based cross-sectional design may have introduced a number of biases, the most important of which is social desirability bias. This also limited the ability of the study to explore the temporal trends of adjustment, mindfulness, and preferences throughout the students' journey through their undergraduate studies. While the original population was Jordanian university students, the recruited sample may not be representative of all different schools or Jordanian academic establishments. Finally, teaching styles were examined using a questionnaire that may operationalize teaching preference through a number of items with high similar and statistical collinearity, which could have impacted the power of the analysis to detect meaningful differences within that particular concept.

5. Conclusion

This study examined the role of mindfulness and teaching preferences in shaping academic adjustment and achievement among university students in Jordan. The results highlight that students with higher mindfulness levels reported significantly better academic adjustment and academic

performance. These findings emphasize that mindfulness is not simply a well-being tool but a practical psychological resource that contributes to students' ability to navigate academic demands effectively. Notably, students who selected their field of study based on personal interest also reported higher adjustment, suggesting that intrinsic motivation and alignment with academic goals may enhance the university experience. While student-centered teaching approaches were generally favored, they showed limited direct association with adjustment or mindfulness, indicating that instructional style alone may not substantially influence students' academic functioning without considering individual psychological traits.

The study provides a contextual contribution from a non-Western academic setting, where limited empirical research exists on these variables. It offers evidence that internal attributes like mindfulness may compensate for some of the structural challenges faced by students in under-resourced university systems. Future research should explore how structured mindfulness interventions can be tailored to the higher education context in Jordan and examine their long-term impact using longitudinal or mixed-method designs. Additionally, integrating students' academic preferences into academic advising may prove beneficial for educational planning and retention strategies.

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