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REVIEW

# Psychological Capital Related to Academic Outcomes Among University Students: A Systematic Literature Review

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**Abstract:** In the past two decades, several scholars from different disciplines have conducted theoretical research and practical explorations on the issue of psychological capital and achieved certain research results. Yet, few studies have synthesized the psychological capital related to academic outcomes among university students. Thus, the aim of this article is to explore how PsyCap is described in an academic context and how PsyCap and academic-related outcomes are related. A comprehensive systematic review was conducted on 43 studies between 2012 and 2022, sourced from six leading databases: Web of Science, Scopus, ERIC, PsyINFO (EBSCO), Springerlink, and ScienceDirect. Our selection criteria focused on empirical research that specifically discussed PsyCap's impact on university students' academic performance. This review identifies personal and social factors that influence the development of PsyCap in university students, such as self-esteem, motivation, gratitude, family support, and peer relationships. We found that PsyCap plays a key role in academic outcomes, including academic performance, engagement, burnout, adjustment, stress, and intrinsic motivation. Highlighting the significance of PsyCap in academic settings, our study underscores the need for further research on its relationship with student outcomes. Given the substantial influence of PsyCap on academic performance, institutions should consider incorporating psychological capital development programs into their curriculum. Such initiatives could optimize the academic achievements and holistic well-being of students.

**Keywords:** psychological capital, university students, academic performance, academic outcomes, review, ATLAS.ti 22

## Introduction

### Research Background

The idea of psychological capital (PsyCap) has garnered a lot of attention recently, particularly in non-academic settings such as organizations. It is highly effective in promoting positive outcomes within these organizations. Several studies have found that employee PsyCap can affect employee performance, well-being, job satisfaction, and commitment.[1–3] Therefore, the work of F. Luthans and colleagues[4,5] on PsyCap in organizational contexts needs to be broadened to academic settings because university students are future workers in the job market and need to be developed if they aspire to quickly adapt to the academic requirements of contemporary society. PsyCap functions as a personal resource that regulates the behaviors and thoughts of students and keeps them engaged in academic pursuits. For students, school is an essential institution with the potential to influence a variety of positive outcomes. Similarly, PsyCap provides students with vitality and stimulates their intrinsic motivation, enabling them to achieve their academic goals.[6] More recently, students are becoming more interested in making PsyCap to help them do better in school. A positive psychological state, known as PsyCap, has a favorable impact on various beneficial student outcomes, including enhanced academic achievements,[7,8] improving academic engagement,[9,10] and increased psychological well-being.[11,12] These results are relevant and essential for both researchers and educators.

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## Psychological Capital

The term "psychological capital" refers to a resource for personality traits that includes four important components: hope, self-efficacy, optimism, and resilience.[2] Each element of PsyCap influences an individual's perception of self and life goals. Hope is associated with the capacity to discover and effectively employ the means to attain one's personal goals.[13] PsyCap's second component, self-efficacy, is a person's confidence in their skills to accomplish a task or work in a sector, according to the social cognitive theory.[14] Previous research indicates that students with high levels of academic self-efficacy demonstrate high grades in their coursework and achieve high scores in standardized examinations.[15–19] Resilience is the third component of PsyCap. Resilience is an individual's positive adaptation to challenging circumstances and resistance to all types of stress in his existence.[20] Individual optimism about the future constitutes the fourth component of PsyCap. A positive outlook on life encourages perseverance in overcoming obstacles. This perspective originates from the belief that life's challenges are surmountable because their causes are not fixed and can be altered.[21] Since academic setbacks are changeable circumstances, optimistic students believe that they can be minimized in the academic context.[22]

Fred Luthans has been instrumental in developing and expanding the concept of Psychological Capital (PsyCap) primarily within organizational settings. While Luthans might not have extensively studied PsyCap in academic settings, other researchers have bridged this gap, evidencing the construct's relevance in both domains. For example, Academic PsyCap is related to several academic variables, including academic performance (as measured by GPA), fatigue, stress, learning engagement, and motivation, according to research.[23,24] PsyCap can serve as one of the antecedents for the variables listed above, as it is regarded as a valuable predictor of significant academic outcomes.[25] Multiple methods exist in which PsyCap resources can enhance academic performance. First, college students with a positive outlook and an optimistic evaluation of their prospects for success are more eager to exert the necessary perseverance and diligence to achieve their objectives. Moreover, students who believe in their abilities (self-efficacy) and are committed to succeeding are more prone to demonstrate intention and responsibility, resulting in enhanced academic achievement.[8,26,27] Second, pupils with a high PsyCap are more inclined to create a diversity of concepts and tactics for overcoming barriers and recovering from failures. By maintaining a positive mindset, these pupils have access to a greater variety of resources and can widen their perspectives, physical resources, social resources, and psychological resources that can enhance their performance. As a result, while each component predicts significant academic outcomes separately when all four elements combine to form PsyCap, they have a synergistic effect that has a higher impact on performance than any one variable alone.[2] Empirical studies have shown that PsyCap has a positive effect on academic outcomes, such as academic performance (ie, grades),[26,28,29] students' psychological well-being,[11,12] student engagement,[30–32] and academic adjustment.[33,34]

## Research Questions

Over the years, numerous studies have affirmed the link between psychological capital and students' academic achievement. However, comprehensive, holistic, and systematic reviews that summarize the achievements of the past decades and identify prospective research needs are still lacking. Given this knowledge deficit, the aim of this systematic review is to provide an exhaustive and up-to-date (2012–2022) overview of the empirical knowledge of psychological capital and its relationship to academic outcomes for university students. The research question is:

> What is the current state of empirical knowledge regarding the relationship between PsyCap and academic outcomes among undergraduates, based on international, peer-reviewed English-language journals published from 2012 to 2022?

This question is broken into three sub-questions:

RQ1. What are the key research trends in positive psychological capital among college students' academic-related outcomes from the year 2012 to 2022?

RQ2. On what key themes and pressing issues do extant literature focus?

The research has tried to explain how PsyCap and academic-related outcomes are related. This paper's remaining sections follow this format: Methodology outlines the research design and describes the structured procedure that was

utilized to identify and narrow down the literature for review based on predefined evaluation criteria. Results presents the results and provides a comprehensive analysis of the descriptive statistics and identified themes. Discussion examines the gaps that exist within the current literature, proposes potential areas for future research, and discusses the research implications. Finally, Conclusion offers conclusions.

# Methodology

This study follows a systematic literature review (SLR) approach, which ensures that future scholars can replicate the research findings of the SLR. To respond to the research question, we conducted a literature review, which included searching and analyzing preliminary data collected from databases relevant to the study. The systematic review of the literature was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.[35] (PROSEPRO) on the 3rd May 2023: CRD42023416151.

## Search Strategy and Data Source

We use the electronic databases Web of Science (WOS) and Scopus, ERIC, PsyINFO (EBSCO), Springlink, and ScienceDirect to search the included articles in January 2023 and updated in March 2023. The terms "psychological capital" "academic performance" "academic achievement" "study-related outcomes" and "academic outcomes" were mixed with other terms related to PsyCap and academic outcomes. The objective of this review is to synthesize psychological capital related to academic outcomes among university students. Different keywords were adopted: (1) academic achievement, academic success; academic performance student outcome; college success (2) psychological capital, PsyCap. The keywords were matched through the Boolean operators AND or OR. A string was adopted in four databases (Table 1). To ensure the assessment was comprehensive, we also used backward and forward snowball search techniques.[36] The six focal databases were then mined for a total of 1259 articles.

## Inclusion\exclusion Criteria for Studies

Based on the research topic, inclusion and exclusion criteria were established to provide a thorough knowledge of PsyCap in college students' study-related results. To be included in the review, a paper first had to meet the related criterion; that is, academic outcomes of psychological capital among college students in an educational context. The inclusion criteria were: 1) English-language empirical research that was peer-reviewed journal; 2) The article included a discussion of academic outcomes of psychological capital among college students in an educational context. The excluded criteria were 1) An "essay, book review, letter, opinion or anecdotal article" was the category of the publication; 2) a non-relevance, and population sample consisting of adults, primary and secondary school students, schoolteachers, workplace staff, and students with diseases.

## Data Extraction

Firstly, 1259 manuscripts were kept in Endnote X9, and 442 duplicates were removed. A total of 156 were removed the cause of not being published between 2012.1 to 2022.12 and the language is not using English. Secondly, two independent authors screened the articles with the eligibility criteria based on the title, abstract, and keywords, 694 articles were removed. After a full-text inspection, 43 articles published between 2012 and 2022 were selected for

**Table 1** Search String

| Search Builder | Search String |
|---|---|
| Psychological capital | "Psychological capital" OR "Psycap" |
| Academic-related outcomes | "Academic achievement" OR "academic performance" OR "academic success" OR "school success" OR "educational success" OR "school learning" OR "Educational Status" "Achievement" OR "Learning" NOT "specific learning disorder*" OR "learning disorder*" OR "Specific Learning Disorder" OR "Learning Disorders" |
| Context | "Higher education" OR "academic context" OR "post-secondary education" OR "college" |

qualitative synthesis. The PRISMA flowchart (Figure 1) reports the number of articles included and excluded in each step. Results and management were carried out using Microsoft Office software such as Excel and Word. EndNote X9 was used to edit and organize the bibliography.

## Quality Assessment

The Crowe Critical Appraisal Tool (CCAT) developed by Crowe was utilized to assess the research quality that was included. The CCAT tool is relevant in this review because it enables the evaluation of a wide variety of research designs, including quantitative, qualitative, and mixed-method studies. This is important because the types of study designs used in this review are heterogeneous. In addition, it offers a high level of dependability.[37,38] The CCAT (Critical Appraisal Tool) we used consisted of eight categories of items (Introduction, Background, Methods, Sampling, Data Collection, Ethics, Results, and Discussion), with each category item receiving a score of 5 out of a possible 5, and 40 is the total score. (See Supplementary Table 1) The CCAT User's Guide contains comprehensive scoring instructions and references for each category item[39] (See Supplementary Table 2).

## Synthesis and Analysis of Results

For analysis, 43 articles in total were uploaded to ATLAS.ti 22. And using ATLAS.ti 22 for literature review analysis introduced by Zairul.[40] Each article was categorized by the author, journal name, journal number, publisher, and year of

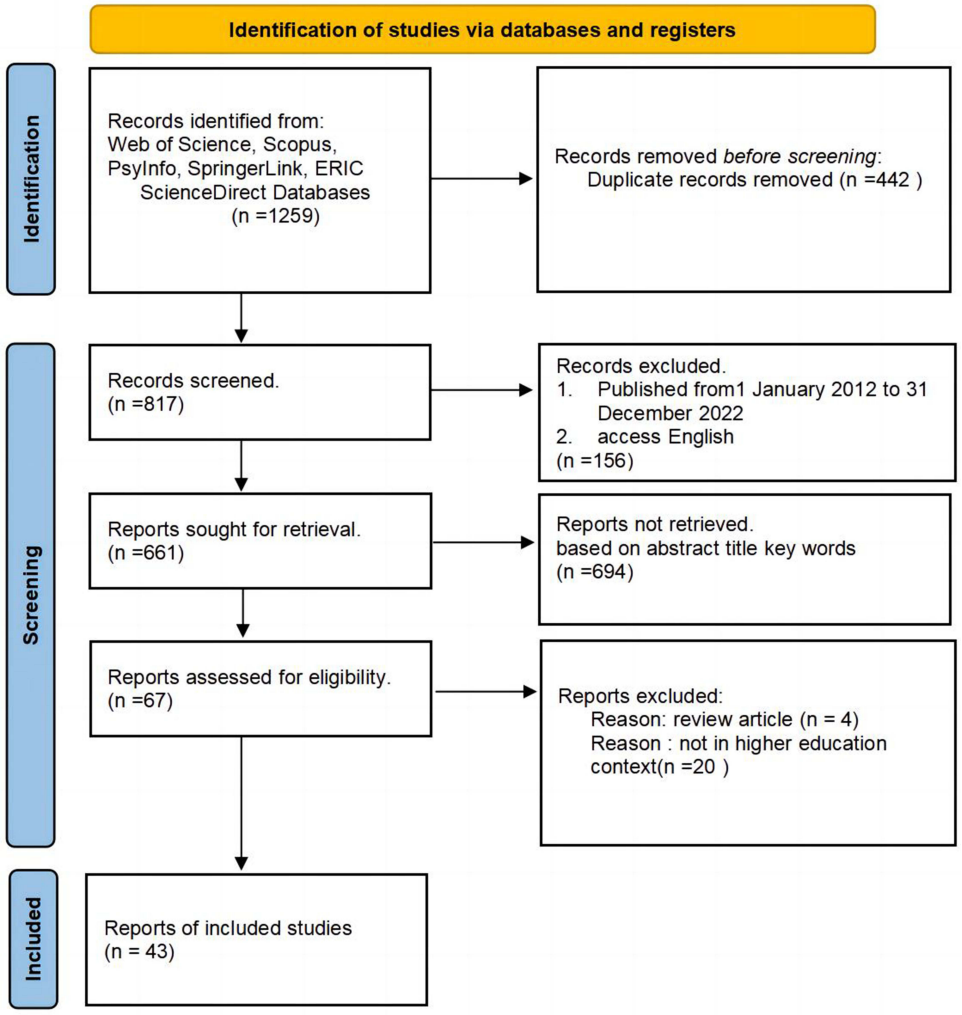


**Figure 1** PRISMA flow diagram.
**Notes**: PRISMA figure adapted from Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. Creative Commons.[35]

publication. Quantitative and qualitative findings are presented in this paper. The quantitative section focuses primarily on the regional, journal, and national distribution of academic research articles. In the section on qualitative data analysis, the primary method employed was thematic analysis, which was used to classify and summarize the articles and ultimately construct the framework while ensuring that the framework and data were linked.[41] This method involves coding, categorizing, and refining themes extracted from raw data.[42] The present research follows the 6-step framework outlined by Clarke & Braun.[42] The subsequent steps are as follows: 1) familiar with the data, 2) generate codes, 3) find themes, 4) review themes, 5) define themes, and 6) explain themes.

We began the thematic analysis by immersing ourselves in the data and gaining familiarity with the content of the articles about the research question. In the subsequent two steps, we initially assigned codes to the articles based on general themes, using an inductive method that allowed themes to develop from specific observations in the empirical studies. This involved focusing on key aspects of the articles, such as the author, publication year and country, the purpose of the study, study design, and study conclusions, and extracting recurring subject terms. Firstly, we reviewed all established themes and sorted out any overlaps or strongly interrelated themes. In the fifth step, we merged and defined all the shortlisted themes, continuously revising them until all sub-themes were grouped under the main theme. In the final step, we refined and defined the themes further, with the first two authors reaching a consensus on each theme through discussion and consideration of its connection to the research question. If there were any disagreements, a third author was consulted. After reviewing and validating the initial codes, we proceeded to identify and refine the themes. The resulting set of themes and their analysis are presented in the following section. Through an iterative process, we categorized the initial codes into broader subjects and had discussions among the authors, which led to the identification of: present the antecedents (ie, what influences PsyCap) and consequences (ie, what does PsyCap produce students' related outcomes) and their roles in academic outcomes among university students (ie, does PsyCap play mediate /moderate role?).

# Results

To aid in our understanding, the writers separately categorized the chosen journal articles into categories based on their themes. By year, location, journal, research goals, methodology, and important findings, the selected publications were examined. The distribution of psychological capital and CCAT scores among college students is described in detail in Table 2.

## Contexts and Characteristics of the Studies

As presented in Figure 2, among the 43 articles selected for systematic review, 2 articles were published in 2015 and 2016 respectively, and 5 were published in 2017, the number of journal articles published on psychological capital related to academic outcomes among university students keeps increasing from 2018 to 2022. The increase in the quantity of literature is indicative of the pervasive interest in the application of PsyCap in higher education.

By highlighting the scope of journals publishing such studies, the increasing academic interest in the field is further emphasized. These 43 articles were published in 36 different journals, with 32 journals having only one article and three journals having only two articles. Among them, "Frontiers in Psychology" had five articles, ranking first among all journals (see Supplementary Material). Researchers from various nations have contributed to the study of PsyCap of graduate students and its impact on academic outcomes based on data retrieved over the past decade. Eighteen countries have participated in research on the academic application of psychological capital. The countries with the highest quantity of published papers are displayed in Figure 3. The United States and China published the most papers, followed by Portugal (four), Pakistan, and India (three each). China (Taiwan), Indonesia, Malaysia, Romania, and Spain had 2 papers each. The following observations can be made from the graph: Developed nations have a greater publication capacity than developing and underdeveloped nations. The publication records of all nations are comparatively low, although they have risen over the past two years. This suggests that each nation should invest more in the PsyCap of its college students, primarily through scientific research. Academic interest in this subject has increased consistently over the past decade (2012–2022). By emphasizing the variety of journals publishing such studies, the growing academic interest in this field is emphasized further.

**Table 2** The Characteristics and CCAT Scores of the 43 Studies

| No. | Authors (Year) Country | Title | Aim(s) | Participant Characteristics | Variables Independent Variable (IV) Mediator Variable (MED) Moderator Variable (MOD) Dependent Variable (DV) | Main Findings | CCAT Scores |
|---|---|---|---|---|---|---|---|
| 1 | Sharma (2022)[28] India | Role of emotional intelligence and psychological capital in competitive exam success | To find the association between emotional intelligence, PsyCap, and competitive exam results | 426 schoolteachers | Emotional Intelligence (IV): Emotional Intelligence Scale EIS<br>PsyCap (IV): Naik and Khan in 2008 and consists of 26 items<br>Competitive Exam Success (DV): Five coaching institutes of competitive exams from Jaipur | Results indicated that PsyCap may have a more important role than emotional intelligence in competitive exam success | 33 |
| 2 | Kirikkanat (2018)[43] Turkey | A path analysis model pertinent to undergraduates' academic success: Examining academic confidence, Psycap, and academic coping factors | To create a path analysis model of academic success in a group of university students | 400 undergraduates who were in their sophomore, junior and senior years: | Academic Confidence (IV): Turkish version (Kirikkanat & Soyer, 2015)<br>PsyCap (IV): The Psychological Capital Test Battery<br>Academic Coping (MED): adapted version (Kirikkanat & Soyer, 2016)<br>Academic Success (DV): GPA score | Results indicated that academic confidence and PsyCap had pivotal direct and indirect effects on academic success via the mediator variable – academic coping | 36 |
| 3 | Noviati (2017)[31] Indonesia | Psychological Capital, Technology and Media Usage, Student Engagement, and Performance Academic: Empirical Study on University Students | To examine empirically the correlation between student PsyCap, technology usage, student engagement, and performance academic | 198 students | PsyCap (IV): (S-PCQ)<br>Technology-media usage (IV): MTUAS from Rosen, Whaling, Carrier, Cheever, and Rokkum26 40-item statement<br>Student engagement (MED): OSE (Online Student Engagement Scale) from Dixson27, 18-item statement<br>Performance academic (DV): (GPA) | The analysis showed that student PsyCap has a direct impact on student engagement, while the technology-media usage does not function as a mediation variable between student PsyCap and student engagement. Furthermore, student PsyCap also has an indirect influence on (GPA) | 34 |
| 4 | Jafri (2017)[6] India | Understanding the Influence of Psychological Capital on Student Engagement and Academic Motivation | To examine the influence of PsyCap on the engagement and motivation of college students | 230 commerce and business students 17 and 23 years | PsyCap (IV): The PsyCap Questionnaire (PCQ) developed by Luthans et al, (2007) is used to assess student's PsyCap.<br>Student's Engagement (DV): scale adapted from the work of Krause and Coates (2008).<br>Academic Motivation: Academic Motivation Scale (AMSC) developed by Vallerand et al, (1992) | Results indicated that significant influence of PsyCap on student's engagement and on their motivation | 38 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | Sava (2020)[44] Romania | The Role of Teacher Support, Students' Need Satisfaction, and Their Psychological Capital in Enhancing Students' Self-Regulated Learning | To investigate the explanatory role of PsyCap, as a personal resource, over and above teacher support and needs satisfaction, about students' preference for self-regulating their learning | 236 first-year students of psychology | Teacher Support (IV)<br>Students Need Satisfaction (IV):<br>PsyCap (IV): Students' PsyCap was measured with a 24-item PsyCap Questionnaire<br>Students' Self-regulated Learning (DV):<br>Motivated Strategies for Learning Questionnaire (MSLQ – Pintrich & de Groot, 1990) | Results indicated that PsyCap has an important role, over teacher support and the need for competence satisfaction, in the explanation of the student's preference for self-regulating their learning | 37 |
| 6 | Adil (2020)[45] Pakistan | Impact of academic psychological capital on academic achievement among university undergraduates: Roles of flow and self-handicapping behavior | To explore the mediating roles of flow and self-handicapping behaviors in the relationship between academics and academic achievement | 300 university undergraduates | PsyCap (IV): Student Approaches to Learning Scale<br>Flow (MED): Flow Short Scale<br>Self-handicapping behaviors (MED): Self-handicapping Scale Revised (Midgley, Arunkumar, and Uran, 1996)<br>Academic Achievement (DV): CGPA | Results indicated the positive direct effects of academic PsyCap and flow and the negative effect of self-handicapping behaviors on academic achievement. Both flow and self-handicapping behaviors demonstrated a parallel mediation between academic PsyCap and CGPA | 36 |
| 7 | Lisnyj (2022)[46] Canada | Examining the influence of human and psychological capital variables on post-secondary students' academic stress | To examine the influence of human and PsyCap variables on the reporting of stress affecting Canadian post-secondary students' academic performances | 58 Canadian post-secondary institutions from 55,284 respondents | PsyCap (IV): NCHA-II surveys academic stress (DV): The NCHA-II survey question | Results indicated that all human capital and PsyCap variables included in our study were statistically significant | 36 |
| 8 | Poots (2020)[11] United Kingdom | Academic expectation, self-compassion, psychological capital, social support, and student wellbeing | To explore the relationship between academic stress and wellbeing | 258 university students (50 males and 208 females), aged 18–39 years old | Academic Stress (IV): The Academic Expectation Stress Inventory (AESI) (Ang & Huan, 2006)<br>Self-compassion (MED): Self-Compassion Scale- Short Form<br>PsyCap (MED): Brief Resilience Scale (BRS) Hope Scale; The Revised Life Orientation Test; General Self-Efficacy scale (GSE)<br>Social Support (MED): Multidimensional Scale of Perceived Social Support<br>Student Well-being (DV) | Results indicated that self-compassion, PsyCap, and social support mediate the relationship between academic stress and well-being. | 34 |

(*Continued*)


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**Table 2** (Continued).

| No. | Authors (Year) Country | Title | Aim(s) | Participant Characteristics | Variables Independent Variable (IV) Mediator Variable (MED) Moderator Variable (MOD) Dependent Variable (DV) | Main Findings | CCAT Scores |
|---|---|---|---|---|---|---|---|
| 9 | Li (2022)[47] China | Parent-Child Relationships and Academic Performance of College Students: Chain-Mediating Roles of Gratitude and Psychological Capital | To explore the effects of parent–child relationships on their academic performance. In addition, we investigated the chain-mediating roles of gratitude and PsyCap | 417 Chinese college students | Parent-Child Relationship (IV): the questionnaire of college students' parent-child interaction to measure their parent-child relationships (Wang et al, 2017)<br>Gratitude (MED): The Adolescent Gratitude Scale (AGS) (He et al, 2012)<br>PsyCap (MED): PsyCap scale (Wang et al, 2011)<br>Academic Performance (DV): College Students' Academic Performance Scale (Wang et al, 2011) | Results indicated that the parent–child relationship not only directly affects the academic performance of college students but also indirectly affects it through the chain mediation of gratitude and PsyCap | 35 |
| 10 | Ramirez-Perez (2022)[48] Chile | The relationship between academic psychological capital and academic coping stress among university students | To explore if the Academic PsyCap is positively related to Academic coping stress strategies in university students | 102 Chilean university students from public and private institutions | PsyCap (IV): PCQ-12<br>Academic Coping Stress Strategies (DV): coping scale of academic stress questionnaire | Results indicated a positive and significant relationship between Academic PsyCap and Coping with academic stress | 37 |
| 11 | Liu (2015)[49] China | Negative life events and school adjustment among Chinese nursing students: The mediating role of psychological capital | The potential impact of negative life events on PsyCap, and whether PsyCap mediates the relationship between negative life events and school adjustment among nursing students have not been studied | 643 five-year nursing students | Negative Life Events (IV): ASLEC (Liu et al, 1997)<br>PsyCap (MED): PCQAS<br>School Adjustment (DV): The scale has 60 items (Fang et al, 2005) | Results indicated that negative life events may increase the risk of school maladjustment in individuals with low PsyCap | 35 |
| 12 | Raza (2020)[50] Pakistan | The influence of psychological, motivational, and behavioral factors on university students' achievements: the mediating effect of academic adjustment | To explore and examine the fundamental role of academic adjustment for the success of students by considering the influence of several psychological, motivational, and behavioral factors | 409 students enrolled in a business degree program | PsyCap (IV): Liran and Miller (2019), a total of six items for each factor of psychological capital<br>Motivational Factors (IV): three items for motivational factors Shia (2013)<br>Behavioral Factors (IV): self-regulated study behavior<br>Academic Adjustment (DV)<br>Students' Academic (DV): GPA | Results indicated that academic adjustment is affected by psychological, motivational, and behavioral factors and in turn influences the outcomes of success | 38 |

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|---|---|---|---|---|---|---|---|
| 13 | Virga (2022)[10] Romania | How psychological capital is related to academic performance, burnout, and boredom? The mediating role of study engagement | To examine the relationship between PsyCap and engagement | 420 university students (242 responses from India and 178 from Romania) | PsyCap (IV): the 24-item PsyCap Questionnaire (Luthans et al, 2007)<br>Study Engagement (MED): 17-item student version of the Utrecht Work Engagement<br>Academic Performance (DV): (CGPA)<br>Burnout (DV): Maslach Burnout Inventory for Students Boredom (DV): Utrecht Boredom Scale | Results indicated that study engagement partially mediates the relation between PsyCap and academic performance, and also between PsyCap and burnout or boredom | 35 |
| 14 | Zhang (2020)[51] China | Analysis of Influences of College Students' Psychological Capital on Entrepreneurial Learning Engagement | To analyze the influencing factors of the PsyCap dimension in college students' ELE | 211 College students | PsyCap (IV): PC questionnaires<br>Positive Emotions (PEs) (MED)<br>Positive and Negative Affect Schedule (PANAS) revised by Qiu Xue in this research (Dunn et al, 2020)<br>Entrepreneurial Learning Engagement (ELE) (DV):17 subjects in the Utrecht Work Engagement Scale (UWES) | Results indicated that the PC of college students has a significant positive influence (PI) on ELE, with no mediating effect of PEs in the relationship between PC and college students' ELE | 32 |
| 15 | Liran (2019)[52] Israel | The Role of Psychological Capital in Academic Adjustment Among University Students | To investigate the potential of PsyCap as a resource for academic adjustment | 250 BA students | PsyCap (IV): modified Hebrew version of the questionnaire of Luthans et al (2007a, b)<br>Academic Adjustment (DV): a modified version of the Students Adaptation to College Questionnaire (SACQ) | Results indicated that PsyCap is a positive resource with a central role in students' academic adjustment | 36 |
| 16 | Slatten (2023)[53] Norway | The relationship between students' psychological capital, social-contextual factors, and study-related outcomes - an empirical study from higher education in Norway | To examine the relationships between students' PsyCap, social-contextual factors, and study-related outcomes | 588 bachelor's students | PsyCap (IV): Items for PsyCap were based on Luthans et al (2007b)<br>Social-contextual factors (Academic support and Peer Support) (IV)<br>Study-related outcomes (DV) (Study engagement, Academic performance, Student well-being) | Results indicated that PsyCap is directly related to the three study-related outcome variables | 36 |

(*Continued*)


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**Table 2** (Continued).

| No. | Authors (Year) Country | Title | Aim(s) | Participant Characteristics | Variables Independent Variable (IV) Mediator Variable (MED) Moderator Variable (MOD) Dependent Variable (DV) | Main Findings | CCAT Scores |
|---|---|---|---|---|---|---|---|
| 17 | Adil (2021)[45] Pakistan | The mediating role of self-handicapping behaviors between academic Psychological Capital and academic performance among University students | To explore the mediating role of self-handicapping behaviors between academic PsyCap and academic performance | 300 students of BS Honor (4-year program) and MSc (2-year program) | PsyCap (IV): the Perceived self-efficacy subscale from Student Approaches to Learning Scale, Life Orientation Test-Academics Scale, Academic Hope Scale, and Academic Resilience Scale.<br>Self-handicapping behaviors (MED): Self-handicapping Scale Revised (Urdan & Midgley, 2001)<br>Academic performance (DV): reported CGPAs of participants | Results indicated positive direct effects of academic PsyCap. Self-handicapping behaviors mediated between academic PsyCap and CGPA | 34 |
| 18 | Luthans (2022)[54] USA | Character matters: The mediational impact of self-regulation on PsyCap and academic performance | To propose an integrative framework in which the effect of PsyCap on academic performance is best understood when considered in conjunction with the character strength of self-regulation | 128 undergraduate business students | PsyCap (IV):24-item Psychological Capital Questionnaire (PCQ) originally validated by Luthans, Avolio et al (2007)<br>Self-regulation (MED): Character Strengths Inventory (CSI), Wright et al (2017) was utilized<br>Academic performance (DV): GPA | Results indicated that self-regulation partially mediates the relationship between PsyCap and GPA | 32 |
| 19 | da Costa (2021)[55] Portugal | Developing psychological capital and emotional intelligence in higher education: A field experiment with economics and management students | To examine the effectiveness of an educational intervention built upon the experiential learning model and positive psychology and how EI influences PsyCap and how both affect students' academic performance measured by self-reported grade point average (GPA) | 475 students | PsyCap (IV): four-dimensional 24-item PCQ questionnaire was used, by Luthans, Youssef, and Avolio (2007) and adapted to the academic domain (Luthans et al, 2014)<br>Emotional Intelligence (EI) (IV): overall EI translated and adapted locally by Rego and Fernandes (2005)<br>Students' academic performance (DV): GPA | Results indicated the effectiveness of the educational intervention in increasing management students' PsyCap and further influencing academic performance; however, the intervention was less effective in increasing students' overall EI | 33 |
| 20 | You (2016)[56] Korea | The relationship among college students' psychological capital, learning empowerment, and engagement | To test the impact of PsyCap on students' learning in an academic context | 490 College students | PsyCap (IV):17 items from Yoo (2004), developed based on Luthans, Avolio et al (2007)<br>Learning Empowerment (MED): three subscales were used by Frymier et al (1996)<br>Engagement (DV): He's (2009) scale | Results indicated that college students' PsyCap had a significant positive relationship with learning empowerment, and learning empowerment fully mediated the relationship between psychological capital and engagement | 38 |

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|---|---|---|---|---|---|---|---|
| 21 | Hicks (2015)[57] Australia | Psychological Capital as Mediator between Adaptive Perfectionism and Academic Procrastination | To examine PsyCap as a positive mediator between adaptive perfectionism and procrastination in an academic setting | 154 students, from several Australian universities | Adaptive Perfectionism (IV): The 35-item Frost Multidimensional Perfectionism Scale<br>Psycap (MED): Luthans and associates and involves four characteristics - confidence in meeting challenges<br>Academic Procrastination (DV): The 6-item passive procrastination subscale (PPS) of the total 18-item Active Procrastination Scale | Results indicated that PsyCap as a positive mediator between adaptive perfectionism and procrastination in an academic setting was examined with results supporting the mediation effect | 31 |
| 22 | Geremias (2022)[58] Portugal | Psychological Capital Profiles and Their Relationship with Internal Learning in Teams of Undergraduate Students | To analyze the relationship between PsyCap profiles and internal learning in teams | 480 undergraduate students | PsyCap (IV): the 24-item questionnaire adapted for research in the educational context by Luthans et al (2012)<br>Internal Learning in Teams (DV): the scale adapted by Bresman and Zellmer-Bruhn (2013). | Results indicated that exhibited also the highest scores of internal learning in teams. (Profile 1- Empty PsyCap) presented the lowest scores of internal learning in teams | 32 |
| 23 | Saman (2021)[59] Indonesia | Examining the impact of psychological capital on academic achievement and work performance: The roles of procrastination and conscientiousness | To investigate the effect of PsyCap on students' academic achievement and employees' performance through procrastination | 1670 university students | PsyCap (IV): PsyCap Questionnaire (PCQ) is a measure of PsyCap (Luthans et al, 2007)<br>Procrastination (MED): Procrastination scale developed by Tuckman (1991) Conscientiousness (MOD): Big Five Inventory Academic Achievement Work Performance for Employees (DV): The employees' work performance was measured using the Individual Work Performance (IWP) scale (Koopmans et al, 2014) | Results indicated that the students' PsyCap had a negative direct impact on academic procrastination, but procrastination did not significantly impact students' cumulative Grade-Point Average (GPA) | 35 |
| 24 | Xu (2022)[60] China | The Relationships of Creative Coping and College Students' Achievement Emotions and Academic Stress: The Mediating Role of Psychological Capital | To explore the relationships between college students' creative coping and their achievement emotions and academic stress as well as the underlying mechanism | 780 Chinese college students | Creative Coping (IV): The 10-item simplified version (CCS-10) of the Creative Coping Scale-19 (CCS-19)<br>PsyCap (MED): The Positive PsyCap Questionnaire (PPQ)<br>Achievement Emotions (DV): Questionnaire (AEQ-S) Academic Stress (DV): The Learning Stress Inventory for College Students (Tian and Deng 2007) | Results indicated that PsyCap played a mediating role in the relationship between creative coping and achievement emotions and in the relationship between creative coping and academic stress with a suppression effect | 31 |

(*Continued*)


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**Table 2** (Continued).

| No. | Authors (Year) Country | Title | Aim(s) | Participant Characteristics | Variables Independent Variable (IV) Mediator Variable (MED) Moderator Variable (MOD) Dependent Variable (DV) | Main Findings | CCAT Scores |
|---|---|---|---|---|---|---|---|
| 25 | Sweet (2020)[61] USA | Academic Psychological Capital: A Novel Approach to Freshmen Retention | To explore the relationship of PsyCap and retention of four cohorts of freshmen | 2015 a 75% (N ¼ 1627). 2016 a 76% response rate (n ¼ 388) 017 an 89% response rate (n ¼ 496) 2018 a 61% response rate (n ¼ 355) 2019 an 85% response rate (n ¼ 388). | PsyCap (IV): The Psychological Capital Questionnaire (PCQ) (Luthans et al, 2007) Freshmen to sophomore retention (DV): freshmen to sophomore year attrition | Results indicated that PsyCap, hope, and self-efficacy are predictors of freshmen to sophomore retention | 32 |
| 26 | Chaffin (2023)[62] USA | Integrity, positive psychological capital, and academic performance | To examine the mediating role of psychological capital (ie, PsyCap) in the relationship between integrity and academic performance | 179 undergraduate business students | Integrity (IV): Wright et al (2017) developed an 8-item integrity subscale of the Character Strengths Inventory (CSI) PsyCap (MED): Luthans et al (2007a) a 24-item Psychological Capital Questionnaire (PCQ) Students' academic performance (DV): GPA | PsyCap plays in translating a student's integrity toward behaviors that lead to higher levels of academic performance | 36 |
| 27 | Lin (2020)[63] Taiwan | The Interrelationship Among Psychological Capital, Mindful Learning, and English Learning Engagement of University Students in Taiwan | To investigate the interrelationship of PsyCap and mindful learning for English learning engagement and the possible path from PsyCap to English learning engagement with mindful learning as the mediator for university students in Taiwan | 253 students | PsyCap (IV): four subscales, for measuring PsyCap were adapted from Yu et al's (2012) Mindful Learning (MED): Chen and Yu (2017) based on the Langer Mindfulness Scale (Pirson et al, 2012) was used English Learning Engagement (DV): Student Course Engagement Questionnaire (SCEQ; Handelsman et al, 2005) | Results indicated that PsyCap predicted mindful learning, mindful learning predicted English learning engagement and a complete mediation existed with mindful learning as the mediator between PsyCap and English learning engagement | 32 |
| 28 | Chen (2023)[64] Taiwan | The Mediating Effects of Psychological Capital and Academic Self-Efficacy on Learning Outcomes of College Freshmen | To investigate the relationship between past and present learning experiences of first-year college students and of how the PsyCap and academic self-efficacy they had accrued from past learning experiences were correlated with their current learning engagement | 634 first-time, full-time, degree-seeking entering students | Past Learning Experiences of First-Year College Students (IV) PsyCap (MED): PsyCap is conceptualized as comprising four components: self-efficacy, hope, optimism, and resilience Academic Self-Efficacy (MED): the academic self-efficacy scale Current Learning Engagement (DV) | Results indicated that PsyCap and academic self-efficacy functioned as mediators between students' past learning experiences and present learning engagement | 36 |

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|---|---|---|---|---|---|---|---|
| 29 | Qiu (2023)[65] China | The influence of family socioeconomic status on learning engagement of college students majoring in preschool education: The mediating role of parental autonomy support and the moderating effect of psychological capital | To explore the relationship between family socio-economic status and learning engagement of college students majoring in preschool education, as well as the mediating role of parental autonomy support and the moderating role of PsyCap | 986 College students | Family Socio-Economic Status (IV)<br>Parental Autonomy Support (MED)<br>PsyCap (MED)<br>Learning Engagement of College Students (DV) | Results indicated that the relationship between parental autonomy support and learning engagement was moderated by PsyCap, and students with high psychological capital had higher learning engagement | 38 |
| 30 | Sanchez-Cardona (2021)[66] USA | Learning goal orientation and psychological capital among students: A pathway to academic satisfaction and performance | To explore the mediating role of PsyCap in the association between learning goal orientation (LGO), academic satisfaction, and performance among college students | 768 College students | Learning Goal Orientation (LGO) (IV): four items adapted and translated to Spanish from the 13-item goal orientation scale developed by Vandewalle (1997)<br>PsyCap (MED): short version (12 items) of the Psychological Capital Questionnaire (PCQ) (Martínez, Meneghelet al, 2019)<br>Academic Satisfaction Academic Performance (DV): four-item scale (Ortega-Maldonado & Salanova, 2018) | Results indicated that LGO was directly related to academic satisfaction and performance and indirectly related through PsyCap | 37 |
| 31 | Rad (2017)[67] Iran | Psychological Capital and Academic Burnout in Students of Clinical Majors in Iran | To investigate the relationship between PsyCap and academic burnout in medical students in Iran | 172 medical students | Psychological Capital (PsyCap) (IV): PsyCap was measured with the PCQ-24, which comprises four subscales<br>Academic Burnout (DV):<br>Bresó et al questionnaire on academic burnout | Results indicated that a relationship between students' academic burnout and their PsyCap | 36 |
| 32 | Luthans (2016)[32] USA | A positive approach to management education the relationship between academic PsyCap and student engagement | To examine the relationship between the positive psychological strengths of undergraduate business students | 323 undergraduate business students | PsyCap (IV):24-item PCQ measure developed by Luthans et al (2007a, b)<br>Student Engagement (DV): Carle et al (2009) using items drawn from the NSSE | Results indicated that significant positive relationships between the academic PsyCap and their levels of student-faculty engagement, community-based activities, and transformational learning opportunities | 37 |
| 33 | Ortega-Maldonado (2018)[68] Spain | Psychological capital and performance among undergraduate students: the role of meaning-focused coping and satisfaction | To explore the predictive relationships between PsyCap, meaning-focused coping, satisfaction, and performance among undergraduate students | 682 College students from 29 different academic programs | PsyCap (IV): Psychological Capital Questionnaire (PCQ-12) (Avey, Avolio, and Luthans 2011; Luthans et al 2008)<br>Meaning-Focused Coping (MED): Brief COPE inventory adapted to the academic context<br>Satisfaction (MED): measured with a four-item scale<br>Performance (DV): Grade Point Average (GPA) | Results indicated that PsyCap was directly related to performance, and indirectly related to performance through meaning-focus coping and satisfaction. PsyCap was directly associated with satisfaction | 36 |

(*Continued*)



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**Table 2** (Continued).

| No. | Authors (Year) Country | Title | Aim(s) | Participant Characteristics | Variables Independent Variable (IV) Mediator Variable (MED) Moderator Variable (MOD) Dependent Variable (DV) | Main Findings | CCAT Scores |
|---|---|---|---|---|---|---|---|
| 34 | Wang (2021)[30] China | The mediating effect of academic engagement between psychological capital and academic burnout among nursing students during the COVID-19 pandemic: A cross-sectional study | To describe academic burnout and clarify the relationships between academic burnout, academic engagement, and PsyCap | 733 nursing students | PsyCap (IV): The positive psychological capital scale (PPCS)<br>Academic Engagement (MED): the 17-item academic engagement scale (AES)<br>Academic Burnout (DV): The academic burnout scale (ABS) was developed by Maslach and Goldberg (1998) and modified by Lian et al (2005) | Results indicated that academic engagement and psychological capital were negatively correlated with academic burnout; PsyCap was positively correlated with academic engagement | 36 |
| 35 | Luthans (2019)[24] USA | Refining grit in academic performance: The mediational role of psychological capital | To explore the mediational role that PsyCap may play in the relationship between grit and student academic performance | 176 of business students | Grit (IV): the validated 8-item Short Grit Scale (Duckworth & Quinn, 2009)<br>PsyCap (MED): the 24-item PsyCap Questionnaire originally<br>Academic Performance (DV): GPA | Results indicated that PsyCap largely mediates the relationship between their grit and grade point averages | 36 |
| 36 | Chua (2018)[69] Malaysia | Mitigating academic distress: The role of psychological capital in a collectivistic Malaysian university student sample | To examine PsyCap as the adaptive ability to academic stress | 183 students from a university in Malaysia | PsyCap (IV): a24 items which encompass the following four factors<br>Academic Distress (MOD): Academic Distress Scale and Academic Eustress Scale.<br>Academic Performance (DV): GPA | Results indicated that PsyCap was found to mitigate the influence of academic distress on academic performance but not on the influence of academic eustress on academic performance | 32 |
| 37 | Martinez (2019)[8] Spain/ Portugal | Antecedents of academic performance of university students: academic engagement and psychological capital resources | To investigate the relationship between academic engagement, PsyCap, and academic performance | In Spain (N ¼ 389) and another in Portugal (N ¼ 243) | Academic Engagement (IV): Short (nine-item) Utrecht Work Engagement Scale (Schaufeli, Bakker & Salanova, 2006)<br>PsyCap (MED):12-item (PCQ-12)<br>Academic Performance (DV): GPA | Results indicated a positive relationship between academic engagement, PsyCap, and academic performance in both samples. PsyCap is a full mediator in the relationship between academic engagement and academic performance | 32 |
| 38 | Lye (2022)[70] Malaysia | Effect of Emotional Intelligence and Demographic Characteristics on Psychological Capital among Chemical Engineering Students | To examine the levels of PsyCap and emotional intelligence (EI) and investigated the effects of EI and demographic characteristics on PsyCap | 99 final-year chemical engineering students | Emotional Intelligence (EI) (IV): The Trait Emotional Intelligence Questionnaire Short Form<br>PsyCap (DV): PCQ | Results indicated that specific interventions based on EI are beneficial to developing PsyCap in coping with challenges in their engineering studies and future careers | 36 |

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|---|---|---|---|---|---|---|---|
| 39 | Nambudiri (2020)[23] India | Student personality and academic achievement: the mediating role of psychological capital (PsyCap) | To investigate the role of a second-order state-like construct PsyCap explaining the personality–academic achievement (AA) | 305 post-graduate students | Student Personality (IV): using the 50-item International Personality Item Pool instrument<br>PsyCap (MED): the 24-item PsyCap questionnaire (PCQ)<br>Academic Achievement (AA) (DV): CGPA | Results indicated that PsyCap positively influenced AA. PsyCap mediated the relationship between openness to experience, extraversion, and agreeableness dimensions of student personality and AA | 32 |
| 40 | Geremias (2020)[26] Portugal | Enhancing Internal Learning in Teams: The Role of Network Centrality and Psychological Capital of Undergraduate Students | To analyze the mediating role of PsyCap in the relationship between network centrality and internal learning in teams | 480 undergraduate students | Network Centrality (IV)<br>PsyCap (MED): the 24-item questionnaire Luthans et al (2012)<br>Internal Learning in Teams: (DV) scale developed by Edmondson (1999) | Results indicated that the positive relationship between network centrality and internal learning in teams, and a mediating role of PsyCap in the relationship between student network centrality and internal learning in teams | 37 |
| 41 | Yu (2021)[71] China | Impact of Family Cohesion and Adaptability on Academic Burnout of Chinese College Students: Serial Mediation of Peer Support and Positive Psychological Capital | To explore the association between the functioning of family environment and academic burnout as well as the mediating effects of the interpersonal resource and intrapersonal resource in this relationship | 1971 Chinese undergraduates | Family Cohesion Family Adaptability: Family Adaptability and Cohesion Evaluation Scales, (Fei et al, 1991)<br>Peer Support (MED): Chinese Social Support Scale (Xiao, 1994)<br>PsyCap (MED): Positive Psychological Capital Questionnaire (Zhang et al, 2010)<br>Academic Burnout (DV): Learning Burnout Scale (LBS) | Results indicated that family cohesion and adaptability did not directly affect academic burnout, but indirectly through increasing PsyCap (characterized by optimism, hope, resilience, and self-efficacy), and through enhancing peer support and then increasing PsyCap in serial | 38 |
| 42 | Geremias (2021)[72] Portugal | The influence of psychological capital on internal learning in teams: the mediating role of the perceived team structure | To analyze the mediating role of the perceived team structure in the relationship between positive PsyCap and internal learning in teams | 480 College students | PsyCap (IV): a 24-item questionnaire that was adapted for academic research by Luthans et al (2012)<br>Perceived Team Structure (MED): the scale developed and validated by Bunderson and Boumgarden (2010)<br>Internal Learning in Teams (DV): developed and initially validated by Edmondson (1999) | Results indicated that the mediating role of the perceived team structure in the relationship between PsyCap and internal learning in teams | 31 |
| 43 | Radack (2022)[73] USA | The Predictive Relationship Between Psychological Capital and Academic Burnout in Postgraduate Students | To determine if, or to what extent PsyCap predicts academic burnout | 90 health science postgraduate students | PsyCap (IV): Psychological Capital Questionnaire (PCQ-24) The PCQ-24<br>Academic Burnout (DV): The MBI-SS covers three sub-group categories of academic burnout, labeled exhaustion, cynicism, and competence | Results indicated that PsyCap was a significant and negative predictor of academic burnout.<br>Sub-category of PsyCap, labeled as Optimism, was a significant and negative predictor of academic burnout | 37 |


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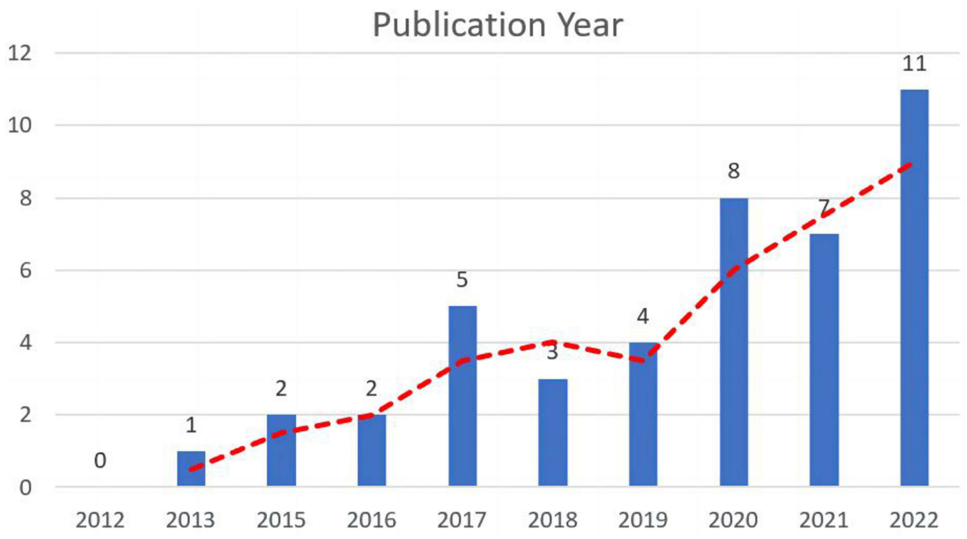


**Figure 2** Publications arranged by publication year.

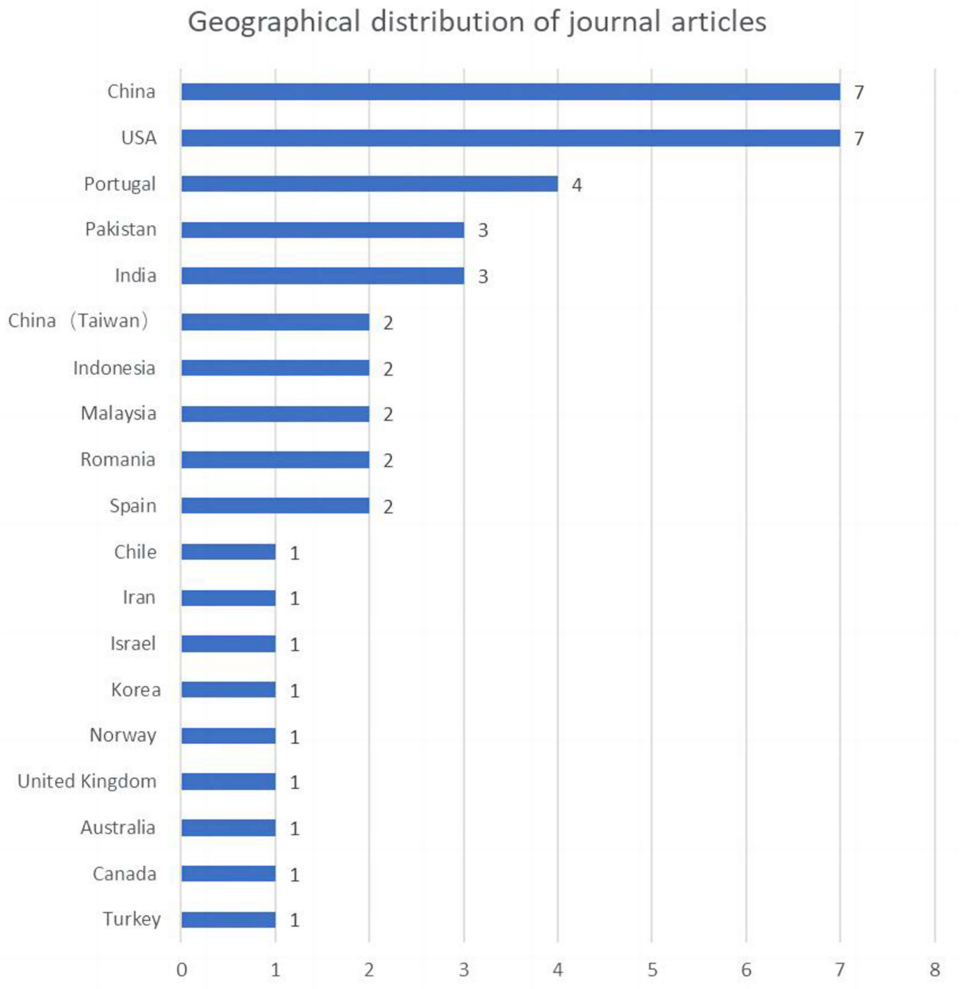


**Figure 3** Geographical distribution of journal articles.

## Themes

To have an in-depth knowledge of PsyCap related to academic outcomes among university students, we summarize the focal themes based on the outcome variables. The findings of the 43 selected studies related to 1) psychological capital measurement; 2) the antecedents and 3) consequences and 4) their roles in academic outcomes among university students that emerged from the thematic analysis. The antecedents mainly focus on what influences PsyCap. And the consequences are about what does PsyCap produce students' related outcomes)? Their roles in academic outcomes among university students mean does PsyCap play a mediate /moderate role? (Figure 4).

### Psychological Capital Measurement

For example, Luthans et al[2] created and validated a 24-item Psychological Capital Questionnaire (PCQ) that was first designed for the workplace but subsequently adapted for academic settings.[7] Another part of the study is an adaptation of psychological capital measurement of[2,7,74] based on their research subjects. The above psychological capital measurement approach is to measure psychological capital, and some studies measure each of the four components of PsyCap and finally aggregate them into psychological capital. For instance, the study by Kirikkanat and Soyer,[43] uses the PsyCap

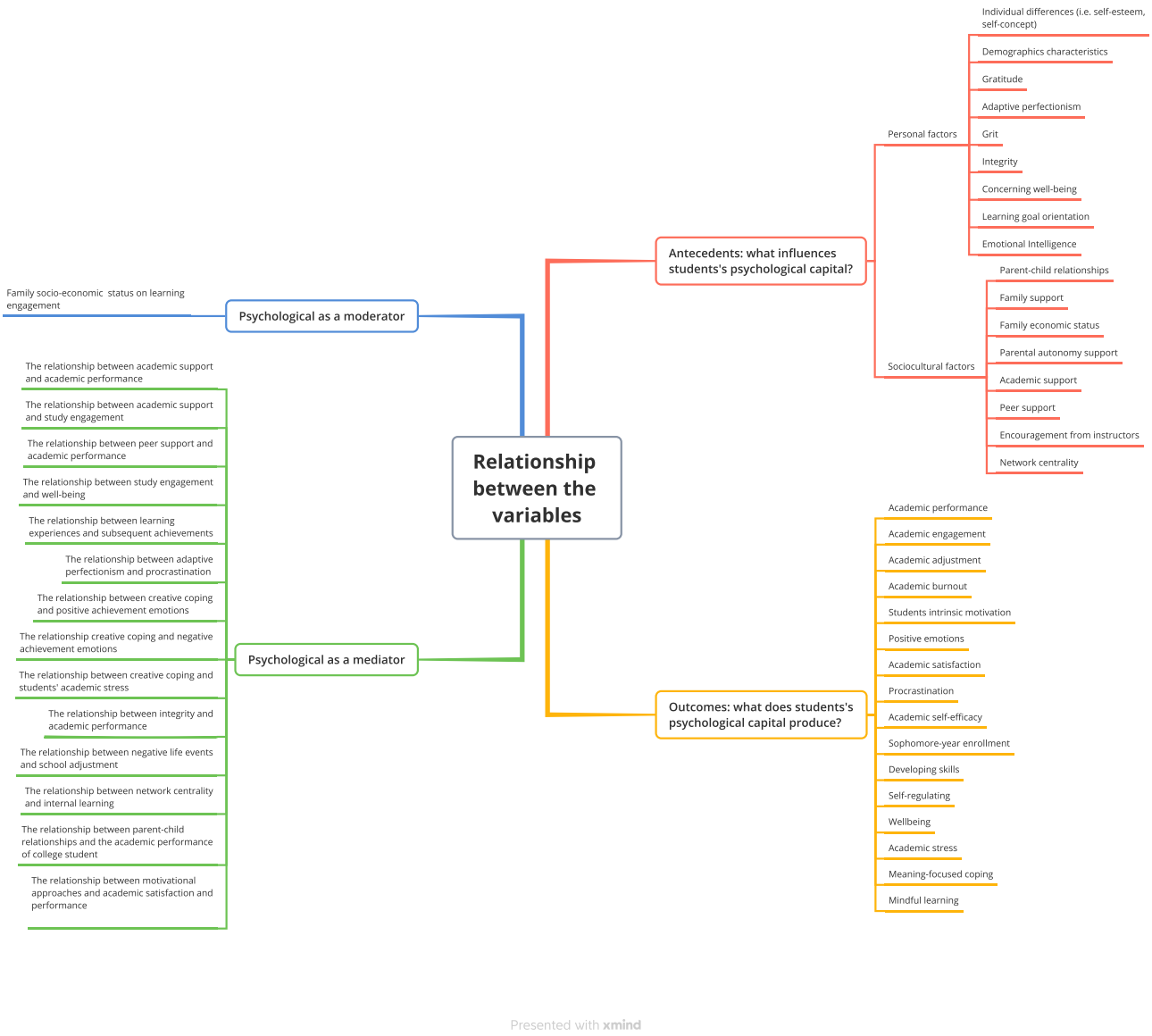


**Figure 4** Key themes and subthemes in the literature on psychological capital related to academic outcomes among university students.

Test Battery, which consists of 55 items, including four scales: a) The Academic Self-Efficacy Scale; b) The Life Orientation Test; c) The Hope Scale; d) The Resilience Scale. In another study by Adil et al,[45] for measuring the four parts of academic PsyCap, the authors chose the Perceived Self-Efficacy subscale of the Learning Strategies Scale, the Academic subscale of the Life Orientation Test, the Academic Hope Scale, and the Academic Resilience Scale. Complete information on the psychological capital measures can be viewed in Table 2.

## Antecedents: What Influences Students' Psychological Capital?

Despite extensive literature reporting the benefits of PsyCap, there is still limited understanding of its antecedents and consequences.[75] The summary of the research shows that the factors affecting the PsyCap of individuals can be analyzed in terms of personal factors and sociocultural factors.

From a person's point of view, studies that have influenced the development of psychological capital are listed below. A recent study has shown that individual differences (like self-esteem and self-concept) are more important than demographic factors and external factors (like the difficulty of activities) in predicting PsyCap.[76] Numerous investigations have found beneficial relationships between various personality traits and academic PsyCap. Hicks and Wu[57] found that adaptive perfectionism was associated with higher PsyCap. According to Lye et al,[70] emotional intelligence (EI) is an important factor in predicting PsyCap among engineering students, while age, gender, race, family income, and pre-university education of the students cannot significantly predict PsyCap. Moreover, da Costa et al[55] contented that students' emotional intelligence is a major factor in PsyCap that goes beyond individual differences and training.

Some research in recent years has discovered that some features of the familial environment, such as the bond between parents and children and the support of the family, are antecedents of PsyCap and have a big effect on it.[47,75,77] Similarly, Zhang et al[51] also point out high family income predicts higher PsyCap in individuals, as it provides material wealth that builds confidence and optimism and reflects a higher parental education level which encourages positive qualities in their children. Additionally, The outcomes from one quantitative study confirmed that there is a strong link between psychological capital and the support of parental liberty.[65] Academic and Peer support positively impact the development of individual resources within student PsyCap, both separately and together, as they reflect students' perceptions of supportive academic and peer environments, respectively.[53] Nielsen et al[78] also found that instructors' encouragement helps students build their PsyCap. Thus, these findings deepen our comprehension of the affective antecedents of academic PsyCap, where both personal and family-social factors influence individual psychological capital, and in addition in teamwork, where harmonious team relationships are integral contributors to individuals' psychological capital.

## Outcomes: What Does Students' Psychological Capital Produce?

As research on PsyCap rapidly advances, more and more scholars are focusing on the impact of its elements on individual behavior. In academia, an increasing body of studies suggests that PsyCap has a beneficial influence on students' outcomes.[53]

### Academic Performance

In a university setting, academic performance is among the most essential results, and PsyCap is a variable that affects academic success. 59 Because self-regulated learners do better in university and tend to be successful students, Sava et al 60 found that psychological capital has an important role, over teacher support and the need for competence satisfaction, in the explanation of the student's preference for self-regulating their learning. Moreover, Luthans et al[54] found discovered that business undergraduates with higher total academic PsyCap scores tend to have higher GPAs. Vanno et al[79] investigated the relationship between PsyCap and students' GPAs in their study and asserted that higher levels of PsyCap are associated with higher GPAs, and vice versa. Likewise, Kirikkanat and Soyer[43] maintained that students' PsyCap scores significantly predict their academic success scores in a positive direction. The success of undergraduate freshmen (n = 510) is significantly linked to academic PsyCap, which has a positive correlation with GPA, as found by Sweet and Swayze[61] even after controlling for predicted GPA.

Sharma and Barmola[28] have found that psychological capital may have a more important role than emotional intelligence in competitive exam success. These findings align with previous studies, which have established a positive

correlation between academic PsyCap and academic-related outcomes, even after accounting for other variables. Furthermore, Carmona–Halty et al[27] linked positive psychological states with academic achievement through both direct and indirect effects. A possible explanation for this positive relationship is that PsyCap has motivational potential, which leads to an improvement in academic performance.[10] The positive combination of the four PsyCap abilities is indeed more strongly related to academic achievement, supporting the synergistic motivational effect created among these psychological abilities, allowing students to overcome obstacles, maintain motivation, and achieve learning outcomes.[69]

In contrast, a study by Liran and Miller[52] discovered that it does not appear to provide definitive support for earlier studies about the relationship between PsyCap and GPA. There were significant positive relationships between all the subscales of PsyCap and the academic adaptation subscales collected from the four questionnaires. However, it is worth noting that students' GPAs were only significantly related to two components of PsyCap: hope and resilience. And through the empirical data, Saman and Wirawan[59] showed that PsyCap could only influence students' academic performance through mediating factors. In another study, student PsyCap also shows an indirect influence on student academic performance through engagement.[31]

In summary, these results suggest that the impact of PsyCap on academic achievement is largely direct; all four elements of PsyCap have a certain degree of influence on academic achievement, and PsyCap can also enhance its impact on academic achievement through other mediating variables.

### Academic Engagement

Reeve et al[80] propose that student engagement involves the behavioral intensity, emotional quality, and personal investment that students demonstrate in learning activities, and also involves the institutions serving as learning environments. A positive (reciprocal) relationship was found between PsyCap and academic engagement by Siu et al.[9] PsyCap and academic empowerment are major antecedents of academic engagement, which is an important indication of learning quality. PsyCap motivates and engages learners.[56] Similarly, Noviati[31] showed PsyCap has a significant impact on student engagement because it reduces academic stress, and increases emotional, affective, and cognitive proactivity, ultimately promoting learning outcomes. In the same year, Jafri[6] found that PsyCap in students assists them in remaining engaged in their academic endeavors. Previous research conducted in educational settings suggests that students' PsyCap is intended to have a direct relationship with their academic engagement.[81] In educational settings, these sources indicate a relationship between PsyCap and student engagement. The connection between PsyCap and engagement can be comprehended through Hobfoll's[82] Conservation of Resources Theory (CRT), which explains accumulating resources to achieve certain goals. From the viewpoint of Self-Regulation Theory, a different explanation for this association can be understood, which focuses on how students direct their attention to their academic goals and activities. However, Lin[63] asserted PsyCap itself is not a strong predictor of learning engagement.

### Academic Burnout

Academic burnout negatively correlated with academic PsyCap in several studies. For example, academic burnout was found to be associated with academic PsyCap in Iran.[67] Likewise, Wang et al[30] concluded that nursing students with stronger PsyCap had higher academic engagement and decreased burnout. Academic engagement largely mediated psychological capital and academic fatigue. This is supported by Virga et al[10] who also found that PsyCap reduced students' burnout and boredom, via study engagement. It was found that there is a negative correlation between college students' academic exhaustion and their families' cohesion and adaptability.[71] Radack et al[73] noted that PsyCap mediates the relationship between peer support and academic burnout, indicating its role as an intrapersonal resource. Optimism predicts the emotional exhaustion aspect of academic burnout in undergraduates and serves as a protective factor against burnout-related stressors.

### Academic Adjustment

College students' adjustment challenges are currently a growing concern. Certain research has demonstrated that PsyCap serves as a safeguarding element for academic adjustment. Hope has a favorable association with school adaptation, and optimism indicated that college students will adjust better to their new environment.[83] In addition, SEM analysis suggests

that students recruit positive resources, such as psychological capital, to cope with academic challenges and improve their academic adaptation. Self-efficacy has a significant impact on academic adaptation, and PsyCap has the potential to improve student satisfaction and well-being in response to academic pressures.[50] According to research, students whose PsyCap scores are higher than average are more eager to engage in social contacts, resulting in more enjoyment from social activities as part of their academic lives. PsyCap can boost well-being, which results in a mode of handling more malleable stress.[52]

### Other Outcomes

When students believe in their capacity and competence to do certain academic assignments and are optimistic about the outcome, they feel inwardly motivated to complete such tasks. As a result, PsyCap can be used to predict students' intrinsic motivation.[6] Additionally, PsyCap has been found to increase positive emotions,[84] which in turn improves students' motivation and utilization of learning strategies.[27] Moreover, PsyCap has direct effects on academic satisfaction[68] and may enhance students' potential and help them achieve academic objectives.[85] Interventions aimed at improving PsyCap among university students have been found to significantly increase PsyCap levels, which remained stable even after one month.[86] A significant negative correlation was discovered by Hicks and Wu[57] between PsyCap and procrastination, indicating that a negative correlation existed between greater scores on PsyCap and higher scores on academic procrastination. The role of psychological capital in academic settings suggests that psychological capital profiles can affect internal learning in teams differentially.[58] The experience of stress, stemming from various stressors, can manifest as either positive (eustress) or negative (distress). Notably, psychological capital has been observed to alleviate the impact of academic distress on academic performance, while its effect on academic eustress remains limited.[69] This indicates that Academic PsyCap's positive resources significantly correlate with all measured coping components for academic stress.[48] This correlation was also highlighted in the research of Xu and Wang, where they similarly discovered an inverse relationship between academic stress and all four PsyCap components.[60] Also students who had a high cumulative grade point average, received information on stress reduction, were aware of mental health resources on campus, felt experiences that challenged them to grow and become a better person, felt their life had a sense of direction or meaning to it.[46]

### Psychological as a Mediator

Beyond these evident relationships, educational scholars are intrigued by the significance of PsyCap as a mediating component. For instance, one study found PsyCap fully mediated academic support and academic performance, partially mediated academic support and learning engagement, and peer support and academic performance.[53] Chen et al[64] stated that PsyCap and academic self-efficacy mediate the impact of learning experiences on achievement. Furthermore, Hicks and Wu[57] revealed that PsyCap mediates between academic adaptation and procrastination, fully mediating the relationship between creative coping and positive emotions, and partially mediating negative emotions. PsyCap may have a suppressive influence on students' relationship between creative coping and academic stress.[60] Geremias, Lopes, and Soares confirmed the mediating role of PsyCap in the relationship between student network centrality and internal learning in teams.[26] The results of earlier studies on the connection between PsyCap and emotions as well as the association between PsyCap and coping were generally consistent.[87] According to recent research by Chaffin et al,[62] who asserted PsyCap plays a crucial role in explaining the integrity-academic achievement relationship and has a significant mediating effect between LGO and satisfaction/performance, indicating the existence of a mechanism between them. PsyCap can motivate pupils to finish a task or attain a goal and give them psychological tools to handle tough situations.[66] One study confirmed the mediating role of the perceived team structure in the relationship between psychological capital and internal learning in teams,[72] and was a mediator between personality traits and academic achievement.[23] Furthermore, PsyCap was positively associated with the dimensions of school adjustment and negatively associated with negative life events. PsyCap partially mediated the relationship between negative life events and school adjustment.[49]

## Discussion

This review's principal objective was to provide a comprehensive analysis of PsyCap related to student outcomes. Using the PRISMA method, we reviewed the literature and pulled 43 articles from six databases. Based on the analysis of these articles, two distinct approaches were used in this paper. The first section is quantitative, highlighting numerical data taken from ATLAS.ti 22, and it concentrates on the 43 articles' study year, their country and region of publication, and the journal. The second part is a qualitative analysis, which focuses on the measurement instruments of PsyCap, most of the current studies mainly use Luthans, Avolio, Avey, and Norma We primarily focused on the assessment tools for PsyCap. Our analysis extends to the antecedents of PsyCap, categorized as Personal Factors: Attributes like self-esteem, motivation, gratitude, integrity, and overall well-being. Social Influences: Dynamics such as parent-child rapport, familial reinforcement, support from peers and educators, and later the emergence of measurement instruments for academic PsyCap. To clarify further, these personal and social factors significantly influence the evolution of PsyCap, though they are not directly academic outcomes in themselves. Instead, these factors cultivate PsyCap, which in turn impacts the subsequent academic results. The academic outcomes we closely examined include academic performance, academic engagement, academic burnout, academic adjustment, and academic, students' intrinsic motivation. Through our comprehensive investigation, we discerned that PsyCap relates intricately with these academic outcomes. Moreover, PsyCap plays a pivotal role as a moderator, influencing the relationship between various variables and these educational outcomes.

Using the Crowe Critical Appraisal Tool (CCAT), we assessed 43 studies on university students' psychological capital, with scores ranging from 31 to 38 out of a possible 40. The range of scores, from a low of 31 to a high of 38, indicates the variance in research rigor, methodology, and possibly the depth of exploration within the chosen themes. The majority showed high quality, with 23 articles scoring 36 or above and 5 achieving 38. This illustrates the rigorous methodologies employed. Conversely, 11 studies scored between 31 to 32, suggesting potential issues. The CCAT scores bolster confidence in our systematic review's findings, but we advise caution when interpreting lower-scoring studies. While CCAT provides a quantitative assessment, it might not capture all research nuances.

By incorporating the antecedents, outcomes, and (mediating) processes related to student PsyCap into a single figure, this study represents the first to take an extensive and all-encompassing approach to studying student psychological capital. This research contributes to the general psychological capital literature and has implications for educational institutions seeking to develop students' psychological capital for the betterment of both individuals and society.

While this study has made many meaningful contributions, we acknowledge several limitations. The articles from the journals included in this research were selected based on our criteria, which may have missed some valuable materials. To guarantee the quality of the literature being analyzed, we extracted data from six databases. Extracting literature from various sources, including conference proceedings, research reports, working papers, theses, books, journals, white papers, and industry reports, could be a focus of future research. Including more sources and a broader network can help gain more insights. A second limitation is that we limited the scope of our search to studies published in English and confined our findings to studies published in English. Relevant articles may have been missed, however, additional manual searching of the articles retrieved did not uncover additional references. Furthermore, as research on college students' psychological capital related to academic outcomes is still in its early stages, we used descriptive and thematic analysis in the systematic review. However, this is not a meta-analysis, so it may not be used to draw summary statistical insights about any exploratory themes.

Indeed, despite these limitations, the study's findings have important implications for both theoretical and practical aspects of educational psychology. PsyCap is a personal resource that is malleable and can be developed,[88] so students can exploit its benefits to enhance their academic success. The study's practical significance lies in the importance of fostering students' PsyCap for both theoretical expansion and practical application in educational psychology. Higher education institutions should prioritize enhancing students' psychological capital. Various methods can be employed in daily life and learning to improve college students' psychological capital and cultivate a healthy psychological state. For instance, to help students acquire fundamental knowledge, recognize the importance of PsyCap, and focus on self-improvement, establishing psychological health courses centered on PsyCap is a viable option. In addition, cultivating

students' confidence and sense of responsibility can be achieved by encouraging them to express their opinions via teamwork, and fostering an optimistic life attitude can be achieved by guiding them to deal with difficulties and pressure adequately. In the future, it is recommended that systematic interventions for PsyCap be devised and incorporated into education. Theoretically, this study will expand and enrich the literature on PsyCap, particularly from the standpoint of educational background. We analyze and summarize the current research on the effects of PsyCap on academic-related variables and further analyze its antecedents and outcomes as well as its effects on other factors as mediating and moderating variables, identifying gaps in the current research, and indicating new study directions.

Despite these limitations, this commentary provides direction for future research and adds valuable information to this rapidly growing and critically important field in the current global context. First, relying solely on self-report measures as the sole data collection method may undermine the validity of the obtained information. Future research may benefit from a multi-method approach. Incorporating diverse data collection techniques may be crucial. For example, conducting interviews with students who exhibit a complete PsyCap profile and those who exhibit an empty PsyCap profile can provide an alternative perspective for analysis. Second, more investigation is required to examine this additional channel. Regression models cannot infer causal correlations since the included studies utilized a cross-sectional design. Future studies should investigate these associations experimentally and longitudinally to ascertain their magnitude and direction of causation. Tracking and intervention research could also be used in follow-up studies to identify causal correlations between variables. Third, future research that evaluates the four psychological capital subscales independently should include additional features not observed in the current study. The four PsyCap sub-dimensions can be combined in various ways that may have varying effects on results.[89] Previous empirical study has demonstrated that the four PsyCap abilities may contribute differently to explaining specific behaviors or outcomes.[90] Furthermore, the study was conducted within a particular cultural context and there is a need for further cross-cultural research to improve our comprehension of university students' psychological capital development. In addition, upcoming research should expand to investigate students from different educational levels (such as undergraduate), different fields and disciplines, more geographical regions, and various types of institutions to ensure a more representative sample. Lastly, it is necessary to investigate the specific intervention measures aimed at enhancing PsyCap and their impact on student academic outcomes in the future. This will further inform mentors, advisors, and administrators and advocate for policies, practices, guidance, and plans that may improve student academic-related outcomes.

## Conclusion

In conclusion, this systematic review examined contemporary research on PsyCap related to academic outcomes among university students and shows that this is a promising area of research. This systematic review maps and summarizes the current literature on PsyCap in academic outcomes research among university students and provides a roadmap for future research on the holistic development of PsyCap. PsyCap with positive academic outcomes. Most of the discussed literature analyzes the measurement instruments of PsyCap, analyzes the factors influencing PsyCap from individual and social perspectives, and additionally analyzes the effects of PsyCap on variables related to student learning. PsyCap has mostly positive effects on student learning, for example, PsyCap can improve academic performance, promote student engagement, improve student adjustment to learning, increase student motivation, and reduce academic burnout. PsyCap does not only act directly on learning-related variables, but PsyCap can also act between other variables through mediation or moderation. To summarize, research in this field indicates that successful students possess higher expectations for their abilities and motivations, enabling them to devise alternative means to attain their academic objectives. They also demonstrate robust self-efficacy in their pursuit of academic goals, exhibiting tenacity in the face of uncertainty, conflict, failure, and setbacks, and maintaining a pragmatic and optimistic outlook toward achieving positive academic outcomes. PsyCap, as a form of personal strength, is crucial in students' academic lives. However, current research is primarily concerned with the outcome variables of PsyCap, with less attention devoted to the antecedents and consequences that give rise to PsyCap, and there is relatively little research on methods to improve students' PsyCap.

## Disclosure

The authors report no conflicts of interest in this work.

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