

Fostering Psychological Wellbeing and Student Engagement in Higher Education Students through Positive Psychological Capital: The Mediating Role of Academic Stress

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Abstract

The prominence of positive psychological capital in enhancing desirable outcomes for both individual employees and organizations in the work setting is well-established. However, empirical studies focusing on the application of psychological capital in educational settings to foster positive learning outcomes such as positive psychological functioning and active participation in learning have been significantly limited. To address this research gap, we conducted a quantitative cross-sectional study to examine the extent to which psychological capital predicts psychological wellbeing and student engagement, mediated through academic stress. Participants of the study were higher education students (N = 562) pursuing undergraduate and postgraduate studies in Eritrean higher education institutions. They completed a battery of tests measuring their psychological capital, academic stress, psychological wellbeing, and student engagement. Hierarchical multiple regression and PROCESS macro analyses were conducted to determine the prediction and mediational effects. Regression results supported the hypotheses that psychological capital significantly and positively predicted both psychological wellbeing and student engagement. This suggests that higher education students with higher levels of psychological capital show better positive psychological functioning and are more engaged in learning. Additionally, students experiencing higher levels of academic stress tended to have poorer psychological wellbeing. The mediational analysis further indicated that academic stress partially mediated the relationship of psychological capital with psychological wellbeing but not with student engagement. The findings of the study are expected to contribute to our understanding of the application of psychological capital in the context of higher education students for fostering their psychological wellbeing and academic engagement.

Keywords: positive psychological capital, perceived academic stress, psychological wellbeing, student engagement.

INTRODUCTION

Student engagement has long been a center of interest for many researchers and educators as an effective approach to enhancing academic motivation, learning satisfaction, and academic

performance. Concurrently, it addresses issues such as poor academic performance, high levels of alienation, boredom, truancy, dropout, and attrition rates of college students (Appleton et al., 2008; Fredricks et al., 2004). Consequently,

a growing body of literature recognizes that academic engagement is a critical factor in achieving quality learning and positive learning outcomes. Student engagement is generally conceptualized as students' willingness and enthusiasm to actively participate in school-related activities including regular class attendance, handling and submitting assignments in due time, and compliance with teachers' directions in school (Maroco et al., 2016). It is believed that students with higher levels of academic engagement tend to achieve better positive learning outcomes such as academic performance (e.g., Boulton et al., 2019). For this reason, numerous scholars sought to identify potential factors that promote and hinder student engagement in higher education settings. Ghasemi et al. (2018), for instance, suggested that student-related factors such as individual motivation and interest, mental concentration, satisfaction with learning, participation in extracurricular, and self-directedness in learning play a significant role in academic engagement. Similarly, researchers also claim that the role of the institution is significant in the student-faculty relationship regarding attrition and academic achievement (Gabriella, 2015; Pascarella & Terenzini, 2005). Establishing and maintaining a close relationship with instructors can motivate students to engage more actively in university or the faculty.

However, the responsibility of higher education institutions should not only be providing formal education but also caring about and promoting their psychological wellbeing and quality of life in the school environment. There is emerging evidence that student wellbeing is a precondition for effective learning. Higher education students can only make the best use of their academic potential and achieve better learning outcomes when they are psychologically healthy (Baik et al., 2017; Seligman, 2012). Conversely, poor psychological health can impair students' learning, affecting their attention, cognition, problem-solving, social interaction, and capacity to collaborate with others or engage in learning activities (Baik et al., 2017). The growing prevalence of problems related to the

psychological wellbeing of higher education students is thus becoming an alarming concern for higher education institutions. According to Ryff and Keyes (1995), the concept of psychological wellbeing is characterized by an individual's ability to maintain a sense of meaning and purpose in life, achieve a sense of autonomy, accept oneself, and have the desire for personal growth and a sense of environmental mastery. Studies on psychological wellbeing also documented that factors such as perceived social support, family demands, socioeconomic status, educational qualification, gender, and academic overload are associated with the psychological wellbeing of students (El Ansari et al., 2013; Ismail & Shujaat, 2018). Academic stress has also been identified as one of the prominent factors that hinder both academic engagement and psychological wellbeing of college students. While a reasonable level of academic stress can increase academic motivation and subsequently lead to better academic achievement (Nandamuri & Ch, 2007), excessive academic stress can be detrimental to learning outcomes of students and their overall college adjustment. Explicitly speaking, a higher level of academic stress has been found to devastate academic engagement (Manikandan & Neethu, 2018) and subjective psychological wellbeing (Denovan & Macaskill, 2017; Preoteasa et al., 2016).

Given the significance of academic engagement and positive mental health in quality learning and considering the debilitating effect of perceived academic stress in learning, researchers have been actively seeking to identify and understand the factors that promote academic engagement and psychological wellbeing in college students. With the rise of the positive psychology movement, there has been growing advocacy for the application of psychological capital in a variety of settings, especially in organizational work settings. Luthans and his colleagues have developed the concept of positive psychological capital, representing the application of human strengths and psychological resources in the workplace to increase organizational success and productivity (Luthans et al., 2007). The

construct is conceptualized as a state-like and higher-order construct with four psychological resources: Hope, Efficacy or Self-Efficacy (confidence), Resilience, and Optimism (HERO). As a result, several studies have affirmed the significance of positive psychological capital within the context of employees' psychological wellbeing, job satisfaction, and performance (Dollwet & Reichard, 2014; Luthans, 2002; Reichard et al., 2014). Recently, it has been argued that the application of positivity is not limited to the organizational work setting, and positive psychological capital can also be applied within the academic arena to enhance positive learning outcomes among students, such as academic performance and positive mental health (Luthans et al., 2012; Selvaraj, 2015).

However, empirical studies regarding the potential significance of positive psychological capital in the academic setting, particularly in enhancing student engagement and positive psychological wellbeing of higher education students, while also shielding them from experiencing academic stress are notably limited and underrepresented. There is thus a paucity of scholarship on the application of psychological capital to higher education institutions (Luthans et al., 2012; Selvaraj, 2015). Strikingly, Guerrero-Alcedo et al. (2022) analyzed the primary bibliometric indicators of production, collaboration, and impact of scientific literature related to psychological capital in university students. They reported that from 2009 to 2021, only 82 research works were published, underscoring the relatively low level of scientific investigation and output in the area. Further, those studies were carried out in a limited number of countries, such as China, the UK, the US, Australia, and Spain, which suggests, the available literature might not be globally representative (Guerrero-Alcedo et al., 2022). Hence, bearing such a research gap in mind, the present study was conducted to determine how well psychological capital performs in optimizing academic engagement and the psychological wellbeing of college students. On top of these points, although the nature of the association of psychological capital with

engagement and wellbeing is not always direct because of several mediating and moderating variables, there are no adequate empirical studies that further analyzed the direct and indirect effects of psychological capital on academic engagement and psychological wellbeing through perceived academic stress. The present study, thus, intends to further examine the mediating effect of academic stress on the relationship of psychological capital with academic engagement and psychological wellbeing.

LITERATURE REVIEW

The Effect of Psychological Capital on Student Engagement and Psychological Wellbeing

Previous workplace studies have documented a positive association between psychological capital and various positive psychological outcomes, such as job satisfaction, organizational commitment, organizational citizenship, job performance, wellbeing, and work engagement of employees (Luthans et al., 2007). In the same line of research, it has been suggested that psychological capital of hope, efficacy, resilience, and optimism could also be positively linked to positive student outcomes in higher education such as student engagement. For example, Datu and Valdez (2016) surveyed 606 Filipino high students to explore how psychological capital contributes to students' level of engagement and wellbeing. Their results revealed that psychological capital significantly predicted academic engagement, flourishing, interdependent happiness, and positive affect. While this study made a valuable contribution, its applicability might be limited to the high school context and may not be generalized to the higher education student population. In another study conducted among Hong Kong undergraduate students, psychological capital was found to have a positive predicting effect on student engagement (Siu et al., 2014). Their further mediation analysis indicated that intrinsic motivation mediated the relationship between psychological capital and student engagement. It has also been found that university students

with a higher level of psychological capital of hope showed greater academic engagement and thus appeared to achieve better academic success (Yoon et al., 2015). Similarly, Kovács and Szigeti (2021) reported that resiliency, a component of psychological capital, characterized 'fighter students' who were found to have better coping strategies when faced with difficulty. Resilient individuals are believed to demonstrate strength, courage, and adaptability in the face of adversity (Connor & Davidson, 2003). Hence, it can be inferred that resiliency promotes adaptability or environmental mastery, a critical component of psychological wellbeing.

While there are limited studies on the relationship between psychological capital and psychological wellbeing (Nath & Pradhan, 2012), a few studies have suggested that positive psychological capital and its constituents of hope, efficacy, resilience, and optimism positively influence students' psychological wellbeing (Datu & Valdez, 2016). It has been argued that students with a higher level of psychological capital can visualize success and also believe that they have the resources required for their personal growth (Luthans et al., 2007). In line with this argument, Othman et al. (2019) surveyed 1500 university students and reported a weak but positive significant relationship between the psychological capital of self-efficacy and psychological wellbeing. In the same way, students with a higher level of psychological capital of resilience were found to have better psychological wellbeing (Chow et al., 2018). In a recent study among higher education students in Vietnam, psychological capital was found to enhance the quality of university life for the students (Tho, 2023).

The Effect of Psychological Capital on Perceived Academic Stress

From the existing body of literature, it seems evident that college students are prone to stress in general and academic stress in particular. Identifying specific psychological resources, such as psychological capital, that help students effectively deal with their college stress is crucial. For instance, Gautam and Pradhan

(2018) investigated the relationship between psychological capital, stress, and academic performance in a sample of 210 students. Their findings indicated that psychological capital was negatively related to perceived stress but positively related to academic achievement. Likewise, findings from Javaheri (2017) asserted that students with higher levels of psychological capital experience lower levels of academic and clinical stress, while also exhibiting higher levels of mental health. A recent study by Lisnyj et al. (2022) delved into the influence of human and psychological capital variables on post-secondary students' academic stress. The results suggested that nurturing psychological capital could help mitigate the deleterious effect of stress on students' academic performance. Similarly, Kaur and Sandhu (2016) examined psychological capital of university students at Punjabi University in relation to perceived level of stress. The finding indicated that there is a negative relationship between psychological capital and stress, though not significantly significant. Furthermore, it has been reported that psychological capital is positively related to happiness and negatively related to academic stress (Sengar, 2021). Therefore, there seems to be some evidence that psychological capital is negatively related to the academic stress of students.

The Effect of Academic Stress on Student Engagement and Psychological Wellbeing

Many researchers argue that students' inadequate coping mechanisms in dealing with academic stress, combined with their negative cognitive appraisal of the stressors, can lead to severe mental health problems such as anxiety, frustration depression, and psychological distress (Byrd & McKinney, 2012; Storrie et al., 2010). This, in turn, can result in undesirable learning outcomes including academic disengagement, lower academic performance, and elevated dropout and attrition rates (e.g., Alam & Halder, 2018; Boulton et al., 2019; Zajacova et al., 2005). A study Kovács and Nagy (2021) conducted among high school students, categorized students into clusters based on their health behavior (i.e., smoking, alcohol consumption, substance use,

self-esteem, perceived school performance, pressure by schoolwork, self-rated health). It was discovered that the continuous increase in schoolwork pressure has a significant impact on students. Similarly, a cross-sectional study among 788 Chinese undergraduate students revealed an inverse relationship between stress and psychological wellbeing (Hong & Chongde, 2003). These studies suggest that students with a higher level of academic stress depict reduced engagement in their learning activities and experience poor psychological health. On the other hand, academically less stressed students appear to invest much of their time and effort in their academic pursuits, which results in greater academic satisfaction and happiness. Contrary to most research results, Chyu and Chen (2022) recently reported a positive relationship between academic stress and student engagement, showing that students with a higher level of academic stress demonstrate greater academic engagement. However, some studies reported a weak or statistically non-significant relationship between academic stress and student engagement (Kabarwanyi, 2019; Prinsloo, 2019).

The Mediating Effect of Perceived Academic Stress

There are no adequate empirical studies related to the mediating effect of perceived academic stress on the relationship of psychological capital with psychological wellbeing and student engagement. However, in a study conducted among counseling students, perceived academic stress was found to partially mediate the relationship between psychological capital and psychological wellbeing, suggesting that students with a higher level of psychological capital showed better psychological wellbeing (Javaheri, 2017). Aligned with positive psychology theory, psychological capital is conceptualized as a core higher-order psychological resource that might empower higher education students to better deal with academic expectations by mobilizing their confidence, positive cognitive functions, positive appraisal and reappraisal of stressors, and positive self-talk (Hatzigeorgiadis et al., 2009). The investment

of such positive cognitive resources could make students experience a lower level of academic stress, ultimately fostering their positive mental health and increasing participation in learning. Similarly, students with a higher level of psychological capital might reframe their interpretations of academic stressors as developmental opportunities for personal development, enabling them to demonstrate their capabilities rather than devastating threats (Riolfi et al., 2012).

Hypotheses of the Study

Based on the pieces of evidence presented in the review literature, the present study proposed the following guiding hypotheses:

- H1: There is a positive relationship between psychological capital and student engagement in higher education students.
- H2: There is a positive relationship between psychological capital and psychological wellbeing in higher education students.
- H3. Higher education students with a higher level of psychological capital experience a level of perceived academic stress.
- H4. College Students with a higher level of perceived academic stress experience poor psychological wellbeing.
- H5. College Students with a higher level of perceived academic stress have a lower level of student engagement.
- H6: Academic stress mediates the relationship of psychological capital with psychological wellbeing and student engagement.

METHODS

Sample of the Study

The present study recruited a total of 562 undergraduate and postgraduate diploma students who were pursuing their college studies at three Eritrean institutions for higher education: Asmara College of Education, College of Science, and College of Engineering

and Technology during the academic year 2020/2021. A convenience sampling strategy was applied to select the sample of participants from the target population. Table 1 presents the detailed demographic characteristics of the participants of the study. The average age of the participants was 25.90 years and the average CGPA was 2.60.

Table 1. *Frequency Distribution of Characteristics of the Participants*

Variable	<i>n</i>	%	<i>N</i>
Gender			
Male	340	60.50	562
Female	222	39.50	
Marital status			
Married	113	20.10	562
Unmarried	449	79.90	
Level Education			
Undergraduate	449	79.90	562
Postgraduate	113	20.10	
Diploma			
College			
Education	236	42.00	562
Science	237	42.20	
Engineering	89	15.80	

Measures of the Study

Demographic Variables: Demographic data were obtained through self-constructed items pertaining to age, gender, marital status, field of study, and year of study were included.

Student Engagement: The University Student Engagement Inventory (USEI), developed by (Maroco et al., 2016), was applied to gauge the level of student engagement. USEI is a three-dimensional scale devised to measure emotional, behavioral, and cognitive components of student engagement. The measure is a 15-item self-report based on a Likert-type scale ranging from 1 (never) to 5 (always). In the USEI, student engagement is conceptualized as a second-order construct and thus item values are calculated to produce a total score in which the range falls between 15 and 75. Higher scores indicate higher student engagement. Maroco et al. (2016) established its reliability, factorial, convergent, and discriminant validities with the sample of college students in Portugal. Additionally, Assunção et al. (2020) asserted that USEI is a

valid and reliable tool to measure student engagement of university students across countries. The overall reliability coefficient for the 15-item USEI was determined to be 0.88 (Maroco et al., 2016).

Positive Psychological Wellbeing: Psychological wellbeing was assessed using the 18-item version of the Psychological Wellbeing Scale developed by Ryff and Keyes (1995). This multifaceted measure was developed to assess six components of psychological wellbeing: Self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. The measure is a self-report Likert type of scale ranging between 1 (strongly disagree) and 7 (strongly agree). The author also provided statistical evidence affirming its reliability and validity. In an Iranian study, the overall scale demonstrated higher internal consistency ($\alpha = 0.71$) (Khanjani et al., 2014).

Perceived academic stress: Perceptions of Academic Stress Scale (PAS) authored by Bedewy and Gabriel (2015) was adopted to assess the academic stress of the student participants. The instrument is devised to measure university students' perceived academic stress related to pressure to perform, perceptions of workload, academic self-perceptions, and time restraints. PAS is an 18-item Likert type of scale ranging between 1 (strongly disagree) and 5 (strongly agree). The sum of scores ranges between 18 and 80 in which higher scores indicate higher levels of academic stress. We have chosen PAS over the other measures of academic stress because it was developed to specifically measure the academic stress of university students and also consists of a reasonable number of items. The authors of the scale have also provided statistical evidence for the adequate reliability ($\alpha = 0.70$) and validity of the measure.

Positive Psychological Capital: To measure the positive psychological capital of the participants, the study utilized a 24-item Psychological Capital Questionnaire (PCQ) originally developed by Luthans et al. (2007). This tool was later modified by Liran and Miller (2017) to fit the scale to the academic

setting and specifically to university students. The modified version of PCQ is rated on a five-point Likert type of scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score range of PCQ is 24-240, with higher scores indicating higher levels of positive psychological capital. PCQ is a multidimensional scale with four subscales of hope, optimism, self-efficacy, and resilience. The overall Cronbach’s alpha for the original and adapted version of PCQ was found to be .93 and .89 respectively (Liran & Miller, 2017).

Data Collection Procedure, Ethical Consideration

First, the study was approved by the institutional review board of the college. Then, printed self-report questionnaires were distributed to the participants in their classrooms. Initially, 850 questionnaires were duplicated and distributed, of which 562 questionnaires were included in the final analyses. All the questionnaires with significant missing values were excluded from the analyses. The data collection took place during the second semester of the academic year 2020/2021. Following the guidelines set by the American Psychological Association guideline, participation in the present study was entirely voluntary and contingent upon informed consent. The respondents were also assured that the data would remain confidential and would not be used solely for any purpose other than the study.

Planned Data Analyses

First, the data were inputted into SPSS Version 25. Descriptive statistics, such as mean and standard deviation were then computed to explore and summarize the data. Following this, the Pearson product-moment correlation was performed to explore the bivariate relationships between study variables. Subsequently, hierarchical multiple regression analyses were performed to determine the predicting effects of psychological capital on psychological wellbeing and student engagement, while controlling the sociodemographic variables. Finally, a regression PROCESS macro was executed to

assess the mediation effect of perceived academic stress on the relationship of psychological capital with psychological wellbeing and student engagement.

RESULTS

Descriptive Statistics of Study Variables

Table 2 summarizes the mean values, standard deviations, Cronbach’s alpha, as well as measures of shape distribution (skewness and kurtosis). The reliability coefficients for all the study variables demonstrated a higher level of internal consistency, exceeding the baseline value of .70 (George & Mallery, 2003). The underlying assumption of normality for the data sets was checked using the calculated values of skewness and kurtosis measure of shape distribution. The range for the acceptable limit of skewness and kurtosis is from -2 to +2 (Gravetter & Wallnau, 2014). The values for the study variables fell within this acceptable range, affirming that the data were normally distributed.

Table 2: *Descriptive Statistics of the Study Variables (N=562)*

Variables	M	SD	Items	α	Sk	Ku
Psychological capital	84.14	11.32	24	.78	-.38	1.11
Perceived academic stress	47.97	10.18	18	.79	.24	.03
Psychological wellbeing	91.48	13.17	18	.73	-.28	-.04
Student engagement	56.70	6.60	15	.84	-.03	-.12

Note. Sk = skewness; Ku = kurtosis.

Bivariate Relationships Between Study Variables

Pearson’s product-moment correlation was performed to determine the bivariate correlation between the study variables. As indicated in Table 3, the results revealed that psychological capital was positively and significantly related to both psychological wellbeing ($r = .43, p < .001$) and student engagement ($r = .46, p < .001$) and negatively related to perceived academic stress ($r = .24, p < .001$). Psychological wellbeing was also

positively related to student engagement ($r = .32, p < .01$). Besides, perceived academic stress was negatively associated with both psychological wellbeing ($r = -.40, p < .001$) and student engagement ($r = -.11, p < .05$).

Table 3: *Intercorrelations between the Study Variables (N=562)*

Variable	1	2	3
1. Psychological capital			
2. Perceived academic stress	-.24**		
3. Psychological wellbeing	.43**	-.40**	
4. Student engagement	.46**	-.11**	.32**

** $p < .01$ (2-tailed).

Multiple Hierarchical Regression Analyses

The Predicting Effect of Psychological Capital on Student Engagement

To assess the predictive effects of psychological capital and academic stress on student engagement, a multiple hierarchical regression was performed, while controlling for the effects of demographic variables. In doing this, the predictors were entered into the regression model in three blocks. Demographic variables were entered into the first block of the model. Then, psychological capital was entered into the second block of the model, followed by academic stress in the third block of the

regression model. As can be viewed from Table 4, demographic variables accounted for a total of 12% of the variance in student engagement, and the model was statistically significant ($R^2=.12, F(4, 557) = 19.66, p<.001$). After the inclusion of psychological capital in the second block of the model, the variance explained by the first and second models increased to 26%, and the model remained statistically significant from zero ($R^2=.26, F(4, 557) = 39.40, p<.001$). With the addition of academic stress into the third block of the model, the overall regression model explained a total of 51% of the variance in student engagement, and the model also remained statistically significant ($R^2=.26, F(4, 557) = 32.92, p<.001$). When the effects of demographic variables were removed, psychological capital explained an additional 14% of the variance in student engagement, significantly improving the overall prediction (R squared change $=.14, F(1, 556) = 103.83, p<.001$). Students with a higher level of psychological capital were found to have better academic engagement ($\beta = 0.39, p < .001$). However, when the effects of demographic variables and psychological capital were statistically controlled, academic stress made no unique statistically significant contribution to the model (R squared change $=.00, F(1, 555) = 0.60, p>.05$). Academic stress failed to show a statistically significant predictive effect on student engagement ($\beta = -0.03, p > .05$).

Table 4: *Hierarchical Regression Analysis for Predictors of Student Engagement*

Predictors	B	SEB	β	Model				
				R	R ²	ΔR^2	F	df
<i>Block 1</i>				0.35	0.12		19.66***	4, 557
Gender	-1.37	0.59	-0.10*					
Marital status	1.50	1.16	-0.09					
Program	-2.0	1.51	-0.12					
Age	0.15	0.08	0.19					
<i>Block 2</i>				0.51	0.26	0.14	39.40***	5, 556
Gender	-1.36	0.54	-0.10*					
Marital status	1.79	1.06	0.11					
Program	-0.32	1.40	-0.02					
Age	0.12	0.07	0.15					
Psychological capital	0.23	0.02	0.39***					
<i>Block 3</i>				0.51	0.26	0.00	32.92***	6, 555
Gender	-1.32	0.54	-0.10					
Marital status	1.76	1.06	0.10					
Program	-0.37	1.40	0.20					
Age	0.12	0.07	0.15					
Psychological capital	0.22	0.02	0.38***					
Academic stress	-0.02	0.03	-0.03					

The Predicting Effects of Psychological Capital and Academic Stress on Psychological Wellbeing

Hierarchical multiple regression was applied to assess the ability of psychological capital and academic stress to predict psychological wellbeing of the participants, after controlling the effects of demographic variables of gender, age, marital status, and educational level or program of study. To achieve this, predictors were inputted into the regression model in three blocks. Demographic variables, psychological capital, and perceived academic stress were entered into the first, second, and third blocks of the regression model respectively. As presented in Table 5, the results of the multiple regression analyses indicated that variables in the first block (demographics) explained two percent of the variance in psychological wellbeing, and the regression model was statistically significant ($R^2=.02$, $F(4, 557) = 3.11$, $p<.05$). When the psychological capital was added into the second block of the regression model, the first and second models jointly appeared to explain a total of 21% in the outcome variable of psychological wellbeing and the model was also significantly different

from zero as well ($R^2=.21$, $F(5, 556) = 28.75$, $p<.001$). Finally, when perceived academic stress was included in the third block of the model, the overall model explained a total of 29% of the variance in psychological wellbeing and the model was also significantly significant ($R^2=.29$, $F(6, 555) = 37.79$, $p<.001$).

To assess the unique statistical contribution of psychological capital, the effects of demographic variables were statistically controlled and psychological capital accounted for by an additional 18% of the variance in the outcome variable and the model was statistically significant (R^2 change =.18, $F(1, 556) = 128.45$, $p<.001$). Similarly, after the effects of demographics and psychological capital were statistically removed, academic stress made an additional unique statistically significant contribution to the model and explained 9% of the variance in the outcome variable (R^2 change =.09, $F(1, 555) = 66.16$, $p<.001$). Psychological capital positively predicted psychological wellbeing ($\beta = 0.45$, $p < .001$). Students with a higher level of academic stress were also found to have poor psychological wellbeing ($\beta = -0.31$, $p < .001$).

Table 5: Hierarchical Regression Analysis for Predictors of Psychological Wellbeing

Predictors	B	SEB	β	Model				
				R	R ²	ΔR^2	F	df
<i>Block 1</i>				0.15	0.02		3.11*	4, 557
Gender	-3.55	1.24	-0.13*					
Marital status	-0.89	2.44	-0.03					
Educational Level	-4.58	3.19	-0.14					
Age	0.03	0.17	0.02					
<i>Block 2</i>				0.45	0.21	0.18	28.75***	5, 556
Gender	-3.53	1.12	-0.13					
Marital status	-0.89	2.20	-0.01					
Program	-0.75	2.90	-0.02					
Age	-0.05	0.15	-0.03					
Psychological capital	0.53	0.05	0.45***					
<i>Block 3</i>				0.54	0.29	0.09	37.79***	6, 555
Gender	-2.77	1.06	-0.10					
Marital status	-0.23	2.08	-0.03					
Program	-1.75	2.74	-0.05					
Age	-0.05	0.14	0.00					
Psychological capital	0.42	0.05	0.36***					
Academic stress	-0.40	0.05	-0.31***					

Note. Dummy variables were coded as: Gender: Male = 1, Females = 0; Marital status: Married = 1, Unmarried = 0; Program: Undergraduate = 1, Postgraduate diploma = 0. * $p < .05$, ** $p < .01$, *** $p < .001$

The Predicting Effect of Psychological Capital on Academic Stress

To determine how well psychological capital predicts academic stress while controlling the effects of demographic variables, a multiple hierarchical regression analysis was performed. To this end, the predictors were entered into the model in two blocks. In the first block of the model, demographics were entered, followed by the inclusion of psychological capital in the second block of the model. As depicted in Table 6, the combined effect of block one variables (demographics) did not yield statistically significant effect on academic stress, and the regression model was not

statistically significant ($R^2=.02$, $F(4, 557) = 2.28$, $p>.05$). However, with the inclusion of psychological capital into the second block of the model, the overall regression model explains a total of 10% in academic stress and the model was statistically significant ($R^2=.10$, $F(5, 556) = 11.84$, $p<.001$). When the effects for demographic variables were statistically removed, psychological capital elucidated an additional 8% of the variance in academic stress and the model maintained statistical significance (R^2 change $=.08$, $F(1, 556) = 49.29$, $p<.001$). Students with a higher level of psychological capital appeared to have a lower level of academic stress ($\beta = 0.30$, $p < .001$).

Table 6: Hierarchical Regression Analysis for Predictors of Academic Stress

Predictors	B	SEB	β	Model				
				R	R ²	ΔR^2	F	df
<i>Block 1</i>				0.13	0.02		2.28	4, 557
Gender	1.94	0.96	0.09*					
Marital status	-1.33	1.89	-0.05					
Educational Level	-0.58	2.47	-0.02					
Age	0.09	0.13	0.07					
<i>Block 2</i>				0.31	0.10	0.08	11.84***	5, 556
Gender	1.93	0.92	0.09*					
Marital status	-1.67	1.81	-0.07					
Program	-2.54	2.39	-0.10					
Age	-0.13	0.12	0.10					
Psychological capital	0.27	0.04	0.30***					

Note. Dummy variables were coded as: Gender: Male = 1, Females = 0; Marital status: Married = 1, Unmarried = 0; Program: Undergraduate = 1, Postgraduate diploma = 0. * $p < .05$, ** $p < .01$, *** $p < .001$

Further Mediation Analyses

These analyses aim to further determine the mediating effect of academic stress on the relationship between psychological capital and both psychological wellbeing and student engagement. Regression path analyses for psychological capital \square perceived academic stress \square student engagement indicated that the four conditions were not fulfilled and thus no further mediational analysis was carried out in this case. However, the results of the regression analyses for psychological capital \square perceived academic stress \square psychological wellbeing revealed that the four mediational conditions were met. The independent variable of psychological capital significantly predicted both the dependent variable of psychological wellbeing ($b = .50$, $SE = .04$, $t = 11.35$, $p < .001$) and the mediating variable of perceived

academic stress ($b = -.22$, $SE = .04$, $t = -5.87$, $p < .001$). Similarly, the mediating variable of perceived academic stress significantly predicted psychological wellbeing ($b = -.41$, $SE = .05$, $t = -8.53$, $p < .001$). Finally, when the effect of the mediating variable of perceived academic stress was removed, the effect of psychological capital on psychological wellbeing was reduced but remained statistically significant ($b = .42$, $SE = .04$, $t = 9.65$, $p < .001$), indicating that partial mediation has occurred. The statistical significance of the indirect effect was also tested using a bootstrap estimation approach with a sample of 5000 and the effect was found to be significant in which the 95 percent confidence interval has not included zero ($b = .09$, $SE = .02$, 95% CI = 0.04 to 0.11).

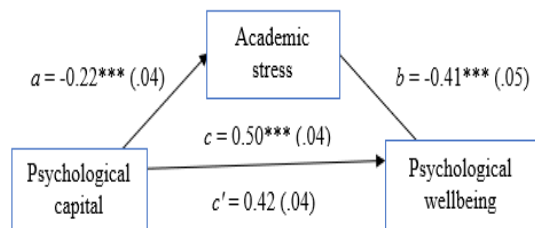


Figure. 1 demonstrates the unstandardized coefficients for the regression paths (paths a, b, and c) between the independent, mediator, and dependent variables with standard errors in parentheses.

*** $p < .001$. The indirect effect is $(-0.22)(0.41) = -0.09$.

DISCUSSION

The main purpose of the study was to determine the predictive effects of psychological capital and perceived academic stress on student engagement and psychological wellbeing of higher education students in Eritrea. Further, the study aimed at examining the mediating effect of academic stress on the relationship between psychological capital and psychological wellbeing of the students. Hierarchical multiple regression results of the study revealed that psychological capital positively and significantly predicted both student engagement and psychological wellbeing and also negatively predicted perceived academic stress of the students. Furthermore, perceived academic stress also negatively and significantly predicted psychological wellbeing, but not student engagement. Additionally, mediational analyses of the study also showed a partial mediating effect of perceived academic stress on the relationship between psychological capital and psychological wellbeing, although not the psychological capital-student engagement relationship.

Following the theoretical framework of positive psychology, the present study, in its first hypothesis, hypothesized that psychological capital would positively predict student engagement in higher education students. The gathered sample data corroborated this

hypothesis, revealing that students with high levels of psychological capital reported better academic engagement. This finding of the study broadly aligns with the work of previous studies in this field, which have invariably linked psychological capital with enhanced student engagement (e.g., Barratt & Duran, 2021; Datu & Valdez, 2016; Gong et al., 2018; Jafri, 2018; Saleem et al., 2022; Siu et al., 2014; You, 2016). A possible elucidation for this connection between psychological capital and student engagement might be best discussed within the overarching framework of positive psychology, and more specifically through the theoretical framework of positive psychological capital. The positive psychology movement primarily endeavors to identify and capitalize on human strengths and resources for better performance (Seligman, 2002). Within this approach, positive psychological capital has been conceptualized as an individual's positive psychological state of development that encompasses self-efficacy, optimism, hope, and resiliency (Luthans et al., 2007). Given these theoretical underpinnings, it is not surprising that psychological capital exerts a positive influence on academic engagement of college students. Higher education inherently demands significant effort, and students in higher education must effectively utilize their psychological resources to become academically engaged, thrive, and ultimately excel in their studies. The collective psychological resources encapsulated in HERO are believed to furnish the essential psychological resources and stamina for the students to remain cognitively, behaviorally, and emotionally engaged in their studies and eventually emerge as campus heroes.

Drawing from the positive psychology framework and eudaimonic approach to positive psychological wellbeing, the study, in its second hypothesis, expected that there would be a positive relationship between psychological capital and positive psychological wellbeing in higher education students and the sample data substantiated this expectation. The present study underscores that students' psychological reservoirs of hope, efficacy, resiliency, and optimism collectively

exert a substantial impact on the overall positive psychological wellbeing dimensions of self-acceptance, autonomy, positive relations with others, purpose in life, personal growth, and environmental mastery. For instance, our study specifically suggests that a college student who believes in his or her capabilities to accomplish a set of academic tasks (efficacy) tends to have better autonomous learning behaviors such as sense of confidence, self-regulation, self-determination, and independence, and competency in managing learning environment and making the best use out of it. Comparison of this result with those of previous empirical studies confirms that higher education students endowed with higher levels of psychological resources of HERO tend to experience positive psychological wellbeing (Chow et al., 2018; Datu & Valdez, 2016; Gautam et al., 2019; Jing et al., 2022; Seligman, 2012; Selvaraj & Bhat, 2018; Zhang et al., 2022).

In the third hypothesis, our study postulated an inverse relationship between positive psychological capital and perceived academic stress in higher education students. The expectation was supported by the sample data of the study. This finding of the current study suggests that higher education students with higher levels of psychological capital tend to have a lower level of academic stress. The finding is also in agreement with previously documented literature (e.g., Gautam & Pradhan, 2018; Lisnyj et al., 2022; Sengar, 2021). The inverse relationship between psychological capital and academic stress in higher education students might not be of an astonishing result given the theoretical assumption that psychological capital is a core higher-order construct that is believed to bolster college students' resiliency in dealing with academic stressors related to high academic expectations (e.g., teachers and parental unrealistic expectations), students' academic self-perceptions (e.g., poor confidence and fear of failure), and excessive academic loads (e.g., assignments, attending classes, examinations). It is essential to acknowledge that stress is an inevitable aspect of students' academic life. However, students

who harness their positive psychological resources in the academic environment can effectively manage and cope with the foreseeable academic stressors. For instance, when college students are both hopeful and efficacious, they are more likely to auspiciously achieve their academic goals. Such students are predisposed to remain optimistic in their educational endeavors and are also able to generate multiple routes toward the attainment of their academic dreams. In a nutshell, psychological capital is a fundamental construct that empowers college students to persistently pursue their long-term academic goals, regardless of how stressful the situation might be (Rand et al., 2020; Riolli et al., 2012; Sucan, 2019).

In the fourth hypothesis of our study, we have posited that perceived academic stress would have a negative impact on psychological wellbeing of higher education students. The data of our study supported this hypothesis, suggesting that students with a higher level of perceived academic stress tended to experience lower levels of positive psychological wellbeing. It is conceivable that academic stressors, including teachers' critical comments, competition with peers, high parental expectations, low academic confidence, fear of failure, exam stress, and excessive academic workloads jeopardize positive psychological functioning of higher education students. These academic stressors are also thought to be the leading sources of higher levels of academic stress and subsequently, diminished psychological wellbeing in higher education students, particularly in developing countries like Eritrea where educational resources are limited. This result of the study also corroborates the findings of previous studies that have echoed the same report on the negative relationship between academic stress and psychological wellbeing in tertiary education students. For example, in recent studies conducted among college students, it has been reported that college students with a higher level of academic stress were found to have poor psychological wellbeing (e.g., Barbayannis et al., 2022; Timmermans et al., 2022). Previous

research works used to provide a shred of evidence for the interfering effect of academic stress on students' subjective wellbeing such as a feeling of pleasure and happiness and negative effects such as psychological distress, anxiety, and depression (Andrew & Ann, 2016). However, the present finding essentially highlights that perceived academic stress is also a devastating problem for psychological functioning of college students such as self-acceptance, autonomy, relations with others, personal growth, environmental mastery, and purpose in life.

In the fifth hypothesis, our study expected that academic stress would be negatively related to student engagement in higher education students. Nevertheless, the study failed to produce evidence to confirm this hypothesis. Despite detecting a weak yet statistically significant negative relationship between academic stress and student engagement ($r = -0.11$, $p < .05$), the prediction did not attain statistical significance. But this result of our study is not an exception. Several previous research studies have also reported that perceived academic stress was not a statistically significant predictor of student engagement in higher education students (Kabarwanyi, 2019; Prinsloo, 2019). Another correlational study has also reported a low statistically significant negative association between stress and student engagement in undergraduate students (Kadiyono & Liyani, 2019). One possible explanation for the non-significant relationship between academic stress and student engagement might be the intricate nature of their interplay, influenced by various mediating and moderating variables. This suggests that the relationship between academic stress and student engagement might not be simple and straightforward. Another possible explanation might stem from variations in theoretical conceptualizations of the constructs and their corresponding measures, potentially producing diverse research outcomes.

Finally, the study anticipated that academic stress would mediate the relationships of positive psychological capital with psychological wellbeing and student

engagement. The study provided evidence supporting the partial mediational effect of academic stress in the association between psychological capital and psychological wellbeing, but not in relation to student engagement. This suggests that higher education students with higher levels of psychological experience a lower level of academic stress and thus boost positive psychological functioning. This finding of the study underlines that the nature of the relationship between psychological capital and psychological wellbeing is not always direct. Therefore, psychological resources of hope, efficacy, resiliency, and optimism improve students' psychological functioning by alleviating the exacerbating impact of perceived academic stress. This result is in accord with the finding of Javaheri (2017), which revealed a similar partial mediating effect of perceived academic stress on the relationship between psychological capital and mental health. This implies that students with higher levels of psychological capital experienced a lower level of academic stress, resulting in higher levels of mental health. The indirect effect of psychological capital on psychological wellbeing through perceived academic stress is best understood within the theoretical framework of positive psychological capital. Psychological capital is a core internal resource that might empower higher education students to cope with academic demands by optimizing their confidence, positive cognitive functions, positive appraisal and reappraisal of stressors, and positive self-talk (Hatzigeorgiadis et al., 2009).

Implications of the study

Since its inception, psychological capital researchers have primarily focused on the arena of positive organizational psychology to enhance employees' organizational outcomes such as performance, wellbeing, organizational commitment, engagement, and organizational citizenship behavior (Abraham et al., 2020; Luthans et al., 2007; Reichard et al., 2014). Nonetheless, relatively less attention has been paid to the significance of psychological capital in the field of educational psychology. Consequently, positive psychological capital

studies conducted on higher education students have been significantly limited (Guerrero-Alcedo et al., 2022; Luthans et al., 2012). Addressing this gap, the present study is believed to contribute to our evidence-based understanding of the application of the psychological resources of HERO in the field of academia in general and higher education in particular. Put simply, the findings of the present study extend our knowledge of the influence of positive psychological capital on psychological wellbeing and academic engagement of higher education students. It might also provide insight into the partial mediating effect of perceived academic stress on the relationship between psychological capital and students' positive psychological wellbeing. More importantly, the findings of the study advise higher education students about the importance of psychological capital in fostering their positive psychological functioning and academic engagement, while protecting them from the deleterious effect of academic stressors on their psychological wellbeing.

It is also hoped that the findings of the current study might practically guide higher education institutions on how they could cultivate their students' positive psychological capital and thereby promote psychological wellbeing and academic engagement of their students. The raised level of psychological capital might also help the institutions to diminish the debilitating impact of academic stress on positive psychological functioning of their fellow students. The essential feature of psychological capital is that it is a state-like psychological resource, which is measurable, malleable, and open to development and change through short instructional programs, and can be managed to reap positive outcomes in different settings, including the academic setting (Luthans et al., 2012; Luthans et al., 2007). Interestingly, Luthans et al. (2006) have established a Psychological Capital Intervention (PCI) instructional model that has been applied to a variety of settings to optimize psychological capital and thereby improve individual and organizational performance. Several studies have also provided empirical evidence for the

application and effectiveness of PCI in boosting psychological capital of both students and employees and thereby enhancing desirable outcomes such as academic and job performance (e.g., Luthans et al., 2010; Luthans et al., 2008; Reilly, 2016; Stoykova, 2013). In the same vein, the present study suggests that the PCI training model could be effectively applied to foster positive psychological wellbeing and student engagement of higher education students through the development of their psychological resources of HERO.

Limitations of the study and future research directions

While our study holds both theoretical and practical implications, it is essential to acknowledge certain potential methodological weaknesses. First, as the study was cross-sectional research in which all the study variables were measured at one point in time, further longitudinal studies need to be carried out to validate whether these variables are interrelated over an extended period. Second, all the regression results reported here in this study are based on correlational evidence rather than experimental evidence, and thus other extraneous variables might have also influenced the variance in the outcome variables of the study. Therefore, further experimental investigations could be undertaken to estimate the effect of psychological capital on psychological wellbeing and students' engagement through perceived academic stress within the student population of higher education. Third, the study utilized a self-report questionnaire as a method of data collection and participants might have shown social desirability bias in completing the questionnaires, which might have adversely influenced the extracted conclusion of the study. Therefore, the present study can be replicated using other methods of data collection that overcome the limitation of the self-report questionnaires. Finally, the present study utilized a convenience sampling strategy, which might have limited the representativeness of the sample. Future studies are thus recommended to duplicate the study

using other sampling strategies that ensure sample representativeness.

CONCLUSION

Fostering psychological wellbeing and academic engagement in higher education students has been a great challenge for many higher education institutions due to the complex nature and challenging academic demands of higher education. Some scholars of positive psychology argue that the application of positive psychological strengths of hope, efficacy, resilience, and optimism in the field of academia might be of great assistance in promoting positive learning outcomes such as academic engagement and positive mental health. In this sense, the present study was undertaken to assess the impact of psychological capital on psychological wellbeing and academic engagement mediated through academic stress. Taken together, the results of the study revealed that higher education students with a higher level of psychological capital reported better positive psychological wellbeing and student engagement and a lower level of academic stress. Further, psychological capital was proven to diminish the debilitating effect of academic stress on psychological wellbeing of higher education students, highlighting the fact that the nature of the relationship between psychological capital and psychological wellbeing in higher education students is not always simple and direct. Therefore, the findings of the study underline that positive psychological capital is a pivotal feature of positive learning outcomes in higher education students. Given this evidence, higher education institutions are recommended to integrate positive psychological capital in their curricula to foster their students' positive psychological functioning and academic engagement.

Conflict of Interest: The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding: The publication was supported by the University of Debrecen, Faculty of Humanities

Scholarly Fund. This paper was supported by the János Bolyai Research Scholarship of the Hungarian Academy of Sciences (BO/000686/23/2) and by the ÚNKP-22-5 New National Excellence Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund (ÚNKP-23-5-DE-496).



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