

Article

Psychological Factors Impacting Academic Performance Among Business Studies' Students

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Abstract: This study explores the significant psychological factors that impact academic success among students. The sample included 287 undergraduate and postgraduate students of business studies. Structural Equation Modeling was used to analyze the data, investigating the impact of students' motivation, mental and physical health, work-life balance, and anxiety on both perceived academic success as well as quantitative indicators of academic success. The findings reveal that students' motivation is significant for enhancing academic success. Additionally, while mental and physical health are significant contributors to academic success, balancing academic work with personal life is essential for fostering a positive perception of academic success. Conversely, anxiety, particularly exam-related, negatively affects students' perceived academic success, highlighting the need for comprehensive support systems. These findings offer crucial insights for educators and policymakers, paving the way for innovative strategies that enhance academic success and empower students to thrive holistically, both academically and personally. By addressing the full spectrum of challenges students face, we can foster a more resilient, motivated, and successful generation of students.

Keywords: psychological factors; students; education; academic success



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1. Introduction

Higher education plays a vital role in shaping both individuals and societies, serving as a key foundation in equipping students for their professional careers. Academic success within this context is a multifaceted goal, influenced by many factors beyond mere intellectual capabilities (Almarzouki et al., 2022; Fong et al., 2017). It encompasses meeting academic standards, progressing through educational programs, and ultimately achieving desired educational outcomes. Recognizing and understanding the diverse factors that contribute to academic success is vital for the development of effective support mechanisms that can enhance student performance and well-being (Franzén et al., 2021; Li et al., 2023). In this study, we delve into four key constructs that fall under the domain of psychological factors: motivation, mental and physical health, work-life balance, and anxiety. Each of these constructs plays a significant role in shaping students' academic experiences and outcomes. By examining these factors in detail, our research aims to comprehensively understand how they collectively impact academic success among students studying at the Faculty of Economics and Business, University of Maribor in Slovenia. This holistic approach not only underscores the individual contributions of each factor but also reveals their intricate interplay, offering valuable insights for educators and policymakers dedicated to fostering student achievement and their well-being. The university years can be a

particularly challenging period in a student's life. Many students face significant difficulties managing the demanding academic workload while maintaining a healthy study-life balance. This juggling act is often compounded by the anxiety of securing employment in an increasingly competitive and fast-changing job market (Almarzouki et al., 2022). Ng et al. (2015) highlight the bidirectional relationship between life satisfaction and academic success, revealing that higher levels of life satisfaction can lead to better academic outcomes and vice versa, suggesting that interventions to enhance student well-being could improve academic success. These interventions might include mental health services, programs for stress management, activities that promote social and emotional learning, and perhaps initiatives that encourage a healthier work-life balance. The idea is that by creating a more supportive and well-rounded educational environment, students' overall satisfaction and academic achievements can be enhanced.

Student success is shaped by various motivation types, from external incentives to intrinsic interest (Howard et al., 2021). According to research by Howard et al. (2021), intrinsic motivation, which involves engaging in activities for their inherent satisfaction, is closely linked to student success and well-being. Students driven by personal interest and enjoyment tend to achieve higher academic performance and experience greater overall well-being. In contrast, motivation driven by personal value, known as identified regulation, strongly correlates with persistence. This type of motivation occurs when students recognize the importance of an activity and see it as personally meaningful, thereby enhancing their perseverance in academic pursuits. Conversely, motivation driven by the desire to obtain rewards or avoid punishment, referred to as external regulation, was not associated with improved performance or persistence. Instead, it was linked to decreased well-being. This suggests that, while extrinsic motivators may prompt students to engage in certain behaviors, they do not contribute to sustained academic success or long-term commitment and may even negatively impact overall well-being. These findings highlight the importance of fostering intrinsic motivation and identified regulation among students to promote academic success (Howard et al., 2021; Shirvani et al., 2024). On the other hand, symptoms of mental health issues are prevalent among university students, significantly impacting their academic success. These symptoms, which can include depression and stress, often interfere with students' ability to concentrate, complete assignments, and participate in class (Bermúdez et al., 2024). As a result, academic outcomes may suffer, leading to lower grades and reduced overall achievement. Additionally, physical activity has been linked to better cognitive function and lower levels of anxiety and depression, which in turn supports academic success (Bolinski et al., 2020). Moreover, balancing academic work with personal life is a crucial factor in achieving academic success. Research indicates that students who maintain a good work-life balance tend to experience lower stress levels and higher academic performance. Conversely, poor work-life balance can lead to burnout and decreased academic outcomes (Picton, 2021). Recent findings by Trentepohl et al. (2022) and Sprung and Rogers (2020) highlight those interventions aimed at improving time management skills can significantly enhance students' work-life balance and academic success. Effective time management is key to balancing academic and personal responsibilities. By developing these skills, students can allocate adequate time for studying while still engaging in leisure activities and maintaining social relationships. Seeking social support from family, friends, and peers provides emotional stability and practical assistance, which can further help in managing academic demands. Conversely, anxiety, particularly test anxiety, is a significant barrier to academic success. High levels of anxiety can disrupt cognitive processes, reduce concentration, and negatively impact performance in exams (Cassady & Johnson, 2002). This can lead to a cycle of poor aca-

ademic outcomes, which in turn exacerbates anxiety. Effective management of anxiety is therefore essential for optimizing academic achievement. A study by [Vorontsova-Wenger et al. \(2021\)](#) and [Jahani et al. \(2020\)](#) found that mindfulness-based interventions can effectively reduce test anxiety and improve academic performance. By implementing mindfulness-based interventions, cognitive-behavioral strategies, and providing comprehensive institutional support, educators can help students effectively manage their anxiety. This holistic approach leads to better academic outcomes and enhances students' overall well-being.

Understanding the factors that contribute to academic success is of paramount importance, particularly within the context of higher education. Numerous studies have explored various psychological factors that influence students' academic success, yet there remains a need for comprehensive models that integrate multiple psychological dimensions. This study aims to fill this gap by examining how motivation, mental and physical health, work-life balance, and anxiety collectively impact academic success among business students. Moreover, in this study, academic success was measured using two constructs: perceived academic success, which encompasses students' subjective assessment of their success in their studies, and quantitative indicators of academic success, which measure objective aspects of academic success. In the competitive academic environment of business schools, students are often subjected to high levels of stress and pressure, making it essential to identify and understand the key psychological determinants of their success. Students of business studies, who are preparing for demanding careers in the corporate world, face unique challenges that can significantly impact their academic success. Understanding the intricate interplay of psychological factors that contribute to their success is crucial for developing effective support mechanisms.

This research incorporates Structural Equation Modeling (SEM), which allows for examining complex relationships among multiple variables. By employing SEM, this study analyzes the direct effects of motivation, mental and physical health, work-life balance, and anxiety on academic success. This comprehensive approach highlights the individual contributions of each construct and reveals how these constructs interact to influence academic outcomes. The primary research question guiding this study is which psychological factors contribute most significantly to academic success among business studies' students. By addressing this research question, this paper aims to uncover the relative importance of each psychological factor, providing valuable insights that can inform targeted interventions and support mechanisms. This study stands out in its holistic approach to understanding academic success. While previous research has often focused on individual psychological factors, our study integrates multiple dimensions to offer a more complete picture. This integration is particularly relevant in the context of business education, where the demands on students are multifaceted and intense. Graduates of business education are likely to encounter these same psychological challenges in their professional lives, making it both beneficial and essential that they learn to manage them during their studies, as much as they can and within their own capacity. By identifying the most critical psychological determinants of success, our research offers practical recommendations for educators and policymakers to enhance student performance. Thus, this study contributes to the academic literature by filling a critical gap and providing actionable insights for improving the educational experiences and outcomes of students. By understanding and addressing the psychological factors that influence academic success, educational institutions can better support their students in achieving their full potential.

This study distinguishes itself through its comprehensive examination of psychological factors influencing academic success among business students. Unlike prior research, which often focuses on individual factors in isolation, this study integrates multiple dimensions

to uncover their combined and individual impacts on both perceived academic success and quantitative indicators. The innovative approach is reflected in the use of SEM, which enables a detailed understanding of the relationships among these variables and their direct and indirect effects on academic outcomes. By concentrating on business students, the research addresses a significant gap in understanding the unique challenges faced by this demographic, who are preparing for demanding roles in the corporate environment. Additionally, the dual focus on perceived and objective academic success provides a well-rounded perspective on students' experiences, extending beyond traditional metrics, such as grades.

Furthermore, this study aligns with the broader objectives of the United Nations' Sustainable Development Goals, particularly in areas of health, education, and economic growth. By examining the psychological determinants of academic success, such as motivation, mental and physical health, and balancing study and personal life, the research contributes to the promotion of well-being among students, emphasizing the critical role of mental health and resilience in achieving academic and personal fulfillment. The study also supports the pursuit of inclusive and equitable quality education by addressing barriers to learning and identifying strategies to foster better academic outcomes for diverse student populations. In addition, by equipping students with the skills and capacities to manage academic challenges effectively, the findings highlight their potential to thrive as future professionals, thereby contributing to sustainable economic development and societal progress. These connections underline the relevance of this research not only for educational institutions, but also for broader global developmental goals.

2. Literature Review

2.1. *The Role of Students' Motivation in Academic Success*

Student motivation is multifaceted, including academic self-efficacy, attributions, intrinsic motivation, and achievement goals. Academic self-efficacy, or students' beliefs about their capabilities, positively impacts effort, persistence, and achievement. Intrinsic motivation, which involves engaging in activities for their own sake, is linked to greater academic success and persistence (Shirvani et al., 2024). Student outcomes are influenced by various types of motivation, including external incentives, ego involvement, personal value, and intrinsic interest (Howard et al., 2021). A meta-analysis by Howard et al. (2021), encompassing a large dataset, highlights the strong connection between intrinsic motivation and student success and well-being. Identified regulation, which reflects the personal value of academic activities, supports persistence. Introjected regulation, driven by ego involvement, is associated with both persistence and performance goals, although it also correlates with reduced well-being. External regulation, based on rewards or punishment, has a limited impact on performance or persistence and is associated with decreased well-being. In contrast, amotivation consistently predicts negative academic outcomes. Students with high levels of intrinsic motivation often demonstrate increased academic performance and higher satisfaction levels. Intrinsic motivation is essential for sustained progress in academic careers. However, many student activities are driven by extrinsic motivation, which relies on rewards and external incentives. Extrinsically motivated students often perform tasks to meet social expectations and gain social approval, which can make them more sociable and friendlier. Educators can use this understanding to improve students' academic outcomes by incorporating strategies that provide external rewards and recognition (Buzdar et al., 2017). Research by Wilkesmann et al. (2021) demonstrated a positive relationship between motivation and academic performance. The study identified self-efficacy, active learning approaches, and achievement goals as key factors contributing to academic success. It also highlighted the importance of fostering

motivation through teacher support, engaging in learning activities, and recognition of high performance. Thus, we propose the following hypotheses:

H1: *Students' motivation has a positive effect on their perceived academic success.*

H2: *Students' motivation has a positive effect on quantitative indicators of their academic success.*

2.2. Students' Mental and Physical Health and Their Academic Success

Mental health encompasses emotional, psychological, and social well-being, affecting how individuals think, feel, and act. Good mental health is associated with higher levels of concentration, better memory retention, and improved problem-solving skills, all of which are crucial for academic achievement (Hernández-Torrano et al., 2020). Mental health issues are widespread among students and have a negative impact on academic success. However, there is a limited understanding of how mental health affects academic outcomes in higher education (Lipson & Eisenberg, 2018). The Healthy Minds Study (Lipson & Eisenberg, 2018), which surveyed students across multiple campuses, revealed significant differences in academic experiences based on mental health status. Students with mental health symptoms were more likely to express dissatisfaction with their academic experience and to question the value of higher education compared to their peers without such symptoms. Furthermore, mental health problems were strong predictors of academic dissatisfaction and dropout intentions, while positive mental health was strongly associated with academic satisfaction and persistence. A study by Cassady and Johnson (2002) involving a sample of 168 students revealed that cognitive test anxiety significantly impacts academic success. Students with higher levels of cognitive test anxiety scored significantly lower on three course exams and the Scholastic Aptitude Test. The results indicated that higher levels of cognitive test anxiety were associated with lower scores on all three course exams. Additionally, the analyses showed that students with high test anxiety performed significantly worse on both the verbal and math sections of the SAT compared to students with low test anxiety. Eisenberg et al. (2009) found that mental health issues, particularly depression, significantly affect academic performance. Depression emerged as a strong predictor of lower grade point averages and an increased risk of dropping out, even when prior academic performance was considered. The impact was particularly pronounced among students who also experienced anxiety, with co-occurring depression and anxiety associated with notably lower academic outcomes. Dressler and Gulev (2021) investigated the impact of a mindfulness-based stress reduction (MBSR) program on academic performance. Their study found that students who received MBSR training managed stress more effectively and achieved significantly higher test scores compared to those who did not participate in the program. These findings suggest that MBSR is a valuable tool for reducing stress and enhancing academic outcomes. A systematic review conducted by Pan et al. (2024) at Tianjin Vocational and Technical Normal University assessed the effectiveness of MBSR on mental health and psychological quality of life among university students. The review included data from 29 randomized controlled trials involving university students, examining outcomes such as anxiety, depression, perceived stress, sleep quality, mindfulness, self-kindness, social function, subjective well-being, and physical health. The results indicated that MBSR significantly reduced anxiety, depression, and perceived stress, while significantly improving mindfulness, self-kindness, and physical health. Furthermore, we propose the hypotheses:

H3: *Students' mental and physical health has a positive effect on their perceived academic success.*

H4: *Students' mental and physical health has a positive effect on their quantitative indicators of academic success.*

2.3. Balancing Study and Personal Life: A Pathway to Student Success

Students must balance their responsibilities and personal interests well to enjoy what life offers fully. Regrettably, not all young individuals successfully navigate this essential yet complex task. Students frequently encounter imbalances in achieving personal satisfaction and attaining recognition in academic, professional, and daily spheres. Such disparities can profoundly impede their personal and professional advancement (Koshkin et al., 2014). One key aspect of work-life balance is time management. Effective time management skills enable students to allocate sufficient time for studying while allowing for relaxation, social activities, and other personal commitments (Sauvé et al., 2016; Wilson et al., 2021). Wilson et al. (2021) investigated the impact of time management training on academic success among first-year undergraduate students. Their study found that students who participated in time-management workshops, covering topics such as planning and exam preparation, demonstrated significantly better academic performance compared to those who did not receive training (Wilson et al., 2021). Developing time management skills in first-year university students is essential for their academic success (Sauvé et al., 2016). Mastering these skills allows students to effectively analyze tasks and schedule their completion, which in turn enhances their planning capabilities. This process also provides students with a deeper understanding of their responsibilities and the importance of efficiently structuring their tasks (Van der Meer et al., 2010). Additionally, good time-management practices not only improve students' academic success but also profoundly impact overall quality of life. Good time management helps students manage stress, balance academic and personal commitments, and fosters a sense of control over their environment, leading to a more fulfilling and productive university experience and beyond (Wang et al., 2011). According to Hillman et al. (2008) physical health practices, such as regular exercise and sufficient sleep, are also essential to a healthy work-life balance. Exercise has been shown to reduce stress and improve mood, which can enhance academic success (Hillman et al., 2008). Research conducted at the University of Helsinki explored the unique approaches and strategies of 38 successful first-year bachelor students from the humanities and law faculties. The study highlighted the critical role of self-regulation and cognitive strategies, such as time management, goal setting, and maintaining motivation, in achieving academic success. It found that students who effectively managed their time and maintained a positive outlook on their studies were more likely to progress smoothly. These findings underscore the importance of fostering strong self-regulation skills and providing support systems to help students balance the demands of their academic and personal lives (Lindblom-Ylänne et al., 2017). However, many students find self-regulation and time management challenging, particularly in learning environments that require a high degree of independent study (Lindblom-Ylänne, 2004). Students may struggle to keep up with their academic responsibilities without strong self-regulation and time-management skills. This can lead to delays in their studies, increased stress, and a higher likelihood of encountering study-related problems, ultimately hindering their overall academic progress (Vermunt, 2005; Heikkilä et al., 2012). Therefore, the following is hypothesized:

H5: *Balancing study and personal life of students has a positive effect on their perceived academic success.*

H6: *Balancing study and personal life of students has a positive effect on their quantitative indicators of academic success.*

2.4. Anxiety and Its Detrimental Effects on Academic Achievement

Moran (2016) conducted a meta-analysis that found anxiety significantly impairs working memory, negatively affects students' cognitive processes, and leads to reduced academic performance and lower standardized test scores. Test anxiety, a form of performance anxiety, is characterized by excessive worry about exam outcomes and can manifest in both psychological symptoms, such as nervousness and dread, and physical symptoms, including increased heart rate and sweating (Cassady & Johnson, 2002; Moran, 2016).

Research by Cassady and Johnson (2002) found that cognitive test anxiety is negatively correlated with academic performance. Students with higher levels of test anxiety tend to have lower exam scores and overall academic performance compared to their less anxious peers. This negative relationship highlights the importance of addressing test anxiety to improve academic outcomes. Chapell et al. (2005) examined the relationship between test anxiety and academic performance, finding a modest negative correlation between test anxiety and grade point average (GPA). Students with lower test anxiety generally achieved higher GPAs. The study also highlighted gender differences, with female students exhibiting higher levels of test anxiety but also achieving better academic outcomes compared to their male counterparts. Brady et al. (2017) investigated the effects of anxiety reappraisal interventions on academic performance among first-year college students. Their study found that encouraging students to view test anxiety as beneficial rather than harmful significantly improved academic outcomes. This intervention, delivered via email from instructors before the first exam, reduced worry and enhanced performance both on the initial test and throughout the course. By reframing anxiety in a positive light, the intervention demonstrated immediate and lasting benefits, ultimately improving students' overall course grades. Hence, the following is proposed:

H7: *Anxiety of students has a negative effect on their perceived academic success.*

H8: *Anxiety of students has a negative effect on their quantitative indicators of academic success.*

In the following, we present a conceptual model (Figure 1) that illustrates how the psychological factors analyzed in our study statistically significantly impact students' academic success. The conceptual model includes key constructs such as students' motivation, students' mental and physical health, balancing study and personal life of students, and anxiety, each of which impacts academic success as measured by two constructs: perceived academic success and quantitative indicators of academic success. Each of these constructs has been carefully examined through hypotheses designed to assess their impact on academic success. The model aims to illustrate the complex interaction of these constructs and how they contribute to achieving students' academic goals. Understanding these psychological factors is crucial for improving academic success and shaping support systems that help students navigate the challenges of modern educational environments. The developed model offers valuable insights that educational institutions can use to design strategies focused on comprehensive student support, emphasizing psychological well-being as a foundation for achieving academic goals. This model will contribute to a more holistic approach to education, where psychological factors are considered as crucial as academic indicators.

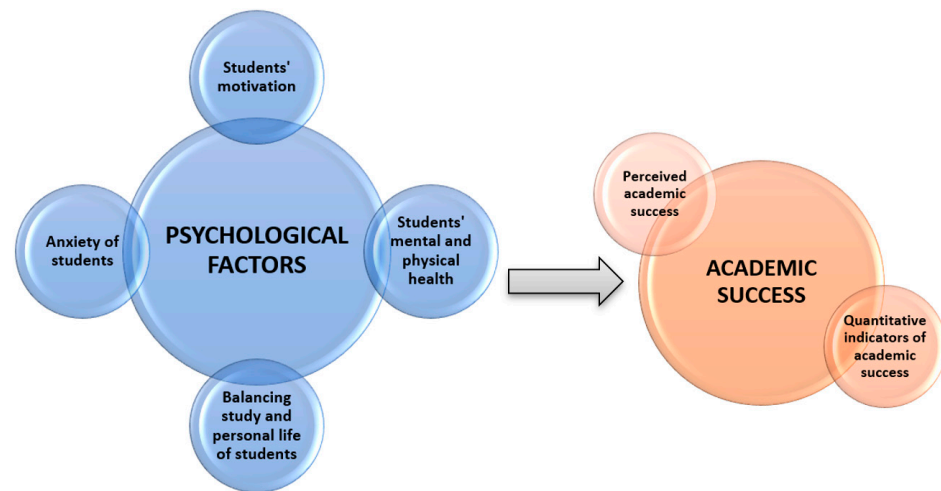


Figure 1. Conceptual model.

3. Materials and Methods

3.1. Data and Sample

From 3rd January 2024 to 20th February 2024, 287 undergraduate and postgraduate students from the University of Maribor, Faculty of Economics and Business in Slovenia, were surveyed via an online questionnaire. Of the total number of students surveyed, 54.4% were undergraduate, and 45.6% were postgraduate students. The sample consisted of 43% male students and 57% female students. The distribution of students who responded to the questionnaire based on their field of study was as follows: 3% from the field of strategic and project management, 3% from international business economics, 7% from economics, 6% from accounting, auditing, and taxation, 9% from entrepreneurship and innovation, 8% from management informatics and electronic business, 16% from finance and banking, 26% from marketing, and 22% from management, organization, and human resources.

3.2. Measurement Instrument

A closed-type online questionnaire was employed as the research instrument. The students were asked to rate their agreement with the provided statements on a 5-point Likert-type scale ranging from 1, which corresponds to “strongly disagree”, to 5, which corresponds to “completely agree.” The research was conducted using an online survey, which guarantees complete anonymity and the absence of any collection of personal data.

Items for construct students’ motivation were adopted from [Glynn et al. \(2011\)](#), [Fiorella et al. \(2021\)](#), and [Chow and Chapman \(2017\)](#). Items for construct students’ mental and physical health were adopted from [Hussain et al. \(2013\)](#), [Morales-Rodríguez et al. \(2020\)](#), and [Lipson and Eisenberg \(2018\)](#). Items for construct students’ work-life balance were adopted from [Yusuf et al. \(2020\)](#) and [Picton \(2021\)](#); items for construct anxiety in students were adopted from [Fernández-Castillo and Caurcel \(2015\)](#), [Duraku \(2017\)](#), and [Khoshhal et al. \(2017\)](#). Students’ academic success was measured in two ways, resulting in two distinct constructs. The first construct relates to perceived academic success, which encompasses students’ subjective assessment of their performance in their studies. The second construct includes quantitative indicators that measure the objective aspects of academic success, specifically the average grade, year of study, and the number of ECTS credits earned. Items for construct perceived academic success were adopted from [Cunningham \(2021\)](#) and [Rea \(1991\)](#).

3.3. Statistical Analysis

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) and WarpPLS (Version 6.0) software to evaluate the data's reliability and validity and conduct structural equation modeling (SEM). Initially, exploratory factor analysis (EFA) was carried out. The assessment included Bartlett's Test of Sphericity, the Kaiser–Meyer–Olkin statistic ($KMO > 0.5$), and significance levels ($p < 0.05$). Factor loadings (factor loadings ≥ 0.5), variable communality ($h > 0.4$), and eigenvalues of factors ($\lambda \geq 1.0$) were examined during the EFA process (Hair et al., 2014). For the SEM model assessment, various criteria were used, including the average path coefficient (APC) ($p < 0.05$), average R-square (ARS) ($p < 0.05$), average adjusted R-square (AARS) ($p < 0.05$), average block VIF (AVIF < 5.0), average full collinearity VIF (AFVIF < 5.0), Simpson's paradox ratio (SPR ≥ 0.7), R-squared contribution ratio (RSCR ≥ 0.9), statistical suppression ratio (SSR ≥ 0.7), nonlinearity indicated by the association causality direction ratio (NL-BCD ≥ 0.7), and goodness-of-fit (GoF ≥ 0.5) (Kock, 2019). In addition, the reliability and validity of the measurement instruments were assessed by considering Cronbach's alpha ($\alpha > 0.7$). Convergent validity was evaluated using the criteria by Hair et al. (2014), which recommend AVE > 0.5 and CR > 0.7 , and the criterion by Byrne (2001), which suggests that CR should be greater than AVE. Multicollinearity was checked using VIF < 5.0 (Hair et al., 2014). During hypothesis testing, the path coefficient for causal relationships within the model, t-value, significance level ($p < 0.05$), and Cohen's effect size (f^2) were examined, with effect sizes interpreted as small (0.02), medium (0.15), or large (0.35) (Kock, 2019).

4. Results

In this section, we present the findings of our study, which aimed to explore the psychological factors influencing academic success among students of the Faculty of Economics and Business in Slovenia. The results are organized into several key areas: students' motivation, students' mental and physical health, students' work-life balance, and anxiety of students. To measure academic success, we utilized two primary indicators: perceived academic success and actual academic achievements (quantitative indicators). This dual approach allowed us to capture both subjective and objective aspects of student academic success. The following tables provide detailed insights into how each psychological factor contributes to academic success. In the first step, based on the results of the Kaiser–Meyer–Olkin measure of sampling adequacy ($KMO \geq 0.5$) and Bartlett's test of sphericity ($p < 0.05$), we suggest that factor analysis is justified for all constructs included in the analysis. Moreover, all factor loadings for all constructs included in the analysis were higher than 0.70. We checked the reliability of the measurement within the scope of internal consistency using Cronbach's alpha coefficient. All measurement scales demonstrated high reliability, with Cronbach's alpha coefficients exceeding 0.80 (Tables 1–5).

Table 1 presents the results of the factor analysis conducted to evaluate the construct of students' motivation. Based on the results of the exploratory factor analysis (Table 1), all communalities were higher than 0.40; therefore, we did not eliminate any variable. The results in Table 1 show that the total variance explained for students' motivation is 61.472%. Higher factor loadings indicate the greater significance of a statement to the underlying factor of students' motivation. The item "I am generally motivated to study and excel in my academic pursuits" has the highest factor loading. This indicates that overall motivation and the desire to excel are fundamental aspects of students' motivation. It suggests that students with strong general motivation will likely be more dedicated and driven in their studies. Following this, the second item according to factor loading is "I am motivated to study by the desire to increase my knowledge and skills". This underscores the importance of intrinsic motivation, where the students' desire for personal growth and

skill development plays a crucial role. Such intrinsic motivation is often associated with deeper engagement and sustained academic effort. Third, interest in the subject matter also significantly boosts motivation, as evidenced by the loading factor for the statement “I find my subjects/courses interesting, which boosts my motivation to study”. This suggests that students who find their courses engaging are more likely to invest time and effort, leading to better academic outcomes. In the following, Table 2 presents the factor analysis results for students’ mental and physical health.

Table 1. Factor analysis results for students’ motivation.

Items	Communalities	Factor Loadings	Cronbach’s Alpha
I am generally motivated to study and excel in my academic pursuits.	0.660	0.812	0.901
I find my subjects/courses interesting, which boosts my motivation to study.	0.531	0.729	
My motivation to study primarily stems from intrinsic factors, such as personal interest in the subject matter.	0.557	0.746	
My motivation to study is often driven by extrinsic rewards, such as grades, recognition, or future career prospects.	0.463	0.680	
I have specific academic goals that motivate me to study.	0.560	0.748	
Positive feedback from my instructors or peers significantly enhances my motivation.	0.487	0.698	
I maintain my motivation to study even when I encounter challenging or complex materials.	0.500	0.707	
I feel that a clear understanding of the learning outcomes or objectives enhances my motivation to study.	0.565	0.752	
I often visualize successful outcomes (like acing a test) to maintain my motivation to study.	0.425	0.652	
I am motivated to study by the desire to increase my knowledge and skills.	0.614	0.783	
Kaiser–Meyer–Olkin Measure of Sampling Adequacy: 0.932 Bartlett’s Test of Sphericity: Approx. Chi-Square: 1327.127; df: 45; Sig. < 0.001 Variance: 61.472%			

Table 2 presents the results of the factor analysis conducted to evaluate students’ mental and physical health constructs. Results show that the item “I feel my educational institution provides adequate support for mental health” had a communality lower than 0.4 and was excluded from the analysis. Two factors were formed with factor analysis, which together explain 62.626% of the total variance. Factor 1, named Physical Health, encompasses items related to maintaining physical well-being through regular exercise, adequate sleep, and a balanced diet. For example, the item “I eat a balanced diet to maintain good physical health” has the highest factor loading. This highlights that maintaining a balanced diet is the most crucial aspect of physical health for students, as proper nutrition is essential for overall well-being and academic success, supporting cognitive function and energy levels. The following item is “I maintain a regular exercise routine to support my physical health”, indicating that regular exercise is a key component of physical health. Physical activity is known to reduce stress, improve mood, and enhance cognitive abilities,

all of which are vital for academic success. Additionally, the item “I make sure to get adequate sleep each night to help with focus and memory retention” emphasizes the critical role of adequate sleep in maintaining physical health, as it directly affects students’ ability to concentrate and retain information.

Table 2. Factor analysis results for students’ mental and physical health.

Items	Communalities	Factor Loadings		Cronbach’s Alpha
		1	2	
I maintain a regular exercise routine to support my physical health.	0.645	0.185	0.781	0.821
I make sure to get adequate sleep each night to help with focus and memory retention.	0.592	0.211	0.740	
I eat a balanced diet to maintain good physical health.	0.796	0.181	0.874	
I practice mindfulness or other stress-reducing activities to help manage academic stress.	0.491	0.628	0.311	
I have healthy methods for coping with academic pressure.	0.538	0.720	0.144	
I know where to seek help if I am feeling overwhelmed by my studies.	0.592	0.760	0.120	
I find that socializing with friends and family helps to relieve academic stress.	0.414	0.596	0.241	
I take care not to overwork myself to the point of burnout.	0.461	0.670	0.111	
Kaiser–Meyer–Olkin Measure of Sampling Adequacy: 0.852 Bartlett’s Test of Sphericity: Approx. Chi-Square: 2124.746; df: 28; Sig. < 0.001 Variance factor 1: 45.770% Variance factor 2: 16.856%				

Factor 2, named Mental Health, includes items related to managing academic stress through mindfulness, coping strategies, and seeking social support. The item “I practice mindfulness or other stress-reducing activities to help manage academic stress” has the highest factor loading for Mental Health. This emphasizes that mindfulness and stress-reducing activities are crucial for managing academic stress, significantly enhancing students’ mental resilience and overall well-being. The item “I have healthy methods for coping with academic pressure”, further underscores the importance of effective coping strategies for maintaining mental health under academic pressure. Students who adopt healthy coping mechanisms are better equipped to handle stress and perform well academically. Furthermore, the item “I know where to seek help if I’m feeling overwhelmed by my studies”, highlighting the vital role of knowing where to seek help. This provides students with the necessary resources and support to manage academic demands. In the following, Table 3 presents the factor analysis results for students’ work-life balance.

Table 3. Factor analysis results for students' work-life balance.

Items	Communalities	Factor Loadings		Cronbach's Alpha
		1	2	
I believe I have a good balance between my academic work and personal life.	0.577	−0.144	0.746	0.816
I find it challenging to balance my academic commitments with my social life.	0.632	0.793	−0.056	
I regularly make time for hobbies or leisure activities outside of my studies.	0.601	−0.116	0.766	
My academic workload often prevents me from engaging in physical exercise.	0.594	0.763	−0.105	
I often feel stressed due to the pressure of balancing academic work and personal life.	0.736	0.858	−0.017	
I often need to study during weekends or holidays, compromising my leisure time.	0.551	0.719	0.184	
I feel that maintaining a good work-life balance contributes to my academic success.	0.635	0.073	0.794	
I believe that work-life balance is crucial for overall well-being and academic performance.	0.671	0.211	0.792	
Kaiser–Meyer–Olkin Measure of Sampling Adequacy: 0.745 Bartlett's Test of Sphericity: Approx. Chi-Square: 724.835; df: 28; Sig. < 0.001 Variance factor 1: 32.922% Variance factor 2: 30.551%				

Table 3 presents the results of the factor analysis conducted to evaluate the construct of work-life balance among students. Results show that the three items "I have strategies in place to manage my time effectively between academic work and personal activities", "I feel supported by my educational institution in maintaining a healthy work-life balance" and "I prioritize my mental and physical health over academic work when necessary" had a communality lower than 0.4 and was excluded from the analysis. The factor analysis identified two factors, Factor 1: Challenges in Balancing Academic Work and Personal Life and Factor 2: Maintaining Balance between Academic Work and Personal Life, where both factors together explain 63.473% of the total variance. Factor 1 includes items related to students' difficulties in balancing their academic commitments with personal life, while Factor 2 highlights the positive aspects and efforts to maintain this balance. According to factor 1, the item "I often feel stressed due to the pressure of balancing academic work and personal life" has the highest loading factor. This indicates that stress from balancing academic and personal responsibilities is a critical issue for students, significantly impacting their overall well-being. This is followed by the item "I find it challenging to balance my academic commitments with my social life," further highlighting students' difficulty in maintaining a healthy social life alongside their academic obligations. Third, the item "My academic workload often prevents me from engaging in physical exercise", indicating that academic demands can limit students' ability to participate in physical activities, which are crucial for stress relief and overall health. According to Factor 2, the item "I believe that maintaining a good work-life balance contributes to my academic success" has the

highest factor loading, indicating that students who recognize the importance of balance are likely to perform better academically. This is followed with the item “I believe that work-life balance is crucial for overall well-being and academic performance”, highlighting the perceived importance of balance for both academic success and general well-being. Furthermore, the item “I regularly make time for hobbies or leisure activities outside of my studies”, suggests that engaging in leisure activities is a key strategy for maintaining balance and reducing stress. Table 4 presents the results of the factor analysis for anxiety in students.

Table 4. Factor analysis results for anxiety in students.

Items	Communalities	Factor Loadings	Cronbach's Alpha
I frequently feel anxious or nervous when thinking about upcoming exams.	0.657	0.810	0.938
I am concerned that I won't be able to recall the information during the exam.	0.704	0.839	
I feel overwhelmed by the amount of material I need to study for exams.	0.530	0.728	
I worry about not having enough time to prepare for exams.	0.594	0.771	
I fear that poor performance on an exam will significantly impact my future.	0.607	0.779	
I often feel physical symptoms (e.g., headache, stomachache, or sweating) when thinking about or taking exams.	0.629	0.793	
I have difficulty sleeping in the days leading up to an exam due to anxiety.	0.599	0.774	
I worry about the consequences of failing an exam.	0.678	0.823	
I am anxious about comparing my performance to that of my peers.	0.492	0.702	
My anxiety about exams hinders my ability to concentrate while studying.	0.719	0.848	
I panic when I find a question difficult to answer in an exam.	0.612	0.782	
Kaiser–Meyer–Olkin Measure of Sampling Adequacy: 0.935 Bartlett's Test of Sphericity: Approx. Chi-Square: 2208.250; df: 55; Sig. < 0.001 Variance factor: 62.008			

Table 4 presents the results of the factor analysis conducted to evaluate the construct of anxiety among students. Based on the results of exploratory factor analysis (Table 4), all communalities were higher than 0.40; therefore, we did not eliminate any variable. The results in Table 4 show that the total variance explained for anxiety in students is 62.008%. The item “My anxiety about exams hinders my ability to concentrate while studying” has the highest factor loading. This indicates that the most significant source of anxiety in students is the hindrance to their ability to concentrate while studying due to exam anxiety. This underscores the impact of anxiety on students' concentration and study efficiency, emphasizing that anxiety can severely disrupt their ability to focus and retain information. This is followed by the item “I am concerned that I won't be able to recall the information during the exam”. This indicates that the fear of forgetting important information during exams is also a significant source of anxiety for students. In third place is the item “I worry about the consequences of failing an exam”. This suggests that concerns about the potential

negative outcomes of failing are a major source of anxiety for students. Such worries can be debilitating and affect overall academic success. Finally, Table 5 presents the results of factor analysis of students' perceived academic success.

Table 5. Factor analysis results for perceived academic success.

Items	Communalities	Factor Loadings	Cronbach's Alpha
I meet the official performance requirements expected out of a student.	0.713	0.844	0.874
I adequately complete assigned duties.	0.760	0.872	
I fulfill responsibilities specified in the course outline.	0.749	0.865	
I perform all tasks related to my studies that are expected of me.	0.706	0.840	
I try my best even if I do not receive the best grade.	0.417	0.646	
I believe that I have adapted well to the demands of the study environment and am achieving good results.	0.579	0.761	
Kaiser–Meyer–Olkin Measure of Sampling Adequacy: 0.888 Bartlett's Test of Sphericity: Approx. Chi-Square: 944.668; df: 15; Sig. < 0.001 Variance factor: 65.406			

The results of factor analysis for the construct perceived academic success indicated that the three items "My performance is beyond demands", "I rate my performance in studies as positive and progressive", and "I gain practical knowledge I can apply in everyday life" had a communality lower than 0.4 and were excluded from the analysis. The item "I adequately complete assigned duties" has the highest factor loading. This suggests that the ability to complete assigned tasks thoroughly is the most significant indicator of perceived academic success for students. The high factor loading emphasizes the critical role of task completion in students' perception of their academic achievements. In second place is the item "I fulfill responsibilities specified in the course outline", which indicates that meeting the responsibilities outlined in the course is also a crucial aspect of perceived academic success. It highlights that adherence to course requirements is vital for students to feel successful in their academic endeavors. In third place is the item "I meet the official performance requirements expected of a student". This indicates that meeting official performance standards is a major contributor to perceived academic success, suggesting that students gauge their success by how well they align with institutional expectations. The research model's quality assessment indicators are shown in Table 6.

Table 6. Model fit and quality indicators.

Quality Indicators	Calculated Values of Indicators of Model
APC	0.227, $p < 0.001$
ARS	0.163, $p < 0.001$
AARS	0.149, $p < 0.001$
AVIF	1.215
AFVIF	1.509
GoF	0.375
SPR	1.000
RSCR	1.000
SSR	1.000
NLBCD	1.000

Table 6 indicates that the indicators APC, ARS, and AARS have statistical significance ($p < 0.001$), whereas AVIF and AFVIF have values below 5.0 and are considered suitable. The GoF indicator assesses the effectiveness of the conceptual model (Kock, 2019), and the GoF result indicates a highly effective model. Furthermore, the indicators SPR, RSCR, SSR, and NLBCD are appropriate and higher than the minimum recommended values. Table 7 presents indicators of the quality of the structural model.

Table 7. Indicators of quality of the structural model.

Constructs		CR	AVE	R ²	Adj. R ²	Q ²	VIF
Students' motivation		0.905	0.588	(-)	(-)	(-)	1.618
Students' mental and physical health	Physical Health (Factor 1)	0.848	0.651	(-)	(-)	(-)	1.326
	Mental Health (Factor 2)	0.804	0.549	(-)	(-)	(-)	1.640
Students' work-life balance	Challenges in Balancing Academic Work and Personal Life (Factor 1)	0.832	0.553	(-)	(-)	(-)	1.901
	Maintaining Balance between Academic Work and Personal Life (Factor 2)	0.814	0.539	(-)	(-)	(-)	1.573
Anxiety of students		0.941	0.697	(-)	(-)	(-)	1.586
Academic success	Perceived academic success	0.912	0.636	0.488	0.476	0.341	1.363
	Quantitative indicators	0.828	0.576	0.325	0.311	0.268	1.834

Note: (-) values cannot be calculated because the construct is a baseline.

Table 7 shows that the latent variables' R², adjusted R², and Q² coefficients exceed zero. Moreover, all constructs exhibit a CR greater than 0.7, and their AVE values exceed 0.5, confirming their convergent validity. Additionally, the CR values are higher than the AVE values. The VIF values, which range from 1.834 to 2.721 (VIF < 5.0), confirm that collinearity did not affect the results of the structural model. Table 8 presents the SEM results, including the structural coefficients of the links in the basic structural model. In the following, Table 8 presents the SEM results, including standardized path coefficients for the proposed model, highlighting the structural relationships between the variables.

The results in Table 8 show the effect of students' motivation on perceived academic success is strong, with a path coefficient of 0.346 and a significant p -value ($p < 0.01$). The effect size is large ($f^2 = 0.386$), indicating that overall motivation significantly enhances students' perception of their academic success. Similarly, students' motivation has a positive effect on quantitative academic indicators, with a path coefficient of 0.331 ($p < 0.01$) and a large effect size ($f^2 = 0.354$), demonstrating that higher motivation positively influences measurable academic outcomes. On the other hand, the relationship between physical health (Factor 1) and perceived academic success has a path coefficient of 0.149 but is not statistically significant ($p > 0.01$), with a medium effect size ($f^2 = 0.158$). In contrast, the effect of physical health on quantitative indicators is significant, with a path coefficient of 0.153 ($p < 0.01$) and a medium effect size ($f^2 = 0.172$), suggesting that better physical health positively impacts academic outcomes. Mental health has a positive and significant

effect on perceived academic success, with a path coefficient of 0.218 ($p < 0.01$) and a medium effect size ($f^2 = 0.164$). It also positively affects quantitative indicators, with a path coefficient of 0.246 ($p < 0.01$) and a medium effect size ($f^2 = 0.183$). Challenges in Balancing Academic Work and Personal Life (Factor 1) have a strong positive effect on both perceived academic success ($\gamma = 0.328$, $p < 0.01$) and quantitative indicators ($\gamma = 0.287$, $p < 0.01$), with large effect sizes. Moreover, maintaining a balance between academic work and personal life (Factor 2) significantly affects perceived academic success ($\gamma = 0.312$, $p < 0.01$) and quantitative indicators ($\gamma = 0.297$, $p < 0.01$), with large effect sizes. Lastly, the results show that anxiety has a strong negative effect on perceived academic success, with a path coefficient of -0.206 ($p < 0.01$). However, its effect on quantitative indicators is negative but not statistically significant ($\gamma = -0.152$, $p > 0.01$). The findings in Table 8 highlight the key role that various factors play in shaping students' academic success. Specifically, the strong positive effects of motivation, mental and physical health, and the ability to balance academic and personal life highlight the multifaceted nature of academic success. These results suggest that fostering a supportive environment that enhances motivation and well-being can significantly improve academic success. Conversely, the negative impact of anxiety on perceived academic success reinforces the importance of addressing mental health challenges. Overall, these insights provide valuable guidance for educators and policy-makers aiming to improve student achievement by prioritizing holistic support systems that address both academic and personal challenges. Table 9 presents a summary of all the hypotheses tested in this study, along with the corresponding results regarding their acceptance.

Table 8. Standardized path coefficients for the proposed model.

Hypothesized Path	Path Coefficient (γ)	Sig.	Effect Size (f^2)	Standard Error	Link Direction
Students' motivation \rightarrow Perceived academic success	0.346	$p < 0.01$	Large $f^2 = 0.386$	0.036	Positive
Students' motivation \rightarrow Quantitative indicators	0.331	$p < 0.01$	Large $f^2 = 0.354$	0.036	Positive
Physical Health (Factor 1) \rightarrow Perceived academic success	0.149	$p > 0.01$ ($p = 0.072$)	Medium $f^2 = 0.158$	0.029	Positive
Physical Health (Factor 1) \rightarrow Quantitative indicators	0.153	$p < 0.01$	Medium $f^2 = 0.172$	0.030	Positive
Mental Health (Factor 2) \rightarrow Perceived academic success	0.218	$p < 0.01$	Medium $f^2 = 0.164$	0.032	Positive
Mental Health (Factor 2) \rightarrow Quantitative indicators	0.246	$p < 0.01$	Medium $f^2 = 0.183$	0.033	Positive
Challenges in Balancing Academic Work and Personal Life (Factor 1) \rightarrow Perceived academic success	0.328	$p < 0.01$	Large $f^2 = 0.363$	0.032	Positive
Challenges in Balancing Academic Work and Personal Life (Factor 1) \rightarrow Quantitative indicators	0.287	$p < 0.01$	Large $f^2 = 0.351$	0.032	Positive
Maintaining Balance between Academic Work and Personal Life (Factor 2) \rightarrow Perceived academic success	0.312	$p < 0.01$	Large $f^2 = 0.374$	0.027	Positive
Maintaining Balance between Academic Work and Personal Life (Factor 2) \rightarrow Quantitative indicators	0.297	$p < 0.01$	Large $f^2 = 0.359$	0.026	Positive
Anxiety of students \rightarrow Perceived academic success	-0.206	$p < 0.01$	Large $f^2 = 0.362$	0.032	Negative
Anxiety of students \rightarrow Quantitative indicators	-0.152	$p > 0.01$ ($p = 0.068$)	Large $f^2 = 0.355$	0.034	Negative

Table 9. Summary of hypotheses testing and results.

Hypothesis	Factor	Results
H1: Students' motivation has a positive effect on their perceived academic success.	Students' motivation	Accepted
H2: Students' motivation has a positive effect on their quantitative indicators of academic success.	Students' motivation	Accepted
H3: Students' mental and physical health has a positive effect on their perceived academic success.	Physical Health (Factor 1) Mental Health (Factor 2)	Rejected Accepted
H4: Students' mental and physical health has a positive effect on their quantitative indicators of academic success.	Physical Health (Factor 1) Mental Health (Factor 2)	Accepted Accepted
H5: Balancing study and personal life has a positive effect on their perceived academic success.	Balancing Academic Work and Personal Life (Factor 1) Maintaining Balance between Academic Work and Personal Life (Factor 2)	Accepted Accepted
H6: Balancing study and personal life has a positive effect on their quantitative indicators of academic success.	Balancing Academic Work and Personal Life (Factor 1) Maintaining Balance between Academic Work and Personal Life (Factor 2)	Accepted Accepted
H7: Anxiety has a negative effect on their perceived academic success.	Anxiety	Accepted
H8: Anxiety has a negative effect on their quantitative indicators of academic success.	Anxiety	Rejected

5. Discussion

The impact of psychological factors such as motivation, mental and physical health, work-life balance, and anxiety on academic success has long been recognized as critical to understanding students' academic achievement (Howard et al., 2021; Picton, 2021; Jahani et al., 2020; Khoshhal et al., 2017; Cobo-Rendón et al., 2020; Mavilidi et al., 2020; Wilkesmann et al., 2021). Although previous research often examined the psychological factors separately, our study aimed to take a step further and explore how these psychological factors collectively impact the academic success of students at the University of Maribor, Faculty of Economics and Business in Slovenia. By emphasizing a holistic approach, we sought to shed light on how the combination of these factors shapes students' experiences and guides them towards academic success. This study's findings confirm existing knowledge and offer fresh insights into the relative importance of these factors within the educational context, providing innovative directions for future research and practice.

The results in Table 1 indicate that the most significant aspect of students' motivation is their general drive to study and excel in their academic pursuits, as this item has the highest factor loading. This finding suggests that overall motivation to study and achieve academic success is the most crucial aspect of motivation for students. Students who are generally academically motivated are more likely to be successful in both perceived and actual academic success. This is followed by the motivation to study by the desire to increase his/her knowledge and skills, which emphasizes the importance of the desire to increase knowledge and skills as a key aspect of motivation. Students who are motivated by the desire to learn and acquire new skills are more engaged and consistent in their academic pursuits. This is followed by the interestingness of the subjects, which increases the student's motivation to study, which means that interest in subjects significantly contributes to students' motivation to study. Dierendonck et al. (2021) highlighted that intrinsic motivation, such as interest and enjoyment in learning, positively correlates with higher

engagement levels, while extrinsic motivation driven by internal pressures is associated with lower cognitive engagement. This finding complements our results by suggesting that intrinsically motivated students, particularly those driven by the desire to learn and acquire new skills, are more likely to engage deeply with their academic work. [Wilkesmann et al. \(2021\)](#) emphasized the roles of both intrinsic and extrinsic motivation in academic success, highlighting that intrinsic motivation, driven by personal interest and enjoyment, strongly correlates with higher academic performance. Subfactors such as self-efficacy, which refers to students' belief in their ability to succeed, and active learning approaches were identified as significant contributors to students' motivation and success ([Wilkesmann et al., 2021](#)). The results of our SEM model (Table 8) confirm the substantial positive impact of motivation on both perceived and quantitative academic success. Highly motivated students achieve better grades and earn more ECTS points while also perceiving their academic achievements more positively. This reflects on their belief in their abilities and accomplishments. [Xie et al. \(2020\)](#) demonstrated that autonomous motivation, which is driven by personal interest and intrinsic factors, is associated with higher engagement and academic success. Although controlled motivation is less ideal, it can still yield positive outcomes when combined with intrinsic motivation. Similarly, [Howard et al. \(2021\)](#) highlighted the strong association between intrinsic motivation, identified regulation, and positive academic outcomes, such as higher grades, persistence, and well-being. Conversely, amotivation, defined as the absence of motivation, is linked to negative academic outcomes, including lower grades, reduced persistence, and higher levels of anxiety and depression ([Howard et al., 2021](#)). These findings underscore the importance of fostering intrinsic and identified motivation to enhance students' academic success. Based on our findings, we propose several measures to increase students' motivation. Enriching the curriculum with engaging and practical content and introducing project-based learning can encourage students to explore topics of interest and connect theoretical knowledge with practical applications. This approach fosters deeper involvement and mutual encouragement through teamwork. Providing workshops on academic and career goal setting and assigning mentors to guide students can further strengthen their focus and drive. For example, the Institutional Tutoring System at the Faculty of Economics and Business, University of Maribor ([Tutor System, 2024](#)), supports students by advising and assisting them in achieving their academic goals. Special attention is given to nontraditional and international students, as well as those with special needs or statuses. Additionally, improving access to quality resources, such as libraries, laboratories, online tools, and tutoring services, is essential. Modern pedagogical methods, including interactive lectures, cooperative learning, and the use of technology in education, can also contribute to higher student motivation. Connecting students with alumni and industry practitioners who can provide advice and insight into career options and recognizing achievements through scholarships and awards further encourage students to excel. Together, these measures create a supportive environment that motivates students to engage more deeply and achieve greater academic success.

The results in Table 2, which present the factor analysis for students' mental and physical health, identify two distinct factors. In the first factor, Physical Health, the most significant item pertains to seeking help when feeling overwhelmed, followed by adopting healthy coping methods for managing academic pressure. [Lipson and Eisenberg \(2018\)](#) and [Hussain et al. \(2013\)](#) emphasize that students who know where to seek help are better equipped to manage stress and maintain mental health. Effective stress management strategies are key to resilience and academic success. [Galante et al. \(2017\)](#) further found that mindfulness training helps students build resilience during high-stress periods, such as exams, enabling them to maintain lower stress levels and higher well-being. The second factor, Mental Health, prioritizes maintaining a balanced

diet, followed by regular exercise and adequate sleep. [Guadiana and Okashima \(2021\)](#) highlight that sufficient sleep is critical for cognitive and academic performance. Quality sleep improves concentration, memory, and overall well-being, thereby contributing to better academic outcomes. The SEM model results (Table 8) indicate that while physical health does not have a statistically significant impact on perceived academic success, it positively contributes to overall well-being and influences quantitative academic success, such as grades and ECTS points. Students with better physical health have more energy, better focus, and greater endurance, leading to improved academic performance ([Ickovics et al., 2014](#)). On the other hand, mental health significantly impacts both perceived and quantitative academic success. Students with better mental health are more confident in their abilities and achieve higher academic outcomes. [Cao et al. \(2024\)](#) emphasize that self-efficacy and the ability to manage academic emotions are critical predictors of success, aligning with the idea that internal factors such as motivation and stress management are more influential on perceived academic success than physical health. [Wilks et al. \(2020\)](#) also revealed that mental health has a stronger impact on academic success than physical health, underscoring the importance of focusing resources on improving students' mental well-being. To enhance students' physical and mental health, faculties should implement measures such as organizing regular physical activities, providing free access to sports facilities, and increasing the availability of counseling services. Offering workshops on stress management techniques, such as mindfulness and relaxation methods, and promoting a healthy balance between work and free time are also critical. Faculties can further support students through social and community activities, which foster a sense of purpose and belonging, and by encouraging participation in extracurricular and voluntary initiatives. Based on the results of the factor analysis from Table 3, we identified two key factors related to students' work-life balance: challenges in balancing academic work and personal life (Factor 1) and maintaining a balance between Academic Work and Personal Life (Factor 2). In Factor 1, the most significant challenge is the stress caused by balancing academic work with personal and social life. In Factor 2, the most important aspect is the belief that maintaining a good work-life balance contributes to both academic success and overall well-being. The SEM model results (Table 8) show that both factors significantly and positively impact students' perceived academic success and quantitative indicators of success. Interestingly, the impact on perceived academic success is stronger than on objective indicators such as grades or ECTS points achieved. This suggests that students' subjective perception of successfully balancing their commitments plays a critical role in shaping their academic self-esteem and overall sense of accomplishment ([Sauvé et al., 2016](#); [Wilson et al., 2021](#); [Lindblom-Ylänne, 2004](#)). Successfully overcoming challenges in work-life balance also encourages better time management and efficiency, which can lead to improved academic outcomes. To support students in balancing their academic and personal commitments, faculties could implement innovative measures aimed at improving both their performance and their perception of success. For instance, developing a project or time management app with features such as study planning, reminders, and task tracking could help students better organize their obligations and deadlines. Additionally, programs designed to enhance soft skills such as communication, conflict resolution, and teamwork could equip students with tools to manage responsibilities effectively. To promote social cohesion, faculties could establish study groups, both in physical settings and online platforms, allowing students to collaborate, share ideas, and access learning materials flexibly. The factor analysis results in Table 4 indicate that the most significant source of anxiety among students is the fear that anxiety will hinder their concentration while studying. This concern, particularly about forgetting

information during exams, is the strongest contributor to exam-related anxiety. Such fears can undermine students' self-confidence and their ability to prepare effectively for exams. Exam anxiety, which interferes with concentration, is another significant contributor, followed by concerns about failing due to anxiety. These factors negatively impact students' psychological well-being and their capacity to perform well academically. The SEM model results (Table 8) reveal a statistically significant negative impact of anxiety on students' perceived academic success. A higher level of anxiety corresponds to lower perceived success, as anxiety reduces self-confidence and a sense of preparedness for exams. While anxiety also negatively affects quantitative indicators of academic success, such as grades, this relationship is not statistically significant ($p > 0.01$). These findings align with Mavilidi et al. (2020), who note that anxiety reduces working memory capacity, which is essential for concentration and problem-solving during exams. To address student anxiety, faculties can implement targeted interventions. Personalized study plans, developed with the help of advisors and tutors, can help students manage their schedules, set realistic academic goals, and balance study and personal activities more effectively. This approach can reduce the mismatch between academic demands and personal responsibilities, alleviating stress and anxiety. Faculties can also organize workshops and programs encouraging students to take regular breaks from digital devices and social media. These programs could promote technology-free activities, such as reading, spending time with friends, or engaging with nature, which may reduce anxiety and improve focus. Additionally, establishing academic support groups where students regularly meet to discuss challenges, share strategies, and provide peer support can foster a sense of belonging and community. These groups, facilitated by experienced students or tutors, could enhance psychological well-being and academic success. Together, these measures aim to reduce student anxiety and create a supportive environment that promotes better academic outcomes and mental health. These findings highlight the complex dimensions of academic success, especially within the rapidly evolving landscape of today's business world. As students face increasing pressures both inside and outside the classroom, it becomes imperative for educational institutions to adopt a more integrated approach to student support. By recognizing and addressing the psychological factors, faculties can create adaptive environments that not only bolster academic achievement but also nurture students' overall well-being and resilience. In this dynamic environment, faculties must truly understand their students' diverse needs and respond with innovative strategies that empower them to thrive both academically and personally. Despite the valuable insights gained from our research, some limitations should be acknowledged. First, the sample was confined to students from the Faculty of Economics and Business at the University of Maribor, Slovenia. Therefore, for future research, we recommend expanding the sample to include students from diverse fields of study and various universities across different geographical regions. Additionally, while this study focused on several key psychological factors, such as motivation, mental and physical health, work-life balance, and anxiety, other variables that could impact academic success were not examined. Factors such as personality traits, social support networks, and financial stress may also play a critical role in shaping students' academic outcomes. Future research could investigate these additional variables to develop a more holistic understanding of the determinants of academic success. This study has certain limitations. First, the sample was restricted to undergraduate and postgraduate students from the Faculty of Economics and Business at the University of Maribor, Slovenia. Future research could expand the sample to include students from diverse academic disciplines and international contexts to broaden these findings. Additionally, while this study focused on psychological factors such as motivation, mental and physical

health, balancing study and personal life, and anxiety, future research could investigate other variables to provide a more comprehensive understanding of the determinants of academic success. Also, employing longitudinal or experimental designs in future studies could help establish causality and offer deeper insights into the dynamic relationships among the examined variables. An important avenue for further research is the exploration of differences between undergraduate and postgraduate students in terms of their academic experiences and outcomes. These two groups often face distinct pressures and responsibilities, which can significantly impact their academic performance and well-being. While this study did not specifically examine these differences, a more focused analysis could offer valuable insights into how these factors influence each group. Such investigations could also inform the development of tailored strategies to better support the unique needs of undergraduate and postgraduate students.

6. Conclusions

In today's rapidly evolving world, students' psychological well-being has never been more critical to their academic success. The findings from this study underscore the significant impact of psychological factors, including motivation, mental and physical health, work-life balance, and anxiety, on the academic success of students at the Faculty of Economics and Business.

6.1. Theoretical Implications

The findings extend existing research by emphasizing the powerful impact of intrinsic motivation on academic success. Students motivated by personal interest and the desire to excel show better academic performance, both in self-assessments and measurable outcomes, such as grades and ECTS points. The study also underscores the differential roles of mental and physical health, where mental health significantly enhances perceived success and academic achievement, while physical health contributes more to quantitative success. Additionally, the findings reveal how work-life balance and anxiety influence academic outcomes, offering a nuanced understanding of the interplay between these factors. This study contributes to the literature by integrating these dimensions into a single model, providing a comprehensive framework for future research.

6.2. Practical Implications

The results highlight actionable strategies for faculties and educational institutions. To enhance academic success, faculties should prioritize initiatives that promote intrinsic motivation, such as engaging curricula and project-based learning. Mental health support through counseling services, stress management workshops, and mindfulness training is essential. Encouraging a healthy lifestyle by promoting physical activity, balanced nutrition, and adequate sleep can further improve students' academic outcomes. Additionally, tools such as time management apps and study groups can help students balance academic and personal commitments more effectively. These measures can create an environment that fosters well-being and empowers students to reach their full academic potential.

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Informed Consent Statement: All participants were fully informed about the purpose of the study, assured of their anonymity, and made aware of how their data would be used.

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References

- Almarzouki, A. F., Mandili, R. L., Salloom, J., Kamal, L. K., Alharthi, O., Alharthi, S., Khayyat, N., & Baglagel, A. M. (2022). The impact of sleep and mental health on working memory and academic performance: A longitudinal study. *Brain Sciences*, *12*(11), 1525. [CrossRef] [PubMed]
- Bermúdez, P., Velásquez, B., Monsalve, L., Escobar, V., & Correa, K. (2024). Relationship between quality of life and academic performance in a sample of Colombian university students. *European Psychiatry*, *67*(1), 599–600. [CrossRef]
- Bolinski, F., Boumparis, N., Kleiboer, A., Cuijpers, P., Ebert, D., & Riper, H. (2020). The effect of e-mental health interventions on academic performance in university and college students: A meta-analysis of randomized controlled trials. *Internet Interventions*, *20*(23), 100321. [CrossRef] [PubMed]
- Brady, S., Hard, B., & Gross, J. (2017). Reappraising test anxiety increases academic performance of first-year college students. *Journal of Educational Psychology*, *110*(3), 395–406. [CrossRef]
- Buzdar, M., Mohsin, M., Akbar, R., & Mohammad, N. (2017). Students' academic performance and its relationship with their intrinsic and extrinsic motivation. *Journal of Educational Research*, *20*(1), 74–82.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Lawrence Erlbaum Associates.
- Cao, W., Sanga, M. S. G., & Abur, A. (2024). Unraveling the factors shaping academic success: A structural equation modeling approach for college students. *Heliyon*, *10*(4), e25775. [CrossRef] [PubMed]
- Cassady, J. C., & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary Educational Psychology*, *27*(2), 270–295. [CrossRef]
- Chapell, M., Blanding, Z., Silverstein, M., Takahashi, M., Newman, B., Gubi, A., & McCann, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, *97*(2), 268–274. [CrossRef]
- Chow, C., & Chapman, E. (2017). Construct validation of the motivated strategies for learning questionnaire in a Singapore high school sample. *Journal of Educational and Developmental Psychology*, *7*(2), 107–123. [CrossRef]
- Cobo-Rendón, R., Pérez-Villalobos, M., Páez-Rovira, D., & Gracia-Leiva, M. (2020). A longitudinal study: Affective well-being, psychological well-being, self-efficacy, and academic performance among first-year undergraduate students. *Scandinavian Journal of Psychology*, *61*(4), 518–526. [CrossRef]
- Cunningham, M. (2021). *An investigation into the relationship between perceived academic performance, depression, anxiety, and stress: Gender differences*. National College of Ireland Repository. Available online: <https://norma.ncirl.ie/4922/1/megancunningham.pdf> (accessed on 10 December 2024).
- Dierendonck, C., Tóth-Király, I., Morin, A., Kerger, S., Milmeister, P., & Poncelet, D. (2021). Testing associations between global and specific levels of student academic motivation and engagement in the classroom. *The Journal of Experimental Education*, *91*(3), 101–124. [CrossRef]
- Dressler, M., & Gulev, R. E. (2021). The effect of a mindfulness-based stress reduction program on students' test performance. *International Journal of Sustainable Economy*, *13*(4), 389–401. [CrossRef]
- Duraku, Z. (2017). Factors influencing test anxiety among university students. *European Journal of Social & Behavioural Sciences*, *18*(1), 2325–2334.
- Eisenberg, D., Golberstein, E., & Hunt, J. B. (2009). Mental health and academic success in college. *Journal of Economic Analysis & Policy*, *9*, 1–41.
- Fernández-Castillo, A., & Caurcel, M. (2015). State test-anxiety, selective attention and concentration in university students. *International Journal of Psychology*, *50*(4), 265–271. [CrossRef]
- Fiorella, L., Yoon, S. Y., Atit, K., Power, J. R., Panther, G., Sorby, S., Uttal, D. H., & Veurink, N. (2021). Validation of the mathematics motivation questionnaire (MMQ) for secondary school students. *International Journal of STEM Education*, *8*, 52. [CrossRef]
- Fong, C., Davis, C., Kim, Y., Kim, Y., Marriott, L., & Kim, S. (2017). Psychosocial factors and community college student success. *Review of Educational Research*, *87*(2), 388–424. [CrossRef]

- Franzén, J., Jermann, F., Ghisletta, P., Rudaz, S., Bondolfi, G., & Tran, N. (2021). Psychological distress and well-being among students of health disciplines: The importance of academic satisfaction. *International Journal of Environmental Research and Public Health*, 18(4), 2151. [CrossRef] [PubMed]
- Galante, J., Dufour, G., Vainre, M., Wagner, A., Stochl, J., Benton, A., Lathia, N., Howarth, E., & Jones, P. (2017). A mindfulness-based intervention to increase resilience to stress in university students: A pragmatic randomised controlled trial. *Public Health*, 3(2), 72–81.
- Glynn, S., Brickman, P., Armstrong, N., & Taasoobshirazi, G. (2011). Science motivation questionnaire II: Validation with science majors and nonscience majors. *Journal of Research in Science Teaching*, 48, 1159–1176. [CrossRef]
- Guadiana, N., & Okashima, T. (2021). *The effects of sleep deprivation on college students*. Dominican Scholar. Available online: <https://scholar.dominican.edu/cgi/viewcontent.cgi?article=1029&context=nursing-senior-theses> (accessed on 12 December 2024).
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage.
- Heikkilä, A., Lonka, K., Nieminen, J., & Niemivirta, M. (2012). Relations between teacher students' approaches to learning, cognitive and attributional strategies, well-being, and study success. *Higher Education*, 64(4), 455–472. [CrossRef]
- Hernández-Torrano, D., Ibrayeva, L., Sparks, J., Lim, N., Clementi, A., Almukhambetova, A., Nurtayev, Y., & Muratkyzy, A. (2020). Mental health and well-being of university students: A bibliometric mapping of the literature. *Frontiers in Psychology*, 11, 1226. [CrossRef] [PubMed]
- Hillman, C., Erickson, K., & Kramer, A. (2008). Be smart, exercise your heart: Exercise effects on brain and cognition. *Nature Reviews Neuroscience*, 9, 58–65. [CrossRef] [PubMed]
- Howard, J., Bureau, J., Guay, F., Chong, J., & Ryan, R. (2021). Student motivation and associated outcomes: A meta-analysis from self-determination theory. *Perspectives on Psychological Science*, 16(6), 1300–1323. [CrossRef] [PubMed]
- Hussain, R., Guppy, M., Robertson, S., & Temple, E. (2013). Physical and mental health perspectives of first-year undergraduate rural university students. *BMC Public Health*, 15(13), 848. [CrossRef] [PubMed]
- Ickovics, J., Carroll-Scott, A., Peters, S., Schwartz, M., Gilstad-Hayden, K., & McCaslin, C. (2014). Health and academic achievement: Cumulative effects of health assets on standardized test scores among urban youth in the United States. *Journal of School Health*, 84(1), 40–58. [CrossRef] [PubMed]
- Jahani, S., Bakhtiyar-Pour, S., Makvandi, B., Heidarie, A., & Ehteshamzadeh, P. (2020). Effectiveness of mindfulness on test anxiety and educational well-being in secondary school female students. *International Journal of Biological Sciences*, 14(2), 60–66.
- Khoshhal, K., Khairy, G., & Guraya, S. (2017). Exam anxiety in the undergraduate medical students of Taibah University. *Medical Teacher*, 39(1), 22–26. [CrossRef]
- Kock, N. (2019). *WarpPLS User Manual: Version 6.0*. Laredo.
- Koshkin, A., Katusheva, K., Bolvachev, A., & Yablochkina, I. (2014). Life balance of Russian students: By the example of students of the finance department of Plekhanov Russian university of economics. *Review of European Studies*, 6(4), 182–200. [CrossRef]
- Li, R., Hassan, N., & Saharuddin, N. (2023). Psychological capital related to academic outcomes among university students: A systematic literature review. *Psychology Research and Behavior Management*, 16(4), 3739–3763. [CrossRef]
- Lindblom-Ylänne, S. (2004). Raising students' awareness of their approaches to study. *Innovations in Education and Teaching International*, 41(4), 405–422. [CrossRef]
- Lindblom-Ylänne, S., Haarala-Muhonen, A., Postareff, L., & Hailikari, T. (2017). Exploration of individual study paths of successful first-year students: An interview study. *European Journal of Psychology of Education*, 32, 687–701. [CrossRef]
- Lipson, S., & Eisenberg, D. (2018). Mental health and academic attitudes and expectations in university populations: Results from the healthy minds study. *Journal of Mental Health*, 27(3), 205–213. [CrossRef]
- Mavilidi, M., Ouwehand, K., Riley, N., Chandler, P., & Paas, F. (2020). Effects of an acute physical activity break on test anxiety and math test performance. *International Journal of Environmental Research and Public Health*, 17(5), 1523. [CrossRef] [PubMed]
- Morales-Rodríguez, F., Espigares-López, I., Brown, T., & Pérez-Mármol, J. (2020). The relationship between psychological well-being and psychosocial factors in university students. *International Journal of Environmental Research and Public Health*, 17(13), 4778. [CrossRef] [PubMed]
- Moran, T. (2016). Anxiety and working memory capacity: A meta-analysis and narrative review. *Psychological Bulletin*, 142(8), 831–864. [CrossRef] [PubMed]
- Ng, Z. J., Huebner, S., & Hills, K. (2015). Life satisfaction and academic performance in early adolescents: Evidence for reciprocal association. *Journal of School Psychology*, 53(6), 479–491. [CrossRef] [PubMed]
- Pan, Y., Li, F., Liang, H., Shen, X., Bing, Z., Cheng, L., & Dong, Y. (2024). Effectiveness of mindfulness-based stress reduction on mental health and psychological quality of life among university students: A GRADE-assessed systematic review. *Evidence-Based Complementary and Alternative Medicine*, 20(3), 8872685. [CrossRef] [PubMed]
- Picton, A. (2021). Work-life balance in medical students: Self-care in a culture of self-sacrifice. *BMC Medical Education*, 21(8), 8. [CrossRef] [PubMed]

- Rea, D. (1991). *College students' perceptions of academic success: An examination of motivational orientation*. ResearchGate. Available online: https://www.researchgate.net/publication/238317540_College_Students'_Perceptions_of_Academic_Success_An_Examination_of_Motivational_Orientation (accessed on 11 December 2024).
- Sauvé, L., Fortin, A., Viger, C., & Landry, F. (2016). Ineffective learning strategies: A significant barrier to post-secondary perseverance. *Journal of Further and Higher Education*, 42(2), 205–222. [CrossRef]
- Shirvani, E., Mirsolymani, Z., Parvin, H., & Mosavi, S. (2024). Strategies for enhancing academic motivation: Insights from successful students. *KMAN Counseling and Psychology Nexus*, 3(1), 29–42. [CrossRef]
- Sprung, J., & Rogers, A. (2020). Work-life balance as a predictor of college student anxiety and depression. *Journal of American College Health*, 69(7), 775–782. [CrossRef] [PubMed]
- Trentepohl, S., Waldeyer, J., Fleischer, J., Roelle, J., Leutner, D., & Wirth, J. (2022). How did it get so late so soon? The effects of time management knowledge and practice on students' time management skills and academic performance. *Sustainability*, 14(9), 5097. [CrossRef]
- Tutor System. (2024). *Ekonomsko-poslovna fakulteta*. Available online: <https://www.epf.um.si/en/study-programmes/study-in-english/tutor-system/> (accessed on 8 January 2025).
- Van der Meer, J., Jansen, E., & Torenbeek, M. (2010). It's almost a mindset that teachers need to change: First-year students' need to be inducted into time management. *Studies in Higher Education*, 35(7), 777–791. [CrossRef]
- Vermunt, J. D. (2005). Relations between student learning patterns and personal and contextual factors and academic performance. *Higher Education*, 49(3), 205–234. [CrossRef]
- Vorontsova-Wenger, O., Ghisletta, P., Ababkov, V., Bondolfi, G., & Barisnikov, K. (2021). Short mindfulness-based intervention for psychological and academic outcomes among university students. *Anxiety, Stress, and Coping*, 35(1), 141–157. [CrossRef]
- Wang, W., Kao, C., Huan, T., & Wu, C. (2011). Free time management contributes to better quality of life: A study of undergraduate students in Taiwan. *Journal of Happiness Studies*, 12(4), 561–573. [CrossRef]
- Wilkesmann, Z. N., Steinmayr, A., & Fischer, K. H. (2021). Influence of motivation on academic performance of students in Germany. *Journal of Education*, 4(6), 1–9. [CrossRef]
- Wilks, C., Auerbach, R., Alonso, J., Benjet, C., Bruffaerts, R., Cuijpers, P., Ebert, D., Green, J., Mellins, C., Mortier, P., Sadikova, E., Sampson, N., & Kessler, R. (2020). The importance of physical and mental health in explaining health-related academic role impairment among college students. *Journal of Psychiatric Research*, 123, 54–61. [CrossRef] [PubMed]
- Wilson, R., Joiner, K., & Abbasi, A. (2021). Improving students' performance with time management skills. *Journal of University Teaching & Learning Practice*, 18(4), 1–20.
- Xie, K., Vongkulluksn, V., Lu, L., & Cheng, S. (2020). A person-centered approach to examining high-school students' motivation, engagement, and academic performance. *Contemporary Educational Psychology*, 62(1), 101877. [CrossRef]
- Yusuf, J. E., Saitgalina, M., & Chapman, D. W. (2020). Work-life balance and well-being of graduate students. *Journal of Public Affairs Education*, 26, 458–483. [CrossRef]

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