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The Mediated Impacts of Psychological Capital on Student Burnout through Academic Engagement and Learner Empowerment: A Serial Mediation Model

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Abstract: Psychological capital (PsyCap) emerges as a pivotal asset for mitigating student burnout in college settings, as it bolsters their learning empowerment and engagement. However, there have been inadequate empirical studies investigating the significance of these resources in promoting engagement and empowerment, ultimately leading to a reduction in students' burnout within the context of higher education. To bridge this gap, we examined the extent to which PsyCap predicts student burnout through its impacts on academic engagement and learner empowerment. The sample of the study was college students (N = 562) who completed a battery of self-report questionnaires measuring their PsyCap, academic engagement, learner empowerment, and student burnout. We employed hierarchical multiple regression analyses and PROCESS macro to ascertain prediction and serial mediation effects. The results substantiated the hypotheses that PsyCap positively related to learner empowerment and academic engagement while negatively associated with student burnout. Further, students with higher levels of learner empowerment and engagement reported lower levels of burnout in their academic studies. The mediational results also revealed that engagement and learner empowerment acted as significant serial mediators between PsyCap and student burnout. The study's findings underscore the critical significance of PsyCap within higher education, particularly in nurturing learner empowerment, and engagement, thereby reducing student burnout.

Keywords: *Academic engagement, learner empowerment, psychological capital, student burnout.*

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Introduction

The psychological concept of burnout is one of the most attention-grabbing research topics in the field of psychology and it has long been attracting many researchers. Herbert Freudenberger was one of the prominent researchers in the research area of burnout and was the first person to coin burnout as a clinical construct. According to Freudenberger, burnout is defined as "to fail, wear out, or become exhausted by making excessive demands on energy, strength, or resources" (Freudenberger, 1974, p. 159). Christina Maslach was another pioneer researcher in the field of burnout. Together with her colleagues, Maslach conceptualized burnout as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity" (Maslach et al., 1996). Therefore, according to Maslach (1993), burnout is a multifaceted concept that covers three dimensions: emotional exhaustion (feelings of being drained or depleted of emotional resources), depersonalization (indifference or detached reactions from work and colleagues), and reduced personal accomplishment or efficacy (reduction in one's feeling of competence and productivity in one's work).

It seems clear that college study is naturally challenging and demanding, and college students must face a wide range of academic challenges such as individual incompetence, being preoccupied with academic performance, interpersonal conflicts with teachers, lack of sufficient learning facilities, academic self-perception, and perception of academic workload (Bedewy & Gabriel, 2015; Reddy et al., 2018) and such problems might lead to student burnout, especially when students lack adequate and effective coping resources (Jagodics & Szabó, 2023; Neumann et al., 1990). Thus, student burnout is one of the critical and alarming physical and mental health conditions among higher education

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students, which might lead to harmful consequences (Hosseini Largani, 2019; Jagodics & Szabó, 2023). For instance, it is well-established in various previous studies that student burnout is related to a wide range of learning and mental health-related factors such as poor academic performance (Hosseinpour et al., 2016; Xu et al., 2022), suicidal ideation (Dyrbye et al., 2008), reduced academic engagement (Ghadampour et al., 2016; Singh et al., 2021), high perceived stress (Xu et al., 2022), low internal motivation, and academic self-efficacy (Sharififard et al., 2020), aggressive behaviors (Yaratan & Uludag, 2012), anxiety and depression (Zhu et al., 2023), decreased concentration (Liasi et al., 2021), low self-esteem (Ahola et al., 2014), alcohol consumption (Andrade et al., 2021) and high dropout rates (Jagodics & Szabó, 2023).

Considering such extensive devastating impacts, burnout appeared to be the center of a growing area of interest in the tertiary student population. Neumann et al. (1990) also argued that student burnout might appear as one of the most encouraging areas of research in college study because burnout might help us to have an insight into a wide range of academic behaviors of college students (e.g., attrition, course selection, and academic performance); burnout may affect students sense of attachment and belongingness to their college and it may also affect general image of the college and future student enrollment. The argument of Neumann et al. (1990) suggests that academic burnout is an essential aspect of learning experiences and learning outcomes in college students. Describing and understanding the nature and debilitating physical, psychological, and academic impacts of burnout is one step but not a lot enough. The next and most important step should rest on identifying and validating practical and effective coping resources and intervention programs that empower and enable students to cope with academic burnout and ultimately achieve their education goals. To this effect, researchers have identified several personal and environmental factors such as social support (Sveinsdóttir et al., 2021; Yang & Farn, 2005), emotional intelligence and self-efficacy (Duran et al., 2006), personality (Soliemanifar & Shaabani, 2013), coping flexibility and locus of control (Gan et al., 2007), and positive affect (Bikar et al., 2018) as important resources and conditions for students' struggle to counter the adverse psychological and physical effects of academic burnout. In recent years, with the appearance of positive psychology, the importance of human strengths such as positive psychological capital, learner empowerment, and academic engagement have been proposed as significant antecedents of student burnout in the academic context.

Luthans and his colleagues developed the concept of psychological capital, which represents the application of human mental assets in organizational settings to enhance success and productivity at both individual and organizational levels (F. Luthans et al., 2007). Psychological capital is conceptualized as a malleable and higher-order construct with four psychological attributes, which are hope, efficacy or self-efficacy, resilience, and optimism. Hope is generally conceptualized as people's psychological and motivational state that helps and guides people to set practical goals that can be reached through self-directed behavior and the ability to derive multicultural approaches and show flexibility in realizing the goal when facing impediments (Snyder et al., 1991). The general concept of self-efficacy (confidence) refers to "belief in one's capabilities to organize and execute the course of action required to manage the prospective situation" (Bandura, 1997, p. 2). Resilience is conceptualized as a person's psychological capacity to handle adversity and effectively deal with one's environment (Wagnil & Young, 1993). Optimism is generally defined as a global individual's tendency to hold positive outcomes for their future (Carver et al., 2010).

Learner empowerment is also another psychological asset that contributes to the reduction of student burnout among college students. Frymier et al. (1996) extended the application of psychological empowerment to the academic context, and the traditional view of motivation was also broadened to introduce the term 'learner empowerment'. Learner empowerment refers to "a student's feeling of competence to perform a task that is meaningful and has an impact on the situation" (Houser & Frymier, 2009, p. 35). According to Frymier et al. (1996), Learner empowerment is a multidimensional construct comprised of three important components: Meaningfulness, competence, and impact. Meaningfulness represents the importance of learning or doing a particular academic task when evaluated based on personal standards. Competence refers to the personal belief of a student that he or she can accomplish a particular academic task successfully. Impact refers to the student's perception that academic behaviors will make a difference in his or her learning.

Academic engagement is also recognized as an important psychological factor that affects student burnout (Akbaşlı et al., 2019). Researchers of engagement have conceptualized the construct in different ways despite their agreement on the fact that academic engagement focuses on students' active involvement in educational activities, dedicating motivational efforts, persistence, and determination to their academy, and developing a sense of belongingness and identification with school organization. For instance, Kuh (2003) described engagement as students' investment of time and energy to better deal with their academic tasks and adhering to the rules and regulations that educational organization exercises to optimize student participation in these activities. Similarly, Fredricks et al. (2004) conceptualized engagement as a multidimensional concept with three components: behavioral, emotional, and cognitive. Behavioral engagement refers to students' effortful and persistent involvement in school-related (e.g., actively participating in discussions, asking questions, paying attention to the lesson) and extracurricular activities (e.g., participating in sports activities). Emotional engagement represents the positive and negative emotional reactions that students attach to their schooling activities, peers, teachers, and the school organization as a whole (Fredricks et al., 2004). Cognitive engagement donates the investment of psychological effort and mental strategies such as thoughtfulness, willingness, and problem-solving skills necessary for learning and mastering challenging academic tasks (Fredricks et al., 2004).

Emerging research consistently shows that college students with high levels of positive Psychological Capital (PsyCap), empowerment, and engagement are less susceptible to academic burnout (Alves et al., 2022; Manafi et al., 2022; Radack et al., 2022). However, despite the advocacy for the importance of positive PsyCap in reducing student burnout, the existing literature related to the role of PsyCap in alleviating burnout among college students in the field of academia is still significantly limited (B. C. Luthans et al., 2012; Selvaraj, 2015). Specifically, studies about the relationship between positive PsyCap, academic engagement, learner empowerment, and student burnout seem to be globally insufficient. In addition, notwithstanding the connection between PsyCap and student burnout is complex because of the potential mediation and moderation effects, literature is scarce regarding the serially mediated impacts of PsyCap on student burnout through academic engagement and learner empowerment. Hence, to address these research gaps, the current study was carried out to examine the role of positive psychological capital in reducing the academic burnout of college students. Further, the present study also attempted to explore the serial mediating effects of academic engagement and learner empowerment on the relationship between positive PsyCap and student burnout in college students.

Literature Review

PsyCap and Student Burnout

The Conservation of Resources Theory (COR) describes burnout as running out of vital resources (e.g., personal resources, money, and social support) over time (Hobfoll, 1989, 2002). In the academic setting, burnout is associated with the loss of sufficient resources to effectively deal with academic demands. Similarly, the Demand-Resource Model postulates that an environment is characterized by two salient features: demands and resources (Demerouti et al., 2001). When applying this model to the educational setting, demands are seen as elements serving the purpose of fulfilling requirements related to lessons and activities, while resources are considered factors contributing to achieving study-related objectives (Salmela-Aro & Upadyaya, 2014). According to the Demand-Resource Model, students encounter excessive academic demands, impacting their potential for burnout and future engagement in school-related activities. These circumstances significantly influence students' level of involvement in school, their experience of burnout, and their overall well-being (Wei et al., 2015).

Positive PsyCap is believed to be one of the human strengths that have salient roles in reducing the experience of academic burnout. Albeit literature is scarce on the role of positive PsyCap on student burnout, some studies supported the inverse relationship between the variables, suggesting that students with high PsyCap appeared to have fewer symptoms of burnout. For example, Rad et al. (2017) examined the correlation between PsyCap and academic burnout among 172 medical students in Iran, and their results indicated that PsyCap was inversely linked to burnout. A significant limitation of this study was associated with its sample composition. The participants were drawn from a single university in Iran and the results might not be generalized, which directs a need for further research (Rad et al., 2017). Likewise, another correlation study conducted among 96 American postgraduate health science students indicated that PsyCap negatively and significantly predicted academic burnout (Radack et al., 2022). Further, students with sufficient individual psychological resources of self-efficacy, hope, resilience, and optimism reported a lower level of academic burnout (Askaripoor et al., 2022; Yu & Chae, 2020; Yu et al., 2016). Nevertheless, it is also vital to disclose the limitation with the majority of the PsyCap and student burnout studies that were carried out among health science students, especially medical students (Wang et al., 2021). As a result, the findings of those studies might not be generalized to students of other colleges such as education, engineering, and science. In sum, the studies reviewed here in our study, coupled with COR, seem to suggest that students with abundant psychological capital perceive academic tasks as less taxing and are more likely to apply effective coping strategies to deal with academic hassles and thus appear less vulnerable to burnout. On the other hand, students with insufficient psychological resources appraise academic tasks as more stressful and in turn, use maladaptive coping strategies that might exacerbate the psychological syndrome of burnout. Bearing such a suggestion in mind, the following hypothesis was formulated to guide our study.

Hypothesis 1: PsyCap is negatively related to student burnout among college students.

Psychological Capital, Learner Empowerment, and Academic Engagement

Various previous studies conducted at the workplace have invariably established that PsyCap has a positive impact on several employees' psychological outcomes, such as employees' job satisfaction, organizational commitment, organizational citizenship behavior, job performance, well-being, and work engagement (Birani-Nasraldin et al., 2024; F. Luthans et al., 2007). In the same way, it can be argued that PsyCap could positively influence college students' learning outcomes, such as learner empowerment and academic engagement, despite the dearth of empirical studies (Jafri, 2017). Very few studies have made an effort to unlock the nature of the linkage between PsyCap and learner empowerment. For example, in a study conducted among South Korean university students, PsyCap appeared to have a significant positive impact on learner empowerment of the students (Lee & Song, 2010), suggesting that hopeful, optimistic, efficacious, and resilient students appear to be psychologically empowered in their learning. The study further indicated that learner empowerment acted as a significant mediator in the connection between PsyCap and academic performance. Likewise, You (2016) examined the interplay between PsyCap, learner empowerment, and academic engagement among 490 college students, and the results revealed that PsyCap positively and significantly related to learning empowerment and

learning empowerment fully mediated the association between PsyCap and academic engagement. Similarly, in the work setting, employees' PsyCap capital significantly improved their empowerment, and empowerment mediated the link between positive PsyCap and intention to leave an organization (Avey et al., 2008).

Some studies examined the role of PsyCap on academic engagement. For example, Datu and Valdez (2016) surveyed 606 high students to explore how well PsyCap enhances student engagement and well-being. The results of their study revealed that PsyCap positively impacted academic engagement, flourishing, happiness, and positive affect. Despite the contribution of the study, as it was conducted among high school students, the findings may not be generalized to college students. Further, a study from Hong Kong reported that PsyCap positively related to engagement, and intrinsic motivation mediated the correlation between PsyCap and student engagement, suggesting that PsyCap has both direct and indirect effects on academic engagement (Siu et al., 2014). In the same way, Gong et al. (2018) examined the effect of PsyCap on student engagement among Chinese university students and their results highlighted that PsyCap positively predicted student engagement mediated through positive emotions. Furthermore, a recent study involving 397 Spanish university students reiterated the significant role of PsyCap in fostering students' academic engagement (Gomez-Borges et al., 2023). Additionally, this study provided compelling evidence supporting the fully mediated effect of self-care behaviors on engagement through PsyCap. Taken all together, the empirical studies presented here seem to be in favor of the positive association between PsyCap, and learner empowerment of college students. Drawing from the presented literature, the present study has thus developed the following guiding hypotheses.

Hypothesis 2a: *PsyCap is positively related to learner empowerment of college students.*

Hypothesis 2b: *PsyCap is positively related to the academic engagement of college students.*

Learner Empowerment, Academic Engagement, and Student Burnout

Several studies carried out in the work setting documented a positive association between psychological empowerment and burnout (e.g., Gong et al., 2021; Shokrpour et al., 2021; Zhou & Chen, 2021). Those studies suggest that psychologically empowered employees experience a lower level of burnout because of their positive cognitive orientation toward their work-related duties and responsibilities. Therefore, psychological empowerment can play an important protective factor by reducing the detrimental effect of occupational stressors on burnout (Tian et al., 2015). In the academic setting, the link between empowerment and student burnout is not well-researched (Manafi et al., 2022), and consequently, there literature in this regard seems to be scarce. Nonetheless, like employees, it is assumed that psychologically empowered students might have a positive cognitive orientation towards their academic tasks and thus experience a lower level of academic burnout. In one study conducted among higher education students in Iran, Manafi et al. (2022) suggested that students' high sense of empowerment played a critical role in diminishing their risk of experiencing academic burnout. Similarly, the positive relationship between empowerment and engagement is also evident in some empirical studies. For example, You (2016) has reported that learner empowerment positively academic engagement of Korean university students. Psychologically empowered students are internally motivated to get involved in their academic activities because they believe that the activities are meaningful and relevant. Regarding the impact of academic engagement on student burnout, several studies supported the negative association between the variables. For example, a cross-sectional study from Spain reported that university students' academic engagement and burnout were negatively associated, indicating that students with high academic engagement experience low academic burnout (Liebana-Presa et al., 2018) albeit the study was limited to nursing students. Following this finding, the study of Singh et al. (2021) also demonstrated that Management students' academic engagement was negatively associated with academic burnout and loneliness partially mediated the relationship between the variables. One potential limitation of this study was associated with its limited sample unit to the Delhi-NCR region of Northern India, suggesting that results might not be generalized to other contexts (Singh et al., 2021). Further, it has been reported that student engagement attenuates the effect of burnout on dropout intention, acting as an important protective factor (Alves et al., 2022). Following these studies, the present study propounded the following hypotheses to guide the study.

Hypothesis 3a: *Learner empowerment is negatively related to student burnout of college students.*

Hypothesis 3b: *Learner empowerment is positively related to the academic engagement of college students.*

Hypothesis 4: Academic engagement is negatively associated with student burnout of college students.

The Mediational Effects of Learner Empowerment and Academic Engagement

The influence of positive PsyCap on student burnout might not only be direct as the relationship between them could be intervened by various psychological factors. Learner empowerment and academic engagement are claimed to be among the intervening variables although the claim has not been empirically well-substantiated in the academic setting, especially in the higher education student population, and further empirical research is suggested (You, 2016). However, there are some empirical indications that learner empowerment and academic engagement partially mediate the relationship between several psychological variables in educational settings. For instance, the result from the single mediation model demonstrated that learner empowerment mediated the relationship of PsyCap with academic

engagement among university students (You, 2016) and learning performance (Lee & Song, 2010). Similarly, psychological empowerment was found to intervene in the relationship between job resources and work engagement. More importantly, both structural and psychological empowerment fully mediated the relationship PsyCap with emotional exhaustion and depersonalization components of burnout and partially with reduced personal accomplishment dimension (Kaya & Altınkurt, 2018). Another study also reported that structural empowerment reduced teachers' burnout through psychological empowerment, especially its constituents of meaning and competence (Tsang et al., 2022). Therefore, like employees, one can assume that students with high PsyCap might experience low academic burnout via learner empowerment. Regarding the indirect effect of positive PsyCap on student burnout through engagement, one study conducted among nursing students in China reported that academic engagement partially mediated the relationship between the variables (Wang et al., 2021). The study suggests that positive PsyCap has both direct and indirect effects on college students' academic burnout. However, as the study selected its participants from a single group (i.e., nursing students) of one Chinese medical university, the results of the study might not represent other groups of students, especially non-medical students (Wang et al., 2021). In addition, most of the previous studies that have endeavored to examine the linkage between PsyCap and burnout through various mediators, including engagement and empowerment, were single mediation model analyses. However, the double sequential mediation effects of learner empowerment and academic engagement on the relationship between PsyCap and student burnout have not yet been investigated and deserve further research.

Hypothesis 5a: Learner empowerment mediates the relationship between positive PsyCap and student burnout

Hypothesis 5b: Academic engagement mediates the relationship between positive PsyCap and student burnout

Hypothesis 6: Learner empowerment and academic engagement serially mediate the relationship between positive PsyCap and student burnout

Conceptual Framework of the Study

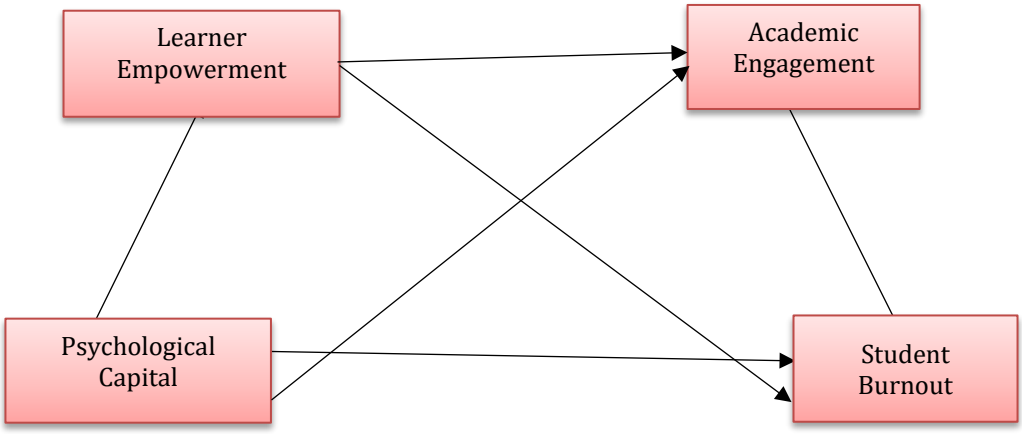

Figure 1. The Hypothesized Model of the Study

Methodology

Sample of the Study

A total of 562 undergraduate and postgraduate diploma students participated in the study. While the undergraduate participants of the research were senior students who were doing the 3rd, 4th, and 5th year of their study programs at the College of Science, College of Education, and College of Engineering and Technology, the postgraduate diploma students were taking a one-year training program in Pedagogy at Asmara College of Education. In our study, the optimal sample size was calculated using the formula of Yamane (1973), which calculates the minimum required sample size (n) as $N/(1 + Ne^2)$, where N represents the total number of college students studying in the three universities; n is required sample size, and e stands for the margin of error set at 5%. With approximately 4137 students across three targeted colleges in the academic year 2020/2021, the calculated minimum sample size was approximately 364.81. However, for this study, a sample size of 562 was selected, exceeding the calculated optimal size of the sample. We have selected the participants of the study from the target population using a convenience sampling strategy. The mean value for age was 26 years (SD = 8.16). As per the gender distribution of the participants, 340 (60.50%) were males and 222 (39.50%) were females. Regarding their level of education, the majority of the participants were undergraduate students (n = 449; 79.90%) and some were postgraduate diploma students (n = 113; 20.10%). Whereas 449 (79.90%) of the participants were unmarried, 101 (20.10%) were married. About the college of the participants, the majority of them were from the College of Science (n = 237; 42.20%) and College of Education (n = 236; 42%), and there were some participants from the College of Engineering and Technology (n = 89; 15.80%).

Measures of the Study

Student Burnout: Maslach Burnout Inventory-Student Survey or MBI-SS (Schaufeli, Martínez, et al., 2002; Schaufeli, Salanova, et al., 2002) was employed to assess the burnout of the students. MBI-SS is a 15-item instrument consisting of three subscales: Emotional Exhaustion (5 items), Cynicism or Depersonalization (4 items), and Academic Efficacy (6 items). It is a 7-point Likert type of scale with the range of 1 (*strongly disagree*) and 7 (*strongly agree*). To compute the total score for burnout, the values for the academic efficacy subscale were reverse-coded to make academic inefficacy. The summed total score ranges between 15 and 105, with higher scores reflecting a higher level of burnout. MBI-SS is an extensively used measure in the academic setting, and its psychometric properties have been established in various previous studies conducted across many counties and cultures (e.g., Hu & Schaufeli, 2009; Jagodics & Szabó, 2023). In the present study, the reliability coefficient of the scale was .65, which is greater than the benchmark of .50.

Psychological Capital: A 24-item Psychological Capital Questionnaire (PCQ) originally developed by F. Luthans et al. (2007) and later revised by Liran and Miller (2019) was utilized to assess the participants' four psychological strengths: hope, optimism, efficacy, and resilience. The revised version of PCQ is a five-point Likert type of scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The computed total score of the scale ranges between 24 and 240. Higher scores reflect higher levels of psychological capital. The overall Cronbach's alpha for the original and adapted version of PCQ was found to be .93 and .89 respectively (Liran & Miller, 2019). The computed Cronbach alpha of the measure in the current study was .78, indicating that the scale had good internal consistency.

Learner Empowerment: We adopted the 18-item version of the Learner Empowerment Scale (LES) of Frymier et al. (1996) developed by Weber et al. (2005) to measure the level of empowerment of students in their learning. LES is a Likert type of scale in which participants rate their learning empowerment on 5 points ranging from 1(*strongly disagree*) and 5 (*strongly disagree*). The overall score on the scale range between 18 and 90. Higher scores indicate higher learner empowerment. The internal consistency for the overall shortened version of LES was found to be high with an alpha of .91 and the three subscales meaningfulness, competence, and impact also achieved reliability coefficients of .87, .91, and .91 respectively (Weber et al., 2005). Similarly, the scale showed a strong reliability coefficient in the present study (α = .81).

Academic Engagement: The degree of academic engagement of the student participant was assessed using the University Student Engagement Inventory (USEI) developed by (Maroco et al., 2016). It is a three-dimensional scale devised to measure emotional, behavioral, and cognitive components of student engagement. The instrument contains 15 both negatively and positively worded items rated on a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*always*). Higher scores indicate higher academic engagement of the students. Maroco et al. (2016) provided adequate reliability, factorial, convergent, and discriminant validities with the sample of college students in Portugal. Very recently, Assunção et al. (2020) also provided evidence that USEI is a valid and reliable measure of academic engagement of university students across countries. In the same line with the previous studies, the current study also found the scale to have a strong internal consistency as measured by Cronbach alpha (α = .84).

Data Collection Process and Ethical Considerations

Before commencing data collection, ethical approval was obtained from Asmara College of Education. Subsequently, self-administered questionnaires were disseminated among participants in designated academic settings including classrooms, libraries, and dormitories. Out of the initially distributed 850 questionnaires, 562 adequately completed questionnaires were incorporated into the final data analysis. Given the predominant use of English as the instructional language in Eritrean higher education and the participants' proficient language abilities, an English-language version of the questionnaire was administered. In accordance with guidelines from the American Psychological Association, participation in the study was voluntary and contingent upon informed consent. Participants were also assured of the confidentiality of their data, which would solely be utilized for research purposes.

Data Analyses

Data were analyzed using SPSS Version 26. Descriptive statistics were employed for data exploration and summary. Pearson product-moment correlation was used to assess the statistical significance of relationships between study variables. Hierarchical multiple regression analyses were conducted alongside PROCESS macro for SPSS version 4.1 (Model 6) to ascertain predictive and mediating effects. In the mediation analyses, Psychological Capital (X) was treated as the independent variable, with student burnout (Y) as the dependent variable. Additionally, learner empowerment (M1) and academic engagement (M2) were included as sequential mediators within the regression framework. Before conducting the correlation and hierarchical multiple regression analyses, we checked the basic assumptions of the data, including the presence of outliers, multicollinearity, normality, linearity, and homoscedasticity. All assumptions were met, as there were no significant outliers, multicollinearity issues, or violations of normality, linearity, or homoscedasticity.

Results

Descriptive Statistics of Study Variables

Table 1 outlines the overview of descriptive statistical values, reliability coefficients, and measures of shape. Cronbach's alpha was used to assess the internal consistency of the study variables, and the coefficient values indicated that all the variables appeared to achieve greater than the sufficient value of .45 (Taber, 2018; van Griethuijsen et al., 2015). The values of skewness and kurtosis were used as measures of the basic assumption of normality for the sample data sets of the present study. The computed values of skewness and kurtosis appeared to fall within the acceptable limit of −2 and +2 (Gravetter & Wallnau, 2014), suggesting that the assumption of normality was not violated.

Table 1. The Summary of Descriptive Statistics of the Study Variables (*N* = 562)

Variables	*Min*	*Max*	*M*	*SD*	Items	α	*Sk*	*Ku*
Psychological capital	38.00	125.00	84.15	11.33	24	.78	-.38	1.12
Learner empowerment	31.00	86.00	62.68	9.46	18	.81	-.44	.30
Academic engagement	41.00	74.00	59.33	5.59	18	.84	-.10	.04
Student burnout	15.00	96.00	52.95	12.59	15	.65	-.14	.08

Note. *Min* = Minimum; *Max* = Maximum; *Sk* = Skewness; *Ku* = Kurtosis

Interconnections Between the Study Variables

The relationship between the study variables of PsyCap, learner empowerment, academic engagement, and student burnout was assessed using the Pearson product-moment correlation coefficient. The results (see Table 1) indicated that PsyCap showed statistically significant positive relationships with both learner empowerment (r = .56, p < .01) and academic engagement (r = .38, p < .01) but a negative relationship with student burnout (r = -.52, p < .01). Similarly, learner empowerment was also positively correlated with academic engagement (r = .40, p < .01) but negatively related to student burnout (r = .61, p < .01), and academic engagement was also negatively related to student burnout (r = -.36, p < .01). According to Cohen (1988), correlation coefficients can be categorized as *small* (r = -.29 to -.10 or .10 to .29), *medium* (r = -.49 to -.30 or .30 to .49), or *large* (r = -1.00 to -.50 or .50 to 1.00). In the present study, the relationships between the variables were found to be large, indicating strong associations.

Table 2. Correlation Coefficients of the Study Variables

Variables	1	2	3
1. Psychological capital			
2. Learner empowerment	.56**		
3. Academic engagement	.38**	.40**	
4. Student burnout	-.52**	-.61**	-.36**

**. Correlation is significant at the .01 level (2-tailed).

Hierarchical Multiple Regression Analyses

To examine the statistical significance of the predicting impacts of the antecedents of burnout (i.e., psychological capital, student engagement, and learner empowerment), hierarchical multiple regression was conducted while removing the effects for demographic variables of age, gender, program of students, and marital status. Cohen's f^2 was calculated to determine the practical significance of each predictor in explaining variance in student burnout. According to Cohen (1988), the effect sizes were categorized as small (f^2 = .02), medium (f^2 = .15), and large (f^2 = .35). In performing the analyses, the antecedents were put into the regression model in the form of steps. First, controlling variables were placed in the first model of the regression. While PsyCap was added to the second model, student engagement and learner empowerment were inputted into the third and fourth models, respectively. As presented in Table 3, variables of the first model (i.e., demographics) collectively accounted for a total of 11% of the variance in the outcome variable (R^2=.11, $F_{(4, 557)}$ = 17.04, p < .001). Out of the demographics, gender (β = .11, p < .001), and program of study (β = -.19, p < .05) were found to be significant predictors of student burnout. The addition of psychological capital in the second model improved the ability of the model to explain 31% of the variance in burnout (R^2=.31, $F_{(5, 556)}$ = 49.95, p < .001). After the removal of the effects for the demographic variables, the psychological capital individually contributed 20% of the change in burnout (R^2 change =.20, $F_{(1, 556)}$ = 161.90, p < .001). Cohen's f^2 for the individual effect of psychological capital on burnout was .29, demonstrating a moderate to large effect. Psychological capital was negatively and significantly related to burnout (β = -.47, p < .001). When student engagement was added to the third model, the model explained a total of 33% of the change in the outcome of burnout (R^2=.33, $F_{(6, 555)}$ = 45.09, p < .001). The unique individual contribution of the engagement to the model was 2 percent (R^2 change =.02, $F_{(1, 555)}$ = 14.66, p < .001), and its relationship with burnout was negative and significant (β = -.15, p < .001). The computed effect size for academic engagement, Cohen's f^2, was .03, indicating a small effect, suggesting that while academic engagement contributes to the model, its impact on reducing burnout was found to be relatively modest. Finally, learner empowerment was included in the final regression models and the model jointly

accounted for 43% of the variance in burnout (R^2=.43, $F_{(7, 554)}$ = 61.74, p < .001). Learner empowerment contributed an additional 11% of variance to the overall model (R^2 change =.11, $F_{(1, 554)}$ = 108.99, p < .001). Learner empowerment negatively and significantly predicted student burnout (β = -.42, p < .001). The effect size for learner empowerment was f^2 = 0.26, also showing a moderate to large effect.

Table 3. *Hierarchical Regression Results for Predictors of Burnout*

				Model				
Predictors	**B**	**SEB**	***β***	***R***	***R²***	**Δ*R²***	***F***	***df***
Model 1				0.33	0.11		17.04***	4, 557
Gender	2.83	1.13	.11*					
Age	-.04	.15	-.03					
Marital status	-5.17	2.22	-.17*					
Program of study	5.92	2.91	.19*					
Model 2				0.56	0.31	0.20	49.95***	5, 556
Gender	2.81	.99	.11*					
Age	.03	.13	.02					
Marital status	-5.83	1.96	-.19*					
Program of study	2.08	2.58	.07					
Psychological capital	-.525	.041	-.47***					
Model 3				.57	0.33	0.02	45.09***	6, 555
Gender	2.46	.99	.10*					
Age	.07	.13	.05					
Marital status	-5.45	1.94	-.17*					
Program of study	2.23	2.55	.07					
Psychological capital	-.47	.04	-.42***					
Academic engagement	-.33	.09	-.15***					
Model 4				0.66	.43	0.11	61.74***	7, 554
Gender	2.22	.902	.09*					
Age	.14	.121	.09					
Marital status	-4.93	1.772	-.16*					
Program of study	2.05	2.332	.07					
Psychological capital	-.26	.044	-.24***					
Academic engagement	-.16	.081	-.07					
Learner empowerment	-.56	.053	-.42***					

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

Mediation Analyses

First, we determined the statistical significance of the regression paths between the predictors, mediators, and dependent variables, and all paths were statistically significant. The prediction effects of the predictors of student burnout were checked using hierarchical multiple regression analyses, and the results are presented in Table 3. Besides, the PROCESS macro regression results demonstrated that PsyCap positively and significantly related to learner empowerment (β = .56, p < .001) and engagement (β = .23, p < .001). Similarly, learner empowerment was positively and significantly related to academic engagement (β = .27, p < .001).

SPSS PROCESS macro Model 6 was employed to perform the mediational analyses. To test the three types of mediation effects of learner empowerment and academic engagement on the relationship between PsyCap and student burnout, a bias-corrected bootstrap estimation approach with a sample of 5000 was used. The three types of mediation effects were tested separately (see Table 4). First, the simple mediated effect of PsyCap on student burnout through learner empowerment was tested, and the effect was statistically significant as the 95% confidence interval did not contain zero (β = .09, *SE* = -.25, 95% *CI* = -.297, -.191). Second, the indirect effect of PsyCap on student burnout through academic engagement was also significant (β = .09, *SE* = -.02, 95% *CI* = -.043, -.003). Finally, the double serial mediation effects of learner empowerment and academic engagement on the relationship between PsyCap and student burnout appeared to be statistically significant (β = .01, *SE* = -.02, 95% *CI* = -.028, -.002). The statistical significance of the three indirect effects of PsyCap on student burnout indicated that mediation has occurred. However, as the direct effect of PsyCap on academic burnout remained significant, the mediation effects were partial. The summed indirect effects of PsyCap on student burnout were statistically significant (β = .28, *SE* = .03, *CI* = -.335, -.224).

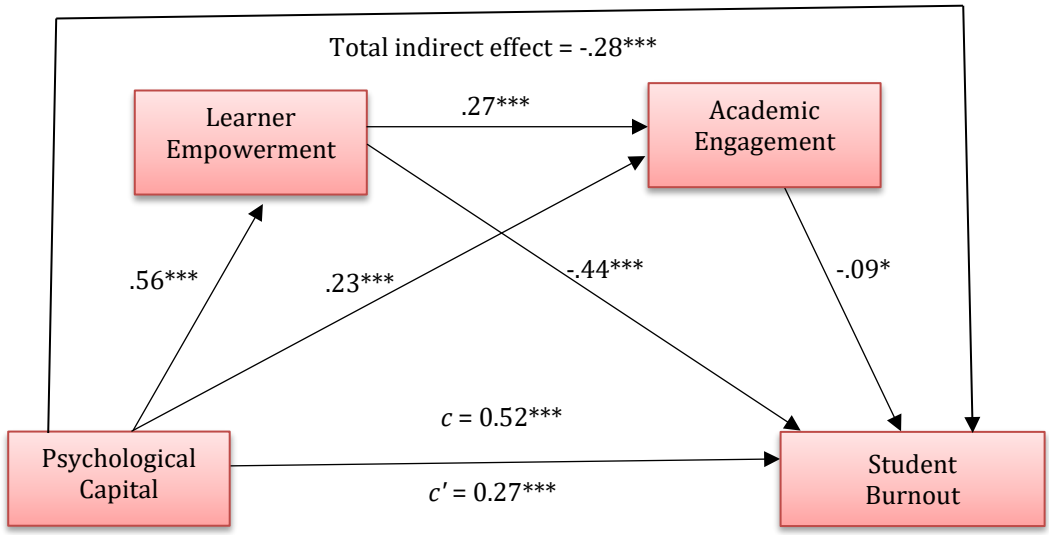

Figure 2. Depicts the Serial Mediation Effects of Learner Empowerment and Academic Engagement on the Psychological Capital-Burnout Relationship (Standardized Coefficients are Reported).

Table 4. Summary of Parameter Estimates of the Direct and Indirect Effects

Path coefficients	***β (SE)***	***SE***	**95% *CI***
Total effects			
PsyCap → student burnout	-.52***	.04	[-.654, -.497]
Direct paths			
PsyCap → student burnout	-.27***	.04	[-.353, -.179]
Indirect effects			
Total indirect effect (*Ind1* + *Ind2* + *Ind3*)	-.28	.03	[-.335, -.224]
Ind 1. PsyCap → learner empowerment → student burnout	-.25	.03	[-.297, -.191]
Ind 2. PsyCap → academic engagement → student burnout	-.02	.01	[-.043, -.003]
Ind 3. PsyCap → learner empowerment → academic engagement → student burnout	-.01	.01	[-.028, -.002]

Note. ****p* < .001; **p* < .05; *Ind1 = indirect effect 1; Ind2 = indirect effect 2; Ind3 = indirect effect 3*

Discussion

The principal objective of the study was to explore the impacts of PsyCap on student burnout mediated through serial double mediators of learner empowerment and academic engagement in college students. Regression results about the direct prediction effects reveal that PsyCap is positively linked to both learner empowerment and academic engagement and negatively related to student burnout. In addition, learner empowerment and academic engagement were inversely related to student burnout. As per the simple mediational results, learner empowerment mediated the relationship between PsyCap and burnout. Likewise, academic engagement partially mediated the linkage between PsyCap and burnout. Interestingly, the serial mediation results also revealed that learner empowerment and academic engagement are significant mediators in the relationship between PsyCap and academic burnout.

In the present study, we supported the proposed hypothesis that PsyCap would have a negative effect on student burnout (*H1*). The study suggests that students with high PsyCap experience fewer burnout symptoms. Our research outcomes align with prior scholarly investigations that have demonstrated an inverse association between psychological capital and burnout within academic contexts (Askaripoor et al., 2022; Barratt & Duran, 2021; Rad et al., 2017; Radack et al., 2022). Freudenberger described the concept of burnout as "to fail, wear out, or become exhausted by making excessive demands on energy, strength or resources" (Freudenberger, 1974, p. 159). Similarly, the Conservation of Resource Theory postulates that academic burnout results from a lack of resources that are necessary for accomplishing academic tasks. This implies that the feeling of burnout primarily stems from a lack of resources and when students no longer have enough resources to cope with their academic work, they can easily surrender to burnout. Therefore, the negative association between psychological capital and academic burnout in the academic setting might be due to the notion that psychological capital is a fundamental human psychological strength that enhances students' ability to cope with excessive academic demands. For example, when students possess qualities of efficacy and hopefulness, they can achieve their academic goals successfully. Such students tend to uphold an optimistic outlook on their educational pursuits and devise diverse strategies to materialize their academic aspirations. Moreover, students with high levels of efficacy, hope,

and optimism are more resilient in the face of excessive academic work that might potentially result in emotional exhaustion, cynicism, and personal inefficacy (F. Luthans et al., 2007). Therefore, psychological capital is a crucial asset that provides college students with the vital inner strengths to remain dedicated to their long-term academic objectives, despite facing academic difficulties and stress (Rand et al., 2020; Riolli et al., 2012; Sucan, 2019).

The present study also echoed the results of previous studies in confirming the hypotheses that PsyCap is positively related to both learner empowerment (*H2a*) and academic engagement (*H2b*). A student with a higher level of PsyCap are more tend to be highly empowered and engaged in their academic studies. As learner empowerment is conceptualized as a form of motivation, students with high psychological resources of hope, efficacy, optimism, and resilience tend to have better internal motivation for learning. The combined psychological assets of efficacy, hope, optimism, and resilience are also believed to furnish students with essential intellectual resources for the students to have higher cognitive, behavioral, and emotional engagement in their academic studies. Moreover, college students with such psychological qualities are better empowered and equipped to effectively deal with the academic hurdles they face during their college journey, qualifying them to show academic excellence and ultimately realize their academic dreams (Sweetman & Luthans, 2010). The conservation of resource theory of Hobfoll (1989) conjectures that people invest their resources toward the attainment of certain goals. In alignment with this assumption, college students might invest their psychological reservoirs of hope, efficacy, optimism, and resilience to sustain active involvement in their academic endeavors. Similarly, engagement theories suggest that the level of academic engagement hinges psychological resources at their disposal. College students who amass sufficient personal resources are more inclined to exhibit better engagement in their educational pursuits compared with those who lack such resources (Fredricks et al., 2004; Skinner & Pitzer, 2012).

The sample of the present study also supported the hypotheses that learner empowerment would positively impact academic engagement (*H3a*), whilst negatively related to student burnout (*H3b*). The findings of our study are consistent with previous studies that college students with a higher level of empowerment are more likely to actively participate in their academic studies (You, 2016) and experience a lower level of academic burnout (Manafi et al., 2022). Intrinsic motivation is an essential aspect of learner empowerment (Frymier et al., 1996) and several studies (e.g., Felaza et al., 2020; Güngör & Sari, 2022; Sharififard et al., 2016) demonstrated that intrinsically motivated students are less likely to suffer from the debilitating effects of academic burnout, and on the other hand, students with high extrinsic motivation are more tend to suffer from burnout. Besides, fulfillment of the vital psychological needs of independence, relatedness, and competence, which are conceptually associated with learner empowerment, were proven to buffer students from experiencing the detrimental effects of academic burnout, which in turn increases their academic performance (Sadoughi & Markoubi, 2018). Following the line of several previous research studies (e.g., Alves et al., 2022; Singh et al., 2021), the present study also substantiated the fourth hypothesis that students with a higher level of academic engagement are less likely to suffer from academic burnout. Students with high burnout are believed to suffer from low motivation and interest, boredom, maladaptive coping strategies, rigidity, aggression, decreased engagement, a tendency to depersonalization, and feelings of incompetence (Jagodics et al., 2023; Mikhailova & Farennikova, 2023). On the contrary, theories of engagement suggest that self-regulation, flexibility, sense of happiness and interest, lack of boredom and anxiety, conscientiousness, high level of motivation, competence, academic diligence, commitment, and persistence are among the characteristics of highly engaged students (Fredricks et al., 2004). Under this premise, it can be argued that such characteristics might prevent students from experiencing emotional exhaustion, cynicism, and feeling incompetence. Besides, when students with high engagement devote their resources to their study, they preserve more resources and the abundance of resources can result in positive emotional experience rather than emotional exhaustion and cynicism. Those abundant individual assets can also be invested to effectively cope with academic stressors.

We also confirmed the simple mediational hypotheses that PsyCap partially and significantly predicted student burnout through learner empowerment (*H5a*) and engagement (*H5b*). These Mediational results highlight that psychological capital increases students' empowerment and engagement, in turn, safeguarding students from academic burnout. Besides, these simple partially mediated effects indicate that PsyCap has both direct and indirect effects on student burnout. Finally, and interestingly, our study expected that learner empowerment and academic engagement would serially mediate the relationship between PsyCap and student burnout (*H6*), and this line of expectation was also empirically established. The synergetic effect of hope, efficacy, resilience, and optimism tended to increase the level of empowerment among college students, which in turn enhanced their engagement and ultimately appeared to experience lower levels of academic burnout. Although the literature related to the mediated effect of PsyCap and academic burnout in the academic context is significantly limited, the present study endorses the results of Wang et al. (2021) who produced evidence for the mediated effect of PsyCap on student burnout through academic engagement. This research also asserts that students with abundant psychological resources of hope, efficacy, optimism, and resilience demonstrate better academic engagement, which in turn leads to a lower level of academic burnout. Similarly, other studies validated the simple partial mediating effects of learner empowerment and student engagement on the relationship between PsyCap and learning outcomes such as engagement and academic performance (Lee & Song, 2010; You, 2016).

The mediated effects of PsyCap on student burnout can be explained within the context of various theoretical frameworks. For example, according Study Demands-Resources (SD-R) framework (Lesener et al., 2020), elevated study

demands increase the risk of student burnout and lead to negative consequences. Conversely, ample study resources serve as a significant motivational factor, fostering student engagement, alleviating burnout, and cultivating positive outcomes, including enhanced academic performance and commitment. Likewise, COR highlights that as individuals have greater access to resources, they are more likely to employ effective coping strategies when encountering demands, resulting in the accumulation of further resources (Hobfoll & Shirom, 2001). These theories suggest that the availability of abundant study resources significantly counteracts the increased demands of academic studies. In the same vein, psychological resources like hope, optimism, resilience, and self-efficacy serve as powerful motivators for college students. They function as protective factors against burnout, effectively reducing its impact by positively influencing student empowerment (motivation) and fostering academic engagement. Numerous studies highlighted PsyCap as a robust personal resource significantly contributing to students' positive educational outcomes such as academic performance, engagement, intrinsic motivation or empowerment and adjustment (Gomez-Borges et al., 2023; Li et al., 2023) while also acting as a protective factor against adverse academic experiences like stress and academic burnout (Li et al., 2023).

Conclusion

Student burnout poses a significant challenge within college and university communities. Enhancing psychological resources such as hope, efficacy, resilience, and optimism is believed to mitigate the detrimental effects of burnout. However, the precise impact of psychological capital on academic burnout remains underexplored in the current literature. Thus, this study aimed to investigate how psychological capital influences student burnout, specifically through the mediating factors of learner empowerment and academic engagement. The findings demonstrate that college students with higher levels of psychological capital experience lower levels of burnout and exhibit greater empowerment and engagement in their academic endeavors. Furthermore, learner empowerment and academic engagement were found to partially mediate the relationship between psychological capital and student burnout, highlighting both direct and indirect effects. This underscores the significant role of psychological capital in reducing emotional exhaustion, cynicism, and feelings of inefficacy among college students by fostering their engagement and empowerment. Based on these findings, the study recommends that college and university communities integrate strategies to develop psychological capital, promote learner empowerment, and enhance academic engagement to effectively address the pervasive issue of academic burnout among students.

Recommendations

The findings of the present study significantly enhance the existing literature in several key ways. First, it stands as one of the initial endeavors to comprehensively investigate the impact of PsyCap on student burnout, with mediation through learner empowerment and academic engagement, particularly within the context of college students. While a previous Chinese study (Wang et al., 2021) did establish a direct mediating effect of engagement on the PsyCap-burnout relationship, our study advances this understanding by introducing a double mediator into the equation. Furthermore, this study departs from the predominate focus on medical students in previous studies extending the application of PsyCap in preventing burnout in non-medical students such as education, engineering, and science students. Therefore, by scrutinizing the direct and indirect effect of PsyCap on student burnout mediated through empowerment and engagement in learning, our research provides a fresh framework for mitigating the devastating impact of burnout among college students. Considering these scientific implications, college communities, teachers, counselors, and parents are recommended to implement the evidence-based insights of the study in cultivating the levels of empowerment and engagement among students, through the development of PsyCap. This, in turn, can lead to a reduction in the prevalence of burnout and its adverse consequences on students. A significant characteristic of PsyCap is its dynamic and adaptable nature as a psychological resource that can be cultivated through short educational interventions like seminars, workshops, and training programs. It can be effectively harnessed to yield positive individual and organizational outcomes in different settings, including the academic setting (B. C. Luthans et al., 2012; F. Luthans et al., 2007). Hence, the present study recommends college communities and teacher educators arrange various curricular and non-curricular activities to foster empowerment and engagement of students through the development of their psychological resources of hope, efficacy, resilience, and optimism, ultimately addressing the problem of burnout. Lecturers should also integrate PsyCap activities into their regular lectures, such as reflective assignments and group projects, provide balanced feedback, and maintain accessible office hours to discuss academic and personal challenges. Parents are also recommended to encourage a growth mindset, support their children's academic and personal development, and create a home environment that reinforces the psychological resources of hope, efficacy, resilience, and optimism. College students themselves should actively engage in reflective practices, set realistic and achievable goals, participate in extracurricular activities, and take advantage of available support resources. By collectively implementing these recommendations, college lecturers, communities, parents, and students can enhance psychological capital (PsyCap), learner empowerment, and academic engagement, thereby significantly reducing student burnout.

In addition to these recommendations, we suggest several directions for future studies to extend and improve the current research. The present study focused specifically on examining the interplay between psychological capital, learner empowerment, academic engagement, and student burnout among higher education students. While these findings

provide valuable insights, it is important to consider that the dynamics of these relationships might differ across educational levels. Future research should aim to replicate this study among younger populations, including elementary, junior, and secondary school students, to explore whether the patterns observed in higher education hold true across different age groups. Further, future studies could broaden the scope of the research by incorporating other relevant psychological variables, such as motivation, academic self-concept, social support, personality, mindfulness, and coping strategies to provide a more comprehensive understanding of the factors that contribute to student burnout. Furthermore, this study was conducted within a specific cultural and educational context with a sample of domestic students. Future research should aim to replicate and extend these findings in different cultural settings, using samples of international students from diverse educational and cultural backgrounds, to evaluate the generalizability of the results. Besides, exploring other potential mediators and moderators that might impact the relationship between PsyCap and burnout is crucial. Variables such as social support, academic self-efficacy, socio-emotional intelligence, school culture, and personality traits could be investigated to provide a more nuanced understanding of the mechanisms at play. Therefore, by addressing these recommendations, future studies can build upon and improve the current research, expanding the scope and depth of understanding in the field of student burnout and psychological capital.

Limitations

Although the current research demonstrates significant strengths, it also presents several potential methodological limitations that should be considered for future investigations. The study employed a cross-sectional design in which data were collected within a short defined timeframe, suggesting that subsequent research should consider utilizing a longitudinal approach to examine the variables over an extended timeframe. Additionally, the data were collected via a self-report questionnaire, which may lead to participants exhibiting social desirability bias in their responses. Hence, future studies might adopt mixed methods of data collection to compensate for the shortcomings of self-report methods such as questionnaires. It is also crucial to recognize that the findings are derived from correlational analyses rather than experimental methods, implying that extraneous variables could have influenced the observed relationships. Further, the use of a convenience sampling strategy might have compromised the representativeness of the sample. Therefore, future studies are encouraged to employ alternative sampling techniques to enhance the representativeness of the study population.

Ethics Statement

The study received approval from Asmara College of Education. Participants provided written informed consent to participate during data collection. An informed consent paragraph was included on the first page of the questionnaire.

Conflict of Interest

We confirm that there are no known competing interests to declare.

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Authorship Contribution Statement

Gebregergis: Conceptualization, writing original manuscript draft, research design, data analysis, discussion, reviewing, proofreading; Csukonyi: Reviewing, editing, proofreading, and supervision.

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