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Exploring the association between academic procrastination and psychological well-being among university students: A case study of the blended learning model at a public university in Jordan

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ABSTRACT

Blended learning combines traditional education with digital technologies. The current study investigates the levels of academic procrastination and psychological well-being and examines the correlation between these two variables among students in blended learning in a public university in Jordan. The sample encompassed 709 students, consisting of individuals from both genders. The data-gathering procedure involved the utilization of measurement instruments to assess both academic procrastination and psychological well-being. The students exhibited a low level of academic procrastination, pointing toward a positive impact of the blended learning model in their academic environment. This is apparent through the significant rise in their levels of psychological well-being. Intriguingly, an inverse correlation between academic procrastination and psychological well-being was noted. Furthermore, the findings indicated that academic procrastination exerts a detrimental influence on psychological well-being, aligning with the outcomes documented in the literature review, which emphasized how academic procrastination diminishes subjective well-being and reduces overall happiness. This study is confined to a specific university context and the sphere of blended learning, thereby limiting its generalizability to other educational models.

Contribution/Originality: The article's focus provides a specific context with insights into how blended learning experiences influence both academic procrastination and psychological well-being within a contemporary educational setting. Furthermore, the article makes a valuable contribution to the field of educational psychology by improving our understanding of individual factors within a blended learning context.

1. INTRODUCTION

Blended learning in the present era is one of the most commonly employed models in higher education, particularly as this approach has gained appreciation when resorting to online distance learning. Blended learning within the context of higher education has demonstrated high efficiency and effectiveness across various disciplines (Garrison & Vaughan, 2008). Blended learning, in general, aligns with digital tools that have been recognized for a long time, in both advanced and developing countries (Impedovo, Khalid, Kinley, & Yok, 2022). Blended learning is a model that combines elements of both online learning and traditional education (Crane, 2016). It is an educational model that has been followed by technological advancement, integrating traditional methods with e-learning, which aims to provide specialized and equitable educational experiences for all students (Linton, 2018). Embracing new teaching methods, such as blended learning, also leads to providing qualitative and rich learning experiences for

students (Glazer, 2023). In an integrated environment, teachers can utilize a diverse range of digital technologies to provide qualitative knowledge to students in various fields of science (Vaughan, Cleveland-Innes, & Garrison, 2013). Blended learning is a multimedia educational experience specifically designed by instructors to offer a comprehensive learning experience, giving the learners partial control over when, where, and how they learn (Martin, 2016).

Furthermore, open learning and online distance learning have emerged as the favored choices for a growing number of students in societies that endorse lifelong learning, considering the labor market's need for frequent job changes (Kayalis & Natsina, 2010). Therefore, the biggest motivation for electing the blended learning approach is its potential to offer superior advantages compared to traditional instruction while also promoting self-directed learning (Hogarth, 2009).

Conversely, blended learning may present a variety of new challenges for students, even for higher education institutions. The transition to e-learning presents new challenges as the expectations and roles of employees and students evolve (Kunene & Barnes, 2017). Blended learning requires educators to be aware of the difficulties associated with its implementation (MacDonald, 2017). One prominent and recurring example of these challenges is the inadequacy of internet connectivity, which hampers the effectiveness of the blended learning model. This type of educational approach demands significant commitment from students in attending lectures and submitting assignments, either through face-to-face or online distance learning methods, making some students more frustrated and critical of this educational model. Some might even consider it exhausting and demanding (Al-Huneini, Walker, & Badger, 2020).

This can lead to decreased student motivation toward learning, contributing to common academic issues among students, such as failing to attend lectures on time, ignoring them altogether, lacking engagement in lectures, postponing or not submitting assignments, and delaying preparation for exams, culminating in what can be described as academic procrastination. Most procrastination occurs to avoid the discomfort associated with thinking about assignments that evoke feelings of anxiety (Combs, 2011).

When procrastination is linked with delay, it implies various negative emotions, such as stress, anxiety, and guilt (Sanaghan, 2021). Procrastination and delay lead to hindered progress; both are patterns of destructive or obstructive behavior. To overcome procrastination, we need to better understand our emotions and motivations (Dryden, 2021). It also requires the ability to manage the negative emotions that fuel procrastination (Sirois, 2022). When a person fails to regulate the emotional states associated with procrastination, they pose a risk to psychological well-being (Sirois & Pychyl, 2016). On an academic level, psychological pressure on students may decrease, especially when they find the educational environment to be safer and more comfortable. This increases their psychological well-being, consequently reducing educational issues, such as academic procrastination (Riolli, Savicki, & Richards, 2012).

Conversely, a student may struggle to overcome academic procrastination, which weakens their motivation to learn, negatively affecting their health and well-being (Argiropoulou, Sofianopoulou, & Kalantzi-Azizi, 2016). This is dependent on the educational environment the students belong to. For students to achieve their educational goals, they need a comprehensive path of secure psychological growth that ensures an adequate level of well-being.

One factor contributing to enhancing students' well-being is collaboration within the learning environment (Katz, 2018). This can be achieved through teachers who have a central role in promoting students' social and psychological well-being (Suldo, 2016). However, excessive cooperation or a lack of assertiveness in students may result in low-quality task performance and increased academic procrastination. Procrastination impacts the quality of life and well-being (Krause & Freund, 2014). The elevated prevalence of procrastination is a cause for concern because it is associated with adverse effects on academic achievement and psychological well-being (Rabin, Fogel, & Nutter-Upham, 2011).

2. LITERATURE REVIEW

2.1. Academic Procrastination

Procrastination is described as the action of delaying or postponing something that needs to be done or dealt with. It's also known as the "thief of time". It's a well-known phenomenon that affects everyone at some point in their lives, and is considered to be ineffective and unproductive behavior (Ismail, 2016). Research has shown that procrastinators tend to be individuals who are easily frustrated and give in easily. They tend to lean toward perfectionism, have high needs for independence and approval, and have a strong fear of failure. As a result, they procrastinate because the tasks or projects ahead of them represent high risks, causing them significant feelings of apprehension (Davidson & Davidson, 2003). Due to procrastination, individuals may fear failure, preventing them from reaching their full potential (Ferrari, 2011). This leads to delayed achievement and extra costs in all aspects of life—economic, social, academic, and more (Wiegartz & Gyoerkoe, 2011). Chronic procrastination is a common problem for many individuals (Ferrari, Johnson, & McCown, 1995). It's a behavior that everyone experiences and wants to get rid of (Magana, 2021). Procrastination is familiar and intriguing to all humans but also perplexing; it's simply delaying tasks until the last moment (Andreou & White, 2010). Procrastination means postponing, possibly becoming a habitual behavior in individuals, an addictive pattern to avoid completing tasks on time (Gelperin, 2017).

From an academic perspective, procrastination is considered a prevalent and problematic behavior among university students (Farran, 2004). Procrastination is a widely observed phenomenon in academic settings (Balkis & Duru, 2017). Procrastination is equally prevalent among all educational levels (Afzal & Jami, 2018).

Academic procrastination is a dynamic behavior that follows a curved trajectory over time (Moon & Illingworth, 2005). It is increasingly seen as a failure in self-regulation (Grunschel, Patrzek, & Fries, 2013; Zacks & Hen, 2018). When procrastination is linked to poor self-regulation and willpower, typically considered to be executive functions, it has a detrimental effect on students' academic performance and well-being (Rabin et al., 2011). When students unnecessarily delay completing projects, activities, or assignments, it leads to lower academic grades, decreased well-being, and increased stress (McCloskey, 2012).

The majority of students consistently procrastinate regarding their academic work, leading to the inevitable conclusion that procrastination hinders academic achievement (Moonaghi & Beydokhti, 2017). Procrastination stands as a barrier to students' success in academic achievement because it can diminish the quality or quantity of learning outcomes. Very few students who struggle with academic procrastination are expected to benefit from the grace period allowed to complete assignments (Winarso, Udin, & Mulyana, 2023). When procrastination becomes a hindrance to students' academic performance and results, a need to develop and study academic interventions of academic procrastination arises as a means to reduce its prevalence in academic environments (Goroshit, 2018).

2.2. Psychological Well-being

The concept of well-being is associated with aspects of mental health (Biddle, Fox, & Boutcher, 2000). Psychological well-being is considered a crucial aspect in assessing the health of individuals and groups, requiring a comprehensive evaluation of their lives (Stone, Schwartz, Broderick, & Deaton, 2010). Experiencing negative emotions, such as failure and sadness, is considered a natural part of life, and the ability to manage these negative or painful emotions is necessary for long-term well-being (Huppert, 2009). Well-being is linked to the happiness that individuals achieve based on the relative absence of negative emotions such as frustration and depression (Margitics & Pauwlik, 2009). The concept of well-being is often used synonymously with happiness and is a fundamental concept in positive psychology (Lopez, Pedrotti, & Snyder, 2018).

The nature and structure of well-being has received increasing attention with the emergence of positive psychology (Seligman, 2019; White, 2016; Wood & Johnson, 2016). It is a relatively modern concept in psychology that measures the impact of psychological well-being on individuals' behavioral patterns in the domains of

cognitive, emotional, physical, and ethical development (Kharnub, 2016). Positive psychology has found a strong correlation between psychological well-being and self-well-being, as lower scores indicate higher psychological pressures (Al Jundy & Talahmeh, 2017).

Limited research in the context of positive psychology suggests the existence of two separate but interconnected factors: self-well-being and psychological well-being. Self-well-being includes an emotional component of balancing positive and negative effects along with a cognitive component related to individuals' level of satisfaction with their life. Psychological well-being is conceived to include critical components related to self-appraisals of one's abilities, capabilities, goals, and relationships with their environment and others (Linley, Maltby, Wood, Osborne, & Hurling, 2009). Components of psychological well-being are linked to sources of psychological stress or distress, such as being the only adult in the family, speaking a language other than English at home, divorce or separation, lack of educational qualifications beyond high school, transitioning from one developmental stage to another, or academic transitioning, such as moving from school to university (Winefield, Gill, Taylor, & Pilkington, 2012).

The results indicate that there is greater pressure on well-being once students start university compared to pre-university. University is a period of intense stress, and there is a need to ensure that students receive the necessary support throughout their studies to enable them to complete their academic journey and eventually transition into the workforce (Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010; Cooke, Bewick, Barkham, Bradley, & Audin, 2006). The transition to university is taxing, and successful adaptation is essential for well-being (Denovan & Macaskill, 2017). The well-being of university students is increasingly seen as a source of concern. Higher education institutions need to recognize and proactively respond to student well-being issues. To do so, institutions must strive to promote a sustainable and effective academic environment through a comprehensive university approach (Brewster et al., 2022).

Furthermore, mental health practitioners should develop strategies that strengthen students' attributes and values related to mental health (Burris, Brechting, Salsman, & Carlson, 2009). The mental health of students has the greatest impact on their well-being and academic performance and is often influenced by their adaptation to university life (Cobo-Rendón, Pérez-Villalobos, Páez-Rovira, & Gracia-Leiva, 2020).

2.3. Study Problem

Today, blended learning is witnessing increasing usage and approval across all countries. Specifically, in Jordan, higher education institutions continue to view it as a strategic choice. Universities in the region are actively promoting the adoption of diverse educational approaches, including remote learning and blended learning. Therefore, it has become intriguing to investigate the impact of this approach on students' academic, psychological and social developmental dimensions, among others.

This study explores the educational and psychological issues most associated with the blended learning model—academic procrastination and psychological well-being. Previous literature has shown that academic procrastination is a prevalent behavior among university students, with the percentage of time they engage in this behavior falling within the range of 30% to 60% (Rabin et al., 2011). Furthermore, research has documented the adverse effects of academic procrastination on student performance in computer-supported learning environments (Akram et al., 2019).

Academic procrastination affects all areas of student performance: psychological, career, social, and more. Psychologically, the results of the literature review suggest that academic procrastination has a detrimental impact on psychological well-being. Consequently, the findings of this review could serve as a cautionary message to students, discouraging them from indulging in academic procrastination (Arifiana, Rahmawati, Hanurawan, & Eva, 2020).

The current study responds to the deficiencies in previous reports by placing greater emphasis on exploring the connection between academic procrastination among university students and their psychological well-being in the context of blended learning environments.

2.4. Study Objectives

1. Determine the levels of academic procrastination and psychological well-being among blended learning students at a public university in Jordan.
2. Determine the correlation between academic procrastination and psychological well-being among blended learning students at a public university in Jordan.
3. Determine the impact of academic procrastination on the psychological well-being of blended learning students at a public university in Jordan.

3. METHODOLOGY

The study employed a descriptive correlational approach to explore the association between academic procrastination and psychological well-being.

3.1. Participants

The participants voluntarily completed a survey to obtain the necessary data for the sample, such as age, gender, academic year, and GPA (grade point average). It also includes measures of academic procrastination and psychological well-being to gather the necessary data to answer the study's objectives.

The study population comprised 709 students, selected through the convenience sampling method, who were enrolled in one of Jordan's public universities that implemented the blended learning model during their second semester in the 2022–2023 academic year. Students who were taking elective university courses were invited to complete the study instrument via an electronic form on Google Forms.

Regarding gender, males accounted for 28.8% (n = 204) of the sample, while females constituted the majority at 71.2% (n = 505). In terms of specialization, 58% (n = 411) of the students were from science faculties, and 42% (n = 298) were from humanities faculties. The participants' academic levels were relatively evenly distributed across different years: 36.4% (n = 258) were freshmen, 30.7% (n = 218) were sophomores, 21.4% (n = 152) were juniors, and 11.4% (n = 81) were seniors. For a detailed breakdown of the sample according to other variables, please refer to Table 1, which provides a comprehensive distribution of the sample.

Table 1. Descriptive information for the study sample.

Variable	Category	Frequency	Percentile
Gender	Male	204	28.8%
	Female	505	71.2%
Age	18–20	467	65.9%
	21–22	201	28.3%
	23–24	41	5.8%
Specialization	Science faculties	411	58%
	Humanities faculties	298	42%
Academic level	Freshman	258	36.4%
	Sophomore	218	30.7%
	Junior	152	21.4%
	Senior	81	11.4%
Average academic	Excellent	117	16.5%
	Very good	268	37.8%
	Good	248	35%
	Fair	76	10.7%
Place of residence	City	578	81.5%

Variable	Category	Frequency	Percentile
	Village	115	16.2%
	Other	16	2.3%
Income	High	24	3.4%
	Medium	545	76.9%
	Low	140	19.7%
Degree	Total	709	100%

3.2. Materials

3.2.1. Academic Procrastination Scale

Abu Ghazal (2012) created the Academic Procrastination Scale specifically tailored for the Jordanian environment. This scale comprises 21 questions, and each question is evaluated using a 5-point Likert scale: 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, and 5 = strongly disagree. The scale includes questions such as 'I don't complete my assignments regularly day by day, so I fall behind in my coursework' and 'I always tell myself I'll do my academic assignments tomorrow.' A greater score signifies a higher level of academic procrastination.

Reverse scoring was applied to questions 1, 3, 5, 6, 10, 12, and 17. Consequently, the questions with reverse scores were formulated in the opposite direction to what the scale measures. The mean values were calculated using the following equation: subtract the lower value from the upper value of the response alternatives and then divide this difference by the number of levels, which is: 5-1÷4⁄3= 1.33. This value represents the length or range of the category. Thus, the degree of academic procrastination is categorized as follows: The low score range is 1.00–2.33, the moderate score range is 2.34–3.66, and the high score range is 3.67–5.00.

To assess the internal consistency validity of the scale questions, the Pearson correlation coefficient was calculated between the individual scores of each question and the overall score of the scale. This is depicted in Table 2.

Table 2. The correlation rate between the scale questions and the total score on the academic procrastination scale.

Question	Total score	Question	Total score
1	0.781*	12	0.756*
2	0.402*	13	0.634*
3	0.732*	14	0.794*
4	0.664*	15	0.817*
5	0.753*	16	0.459*
6	0.694*	17	0.743*
7	0.813*	18	0.668*
8	0.575*	19	0.633*
9	0.724*	20	0.752*
10	0.771*	21	0.420*
11	0.797*	-	-

Note: * $p < 0.05$.

Table 2 indicates that all correlation rates for the scale questions and the total scale scores exhibit statistical significance at $p < 0.05$. The correlation values for the questions fall within the range of 0.402 to 0.817, and all these results hold statistical significance. This underscores the internal consistency and the structural coherence of the scale. Therefore, the final version of the Academic Procrastination Scale comprises a total of 21 questions.

3.2.2. Psychological Well-being Scale

Ryff and Keyes (1995) introduced a shortened version to assess psychological well-being, which incorporates an 18-question self-report scale. Scoring Subscales: Autonomy: Q15, Q17, Q18; Environmental mastery: Q4, Q8, Q9; Personal growth: Q11, Q12, Q14; Positive relations with others: Q6, Q13, Q16; Purpose in life: Q3, Q7, Q10; Self-acceptance: Q1, Q2, Q5.

Each question on the scale is categorized on a 7-point Likert scale: 1 = strongly agree; 2 = somewhat agree; 3 = agree a little; 4 = neither agree nor disagree; 5 = disagree a little; 6 = somewhat disagree; 7 = strongly disagree. A greater score on the scale reflects a heightened level of psychological well-being.

Reverse scoring was applied to Q1, Q2, Q3, Q8, Q9, Q11, Q12, Q13, Q17, and Q18. This means that questions with reverse scores were formulated in the opposite direction to what the scale measures. Higher scores in these cases represent higher levels of psychological well-being.

Re-coded value = (Number of Scale Points + 1) - Respondent's Answer. For example, Q1 is a 7-point scale and if the respondent answered 3, the re-coded value would be: (7 + 1) - 3 = 8 - 3 = 5. So, the respondent's answer of 3 for Q1 is recorded as 5 on the reversed scale.

After processing the reversed questions, the calculations involved subtracting the lower value from the upper value of the response alternatives and dividing this difference by the number of levels, which is: 7-1÷6⁄3 = 2. This value represents the length or range of the category. Thus, the degree of psychological well-being is categorized as follows: The low score range is 1.00–2.99, the moderate score range is 3.00–4.99, and the high score range is 5.00–7.00.

To determine the consistency of the questions, the Pearson correlation was calculated between each question's score and the overall scale score. This analysis is presented in Table 3.

Table 3. The correlation coefficients between the scale questions and the total score on the academic procrastination scale.

Correlation / Question	Subscale score	Total score	Question	Subscale score	Total score
1	0.722*	0.568*	10	0.797*	0.573*
2	0.840*	0.631*	11	0.703*	0.546*
3	0.804*	0.712*	12	0.785*	0.589*
4	0.722*	0.599*	13	0.786*	0.653*
5	0.693*	0.665*	14	0.755*	0.513*
6	0.763*	0.553*	15	0.726*	0.459*
7	0.762*	0.660*	16	0.796*	0.488*
8	0.703*	0.472*	17	0.762*	0.546*
9	0.761*	0.666*	18	0.780*	0.512*

Note: * $p < 0.05$.

It is clear from the data presented in Table 3 that all correlation coefficients between the scale questions and their corresponding subscales, as well as the total scale scores, are statistically significant at $p < 0.05$. The correlations of the questions with their respective subscales ranged between 0.693 and 0.840, The questions displayed correlations with the total scale scores spanning from 0.459 to 0.712, all of which were found to be statistically significant. This suggests a high level of internal consistency and coherence within the structure of the scale. As a result, the Psychological Well-Being Scale consists of 18 questions in its final form.

Additionally, the reliability was assessed by calculating Cronbach's alpha coefficient, which yielded a value of 0.88. This value indicates a high level of scale reliability; a value of 0.70 is the minimum accepted threshold for reliability (Nunnally & Bernstein, 1994).

4. RESULTS

The outcomes of the first objective, to determine the levels of academic procrastination and psychological well-being among blended learning students at a public university in Jordan, are explained below.

4.1. Academic Procrastination

The data was analyzed by calculating the means and standard deviations. According to Table 4, the degree of academic procrastination is categorized as low, with a mean of 2.32 and a standard deviation of 0.73. "I waste a lot of time" received the highest rank, with a mean of 2.79 and a standard deviation of 1.19 and is classified as medium.

"I feel uncomfortable just thinking about the need to start working on my academic assignments" obtained the lowest rank, with a mean of 1.85 and a standard deviation of 0.94 and is classified as low.

Table 4. Means and standard deviations of the academic procrastination level among students.

* Reversed questions	Question	Mean	Std. deviation	Level
*	Q 1	2.61	1.14	Medium
	Q 2	1.85	0.90	Low
*	Q 3	2.37	1.07	Medium
	Q 4	2.07	1.03	Low
*	Q 5	2.43	1.10	Medium
*	Q 6	2.20	1.08	Low
	Q 7	2.46	1.18	Medium
	Q 8	2.14	1.06	Low
	Q 9	2.79	1.19	Medium
*	Q 10	2.61	1.15	Medium
	Q 11	2.33	1.04	Low
*	Q 12	2.47	1.12	Medium
	Q 13	1.93	0.94	Low
	Q 14	2.29	1.06	Low
	Q 15	2.42	1.07	Medium
	Q 16	1.85	0.94	Low
*	Q 17	2.24	1.04	Low
	Q 18	2.34	1.06	Medium
	Q 19	1.96	0.87	Low
	Q 20	2.78	1.19	Medium
	Q 21	2.54	1.09	Medium
	Total	2.32	0.73	Low

Note: * Before conducting the data analysis, it's important to note that the scores of the questions were reversed.

4.2. Psychological Well-being

The data was analyzed by calculating the means and standard deviations. According to Table 5, the level of psychological well-being is classified as high, with a mean of 5.83 and a standard deviation of 0.75. Among the sub-dimensions of psychological well-being, personal growth received the highest rank, with a mean of 6.26 and a standard deviation of 0.78, also classified as high. Positive relations with others obtained the lowest rank, with a mean of 5.42 and a standard deviation of 1.11, falling within the high category.

Table 5. Means and standard deviations of the psychological well-being level among students according to the subscales.

No.	Subscale	Mean	Std. deviation	Ranking	Level
1	Personal growth	6.26	0.78	1	High
2	Autonomy	6.11	0.89	2	High
3	Self-acceptance	5.83	1.07	3	High
4	Purpose in life	5.70	1.05	4	High
5	Environmental mastery	5.67	1.03	5	High
6	Positive relations with others	5.42	1.11	6	High
Total		5.83	0.75	-	High

The responses to the psychological well-being questions were analyzed by calculating the means and standard deviations, which are presented in Table 6. According to the data, the level of psychological well-being is classified as high. Among the questions of psychological well-being, "I think it is important to have new experiences that challenge how I think about myself and the world" received the highest rank, with a mean of 6.48 and a standard deviation of 0.90, classified as high. "I sometimes feel as if I've done all there is to do in life" obtained the lowest rank, with a mean of 4.81 and a standard deviation of 1.85, classified as medium.

Table 6. Means and standard deviations of the psychological well-being level among students.

* Reversed questions	Question	Mean	Std. deviation	Level
*	Q1	6.10	1.13	High
*	Q2	5.47	1.58	High
*	Q3	6.04	1.32	High
	Q4	5.49	1.42	High
	Q5	5.91	1.32	High
	Q6	4.97	1.61	Medium
	Q7	6.26	1.12	High
*	Q8	5.81	1.45	High
*	Q9	5.71	1.30	High
	Q10	4.81	1.85	Medium
*	Q11	6.04	1.15	High
*	Q12	6.48	0.90	High
*	Q13	5.87	1.29	High
	Q14	6.25	1.06	High
	Q15	5.76	1.35	High
	Q16	5.42	1.45	High
*	Q17	6.30	1.00	High
	Q18	6.25	1.08	High

Note: * The data analysis involved reversing the scores of the questions before conducting the analysis.

The outcomes of the second objective, to determine the correlation between academic procrastination and psychological well-being among blended learning students at a public university in Jordan, are detailed below. To address this objective, the Pearson correlation coefficient was computed, and the results of this analysis are displayed in Table 7.

Table 7. The Pearson correlation coefficient between academic procrastination and psychological well-being among blended learning students in a public university in Jordan.

Factor	Academic procrastination
Total: Psychological well-being	-0.532*
Autonomy	-0.440*
Environmental mastery	-0.475*
Personal growth	-0.468*
Positive relations with others	-0.349*
Purpose in life	-0.379*
Self-acceptance	-0.304*

Note: * $p < 0.05$.

Table 7 reveals a clear inverse correlation between academic procrastination and psychological well-being. This suggests that as the level of academic procrastination increases, there is a decrease in the level of psychological well-being of blended learning students at the university. The Pearson correlation coefficient for this relationship is -0.532, indicating an inverse correlation.

Additionally, it's worth noting that the total score for academic procrastination demonstrates inverse and statistically significant correlations with the total score of psychological well-being, as well as with its subscales, including autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. These results indicate that decreased levels of academic procrastination are linked to higher levels of psychological well-being. The correlation between academic procrastination and self-acceptance was the lowest at -0.304, while the highest correlation was observed between academic procrastination and environmental mastery, which stood at -0.475.

The outcomes of the third objective, to determine the impact of academic procrastination on the psychological well-being of blended learning students at a public university in Jordan, are given below.

A simple regression analysis was used to assess the predictive potential of the academic procrastination predictor variable on psychological well-being. The outcomes of this analysis are detailed in Table 8.

Table 8. Simple linear regression analysis investigating the influence of academic procrastination on psychological well-being.

Predictor	B	Std. error	F	Sig.	Beta	t	Sig.	Adjusted R-squared
Constant	7.104	0.080	279.370	0.000	-	88.902	0.000	-
Academic procrastination	-0.549	0.033			-0.532	-16.714	0.000	0.282

As shown in Table 8, the regression model demonstrates statistical significance, with an F-value of 279.370 at $p < 0.001$. The R-squared value, which stands at 0.282, indicates that the predictor variable of academic procrastination explains 28.2% of the variation in psychological well-being. Moreover, the beta value indicating the correlation between academic procrastination and psychological well-being is -0.532 and holds statistical significance. The t-value also reached -16.714 at $p < 0.001$. This implies that any escalation in the extent of academic procrastination leads to a decrease of 0.532 in psychological well-being.

5. DISCUSSION

Procrastination is a prevalent phenomenon in academic environments (Zacks & Hen, 2018), and it has varying levels of severity. The results revealed a low level of academic procrastination in the university under study. This outcome is accredited to the advantages offered by the blended learning model to students. Both educators and students share the perception that blended learning provides increased flexibility regarding learning styles and study pace. The incorporation of a diverse range of assignment delivery methods allows non-traditional students to balance their academic commitments more efficiently and successfully without delay or procrastination (Rhem, 2012). Additionally, maintaining face-to-face interaction with students remains essential, as it provides students with the reassurance and ongoing support they require from instructors (Poon, 2012).

In higher education settings, there is a significant focus on providing active learning through blended learning models using technology, which offers effective learning for all students, making them more persistent in acquiring cognitive learning (Keengwe, 2018).

On the other hand, the results demonstrated a high degree of psychological well-being. Psychological well-being is associated with happiness, environmental security, care, mental health, and the positive characteristics of growth and development (Amichai-Hamburger, 2009). Moreover, providing an autonomous environment rather than a controlled one enhances learning and yields positive outcomes, as blended learning is linked to the diverse psychological needs of individuals (Siddiqui, Soomro, & Thomas, 2020). The learning environment, such as the university campus, plays a pivotal role in achieving positive psychological growth (Wade, Marks, & Hetzel, 2015).

It's worth noting that there is a greater degree of flexibility in the blended learning model compared to traditional teaching methods, as students can access educational materials to suit their needs, regardless of location, time, or physical presence in a lesson. This sense of comfort relieves pressure (Fearon, Starr, & McLaughlin, 2011). Studies have shown that effective communication plays a pivotal role in driving the overall success of blended learning and enhancing students' comfort and satisfaction with this mode of education (King & Arnold, 2012). Satisfaction is an important element in enhancing psychological well-being, and many students have a positive attitude toward blended learning (Alkferi, 2022).

In higher education, the blended learning model can be beneficial, especially in times that require online distance learning or in-person attendance, known as the ecological integration of learning. This has a positive impact on students' sense of security, leading to a reduction in their anxiety and psychological pressures. Technology has enabled higher education institutions to offer hybrid and fully online services. Blended learning has shown positive effects in improving students' exam grades and increasing their attendance rates. These are clear

indicators of the increased positive feelings that accompany students throughout the learning process. Competencies have been developed in both students and teachers to facilitate meaningful learning (Salcedo, 2022). Therefore, higher education institutions must pay attention to students' individual learning needs and their opinions about blended learning (Veerasamy & Nabila, 2020).

The results uncovered an adverse correlation between procrastination and psychological well-being. The prevalence of academic procrastination is worrisome because of its detrimental impact on both academic performance and psychological well-being (Glick, Millstein, & Orsillo, 2014). The relationship is characterized by a clear negative correlation between procrastination and psychological well-being (Ismail, 2016). Procrastination, which is indicative of non-achievement, is negatively linked to psychological well-being (Habelrih & Hicks, 2015). Procrastination carries feelings of discomfort and distress (Burka & Yuen, 2008).

The blended learning approach contributes to strengthening the association between decreased academic procrastination and improved psychological well-being. Each student undergoes comprehensive psychological, cognitive, social, ethical and professional development, among others. Shortcomings in any of these aspects inevitably affect other facets. Therefore, the effectiveness of blended learning hinges on the methodology used for its implementation. When blended learning is systematically and professionally implemented and adheres to a scientific methodology, it satisfies learning needs and positively impacts students' psychological well-being. This results in feelings of happiness and security. All of this is achieved when digital platforms meet the expectations of blended learning elements from teachers and students (Jones & Sharma, 2021).

The findings highlighted the detrimental effect of academic procrastination on psychological well-being. Existing literature has demonstrated that academic procrastination can lead to a decrease in self-well-being and a reduction in happiness (Arifiana et al., 2020). This can be explained by the anxiety and fear that students experience when they delay submitting assignments or preparing for exams. It is well known that psychological well-being represents the positive aspect of emotions, separate from stress and psychological pressures. The current study's results have signified a reduction in the degree of academic procrastination, implying that blended learning students are keen to avoid any triggers that might disrupt their mood, thus safeguarding their psychological well-being. As commonly understood, procrastination exerts an adverse influence on psychological well-being (Rice, Richardson, & Clark, 2012). Furthermore, academic procrastination serves as a prominent predictor of maladaptive emotional and behavioral adjustment for numerous individuals who have self-reported such tendencies (Assur, 2002; Balkis & Duru, 2016; Krause & Freund, 2014; Rabin et al., 2011; Saplavska & Jerkunkova, 2018).

6. CONCLUSION

Today, in most countries around the world, blended learning is a prevalent model in the context of higher education due to its proven effectiveness in delivering knowledge to students with ease and flexibility. Additionally, blended learning serves as an innovative model for overcoming the difficulties and challenges that the higher education sector may face globally, such as the closures witnessed during COVID-19 and the ensuing challenges for governments in economic and educational domains, among others. As a result, higher education administrations today are eager to adopt this model of blended learning to keep up with the new changes that are occurring in education.

Conversely, as with any educational issue, we have witnessed dissatisfaction from some educational stakeholders, including teachers and learners, who still deny the usefulness of this model in education and point out some of its drawbacks. Thus, educational studies in the higher education sector aim to understand the impact of different teaching models on the occurrence of certain academic problems that have detrimental effects on students' psychological growth.

The current study's results indicate a decrease in academic procrastination and an enhancement in psychological well-being among students at a government university in Jordan who are engaged in blended

learning. Notably, these findings revealed an inverse correlation between these two variables, and furthermore, academic procrastination was found to negatively affect psychological well-being.

7. STUDY IMPLICATIONS

This study deepens our understanding of how various learning models can influence the mental health and overall well-being of university students, particularly when employing a blended learning approach. While the current findings demonstrate a reduction in academic procrastination and an improvement in psychological well-being among students, it's important to note that this research carries significant implications for improving the support available to students who grapple with academic procrastination and deteriorating psychological well-being. Furthermore, this study could support the adoption of psychological counseling services for students contending with both academic and psychological difficulties in diverse learning settings.

8. STUDY LIMITATIONS

The study was constrained to the blended education model and did not encompass other educational trends or approaches. The sample was restricted to participants exclusively from a public university; therefore, the generalizability of the results is limited as a result of the absence of cultural diversity within the study sample. The results may not be broadly applicable since the study exclusively focuses on university students, even though students from schools, institutes, and colleges also participate in blended learning. The study's design is confined to a descriptive, correlational approach, which may not offer a comprehensive understanding of experimental programs. There is a possibility that the study includes uncontrolled biasing variables that were not accounted for in its design. In addition, the outcome could have been influenced by the self-reporting measures utilized, potentially introducing subjectivity into the results.

9. STUDY RECOMMENDATIONS

To address the limitations specifically related to the blended learning model, it is advisable to concurrently incorporate other educational models in future research. To enhance the generalizability of the findings, it is essential to include a culturally diverse sample and extend the research to encompass various groups of school students and others who adopt the blended learning model. This can involve conducting comparative studies among these groups. Conducting longitudinal studies can yield a more comprehensive understanding of how the blended learning model impacts psychological well-being and academic procrastination over an extended period. To address potential study variables, future research should take measures to control for biasing factors. This may involve incorporating qualitative methods such as interviews or observational assessments. The findings from this study can serve as valuable insights for developing and implementing counseling programs aimed at addressing academic and psychological issues in various contexts.

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Transparency: The author states that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
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