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Influences on the self-efficacy of nursing and medical students

Influências na autoeficácia de estudantes dos cursos de enfermagem e medicina

Influencias en la autoeficacia de estudiantes de enfermería y medicina

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Abstract
This study aimed to analyze scientific evidence on the self-efficacy of Nursing and Medical students, considering its relationship with sociodemographic profile, health conditions, and academic performance. An integrative literature review was conducted based on the methodological framework of Souza, Silva, and Carvalho, using the PICO strategy to develop the guiding research question. Searches were performed in LILACS/BVS, PubMed, and SciELO with no time restriction, allowing a comprehensive understanding of the conceptual evolution of self-efficacy. Studies in Portuguese, English, and Spanish available in full and directly related to the topic were included. Of the 78 articles initially identified, 9 met the eligibility criteria and were included in the final sample. Results showed that self-efficacy is consistently associated with academic performance, mental health, learning strategies, resilience, and student engagement. Active learning methodologies, emotional support from instructors, practical experiences, and intrinsic motivation significantly contributed to higher self-efficacy levels. Conversely, stress, burnout, and low perceived competence were linked to poorer performance. It is concluded that self-efficacy plays a central role in Nursing and Medical education, influencing both academic achievement and emotional well-being. Strengthening self-efficacy should be incorporated into pedagogical practices as a key strategy to promote learning, resilience, and preparedness for clinical practice.
Keywords: Academic Perfomance; Medical Students; Nursing Students; Self Efficacy.

Resumo
O objetivo deste estudo foi analisar as evidências científicas sobre a autoeficácia de estudantes dos cursos de Enfermagem e Medicina, considerando sua relação com o perfil sociodemográfico, condições de saúde e desempenho acadêmico. Trata-se de uma revisão integrativa conduzida conforme as etapas metodológicas propostas por Souza, Silva e Carvalho, utilizando a estratégia PICO para formulação da pergunta norteadora. A busca foi realizada nas bases LILACS/BVS, PubMed e SciELO, sem recorte temporal, de modo a contemplar a evolução conceitual da autoeficácia e garantir maior abrangência das evidências disponíveis. Foram incluídos estudos em português, inglês e espanhol, disponíveis na íntegra e relacionados diretamente ao tema. Dos 78 artigos identificados, 9 atenderam aos critérios de elegibilidade e compuseram a amostra final. Os resultados demonstraram que a autoeficácia está consistentemente associada ao desempenho acadêmico, saúde mental, estratégias de aprendizagem, resiliência e engajamento estudantil. Fatores como metodologias ativas, apoio emocional docente, experiências práticas e motivação interna mostraram-se relevantes para fortalecer a autoeficácia. Por outro lado, estresse, burnout e baixa percepção de capacidade relacionaram-se à pior desempenho. Conclui-se que a autoeficácia desempenha papel central na formação em Enfermagem e Medicina, influenciando tanto o rendimento acadêmico quanto o bem-estar emocional. O fortalecimento dessa crença deve ser incorporado às práticas pedagógicas como estratégia essencial para promover aprendizagem, resiliência e preparação para a prática clínica.
Palavras-chave: Desempenho Acadêmico; Estudantes de Medicina; Estudantes de Enfermagem; Autoeficácia.

Resumen
El objetivo de este estudio fue analizar la evidencia científica sobre la autoeficacia de estudiantes de Enfermería y Medicina, considerando su relación con el perfil sociodemográfico, las condiciones de salud y el rendimiento académico. Se realizó una revisión integrativa basada en el marco metodológico de Souza, Silva y Carvalho, utilizando la estrategia PICO para formular la pregunta orientadora. Las búsquedas se llevaron a cabo en las bases LILACS/BVS, PubMed y SciELO, sin restricción temporal, con el fin de abarcar la evolución conceptual de la autoeficacia y ampliar la disponibilidad de evidencias. Se incluyeron estudios en portugués, inglés y español, disponibles íntegramente y directamente relacionados con el tema. De los 78 artículos identificados, 9 cumplieron los criterios de inclusión y conformaron la muestra final. Los resultados demostraron que la autoeficacia se asocia de manera consistente con el rendimiento académico, la salud mental, las estrategias de aprendizaje, la resiliencia y el compromiso estudiantil. Las metodologías activas, el apoyo emocional del docente, las experiencias prácticas y la motivación interna se mostraron fundamentales para fortalecer la autoeficacia, mientras que el estrés, el burnout y la baja percepción de capacidad se vincularon a peor rendimiento. Se concluye que la autoeficacia desempeña un papel central en la formación en Enfermería y Medicina, influyendo tanto en el desempeño académico como en el bienestar emocional. Su fortalecimiento debe incorporarse como estrategia clave en las prácticas pedagógicas.
Palabras clave: Rendimiento Académico; Estudiantes de Medicina; Estudiantes de Enfermería; Autoeficacia.

1. Introduction

Self-efficacy, as defined by Bandura (1977), refers to individuals' beliefs in their ability to initiate, perform, and successfully complete predetermined tasks, requiring effort and resilience when facing difficulties. In higher education, particularly in the health sciences, self-efficacy plays a central role because it directly influences academic performance and is associated with emotional functioning (Bandura, 1997; Zimmerman, 2000).

According to Bandura (2001), achieving strong academic performance requires solving problems effectively. Beliefs about one's abilities substantially affect levels of stress and anxiety when confronted with challenging situations. Moreover, the perception of an adverse scenario may be less detrimental than the belief that one is incapable of coping with it (Barrera, 2010).

Self-efficacy is widely recognized as a major determinant of human behavior, closely linked to motivation and performance, and has therefore been extensively examined within the educational field (Costa-Filho et al., 2022). Martins et al. (2014) note that self-efficacy is shaped by continuous experiences and by realistic perceptions of limitations and potential, both individually and collectively. Accordingly, it should always be examined within the specific domain in which it operates. Supporting this perspective, Matos et al. (2024) emphasize that self-efficacy should not be viewed as a generalized personal trait but rather as a set of domain-specific beliefs. They argue that measurement instruments must be context-sensitive to ensure precise and representative evaluations. This approach highlights the importance of acknowledging the particularities of academic activities in higher education, such as teaching, research, outreach, and administrative responsibilities, thereby enhancing understanding of the demands inherent to professional formation.

Multiple fields, including education, health, psychology, management, and sports, have investigated self-efficacy due to its relevance in designing strategies that support individuals and communities in achieving their goals. Similarly, a systematic review by Abusubhiah et al. (2023) identifies self-efficacy as a key predictor in students' transition to clinical practice, shaping the development of professional identity and promoting safe performance in high-complexity environments.

Practical training enables students to gain valuable experiential learning, fostering reflection and skill acquisition in real-world settings. However, it also exposes them to significant challenges, such as managing patient suffering, making decisions under pressure, and coping with the fear of committing errors, factors that may negatively affect learning. Elevated stress levels among university students are strongly influenced by demanding academic routines characterized by heavy workloads, tight deadlines, and frequent assessments. Additional external factors, such as employment, family responsibilities, and commuting, further intensify stress (Moretti & Hübner, 2017).

Developing coping skills is therefore an essential competency throughout health professional education. Self-efficacy, understood as the belief in one's capability to execute tasks successfully, can support this process. Students with high self-

efficacy tend to demonstrate greater resilience and confidence when facing academic challenges, positively influencing both performance and well-being (Waxman et al., 2003). Furthermore, self-efficacy acts as a protective factor for mental health, aiding in the management of everyday stressors (Schönfeld et al., 2015).

A recent study by Guo et al. (2025) further demonstrates that emotional support from instructors enhances academic self-efficacy and resilience, which in turn mediate students' engagement in learning. Grounded in Self-Determination Theory, their findings show that self-efficacy strengthens resilience, and together, they mitigate the negative effects of academic stress, thereby improving student well-being and performance. The authors highlight the importance of pedagogical strategies that promote self-efficacy, such as active learning methodologies and clinical simulations. Constructive and individualized feedback also contributes to a more supportive educational climate (Leonardo et al., 2019).

Overall, self-efficacy is a crucial component in Nursing and Medical education, with effects spanning improved academic and clinical performance, strengthened resilience, and enhanced quality of care. Teaching practices that foster self-efficacy, combined with adequate social and psychological support, improve the educational experience and contribute to the development of confident and competent health professionals capable of managing the demands of clinical practice (Costa-Filho et al., 2022).

Academic performance remains one of the primary indicators of student progress in higher education. It reflects learning outcomes and competence acquisition over time. According to Casiraghi et al. (2022), academic achievement represents a metric for evaluating learning during professional training and is influenced by student-related, institutional, and instructional factors. Other authors conceptualize academic performance as a multifactorial construct influenced by cognitive, motivational, and contextual dimensions—including family support, institutional environments, and teaching practices (Fagundes et al., 2014). Although grades are the most used metric, there is increasing recognition of the need for broader and more qualitative indicators that capture comprehensive student development.

In line with this, Guo et al. (2025) highlight the importance of emotionally supportive learning environments. Their findings indicate that instructor-provided emotional support not only enhances academic self-efficacy and resilience but also positively influences student engagement and persistence.

These results suggest that pedagogical strategies attentive to students' emotional needs may be critical for strengthening cognitive and socioemotional competencies essential to professional practice in health fields. This underscores the importance of integrating theory, practice, and emotional support throughout the learning experience.

The present study aims to examine scientific evidence on the self-efficacy of Nursing and Medical students, with consideration of sociodemographic characteristics, health conditions, and academic performance.

2. Methodology

A documentary research of indirect sources was carried out on scientific articles in an integrative systematic review (Snyder, 2019), in a study of quantitative nature in relation to the number of 9 (Nine) articles selected to compose the "corpus" of the research and, of qualitative nature in relation to the discussions carried out on the articles (Pereira et al., 2018). This study followed the methodological framework of an integrative literature review, a research approach that enables the analysis, identification, and synthesis of findings from diverse studies on the same topic, while also assessing the relevance and applicability of the evidence produced (Souza, Silva, & Carvalho, 2010). The review was conducted in six sequential stages: (1) selection of the topic and formulation of the guiding research question; (2) definition of inclusion and exclusion criteria; (3) identification of key information to be extracted from the included studies and subsequent categorization; (4) rigorous analysis of the selected material; (5) interpretation of the results and discussion; and (6) presentation of the review and synthesis of the knowledge obtained (Sousa et al., 2017).

In the first stage, a PICO strategy was applied. The "P" (Population) consisted of medical and nursing students; the "I" (Interest) encompassed sociodemographic profiles and health conditions; the "C" (Comparison) referred to variations in associated factors; and the "O" (Outcome) corresponded to academic performance. Based on this structure, the guiding question was established as follows: *"What scientific evidence describes the sociodemographic profile and health conditions of medical and nursing students, and how are these factors related to academic performance?"*

Subsequently, the scope of the review was expanded to include studies on self-efficacy among medical and nursing students, considering curricular changes, innovative teaching methodologies, and the impact of remote learning, ensuring the relevance and contemporaneity of the evidence. Studies in English, Portuguese, and Spanish were included, as these languages represent most of the scientific production in health education and self-efficacy, thus supporting both global coverage and applicability to the national context. No time restrictions were applied; the inclusion of all relevant publications allows for the identification of conceptual evolution and ensures comprehensive coverage of available evidence. Eligible studies required full-text availability and alignment with the guiding question.

Exclusion criteria comprised publications that did not address the guiding question, duplicate studies, and documents classified as editorials, literature reviews, experience reports, monographs, theses, letters, abstracts, conference proceedings, or book reviews.

The search was conducted in the following databases: Latin American and Caribbean Health Sciences Literature (LILACS), the National Library of Medicine/National Institutes of Health (PubMed/NCBI), and the Scientific Electronic Library Online (SciELO). Controlled descriptors and their combinations in English, Portuguese, and Spanish were selected from the Health Sciences Descriptors (DeCS) and the Medical Subject Headings (MeSH): Nursing Students; Medical Students; Self-Efficacy; Academic Performance; and their equivalents in Spanish. Boolean operators AND OR were used, along with additional synonyms to increase search sensitivity.

The selection process was documented using an adapted version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart (Page et al., 2022) (Figure 1). Titles and abstracts were initially screened, followed by full-text reading of eligible studies.

In the third stage, the variables to be extracted from the included studies were defined. The following information was subsequently collected: author(s), year of publication, country of origin, study objective, study design, sample characteristics, methods and instruments, main results, level of evidence, and thematic category (Table 1).

During the fourth stage, all selected articles were thoroughly examined with attention to their objectives, methodological rigor, and results, to determine their alignment with the guiding question. The level of evidence was assessed according to the Evidence-Based Practice in Nursing & Healthcare classification system (Melnyk & Fineout-Overholt, 2019).

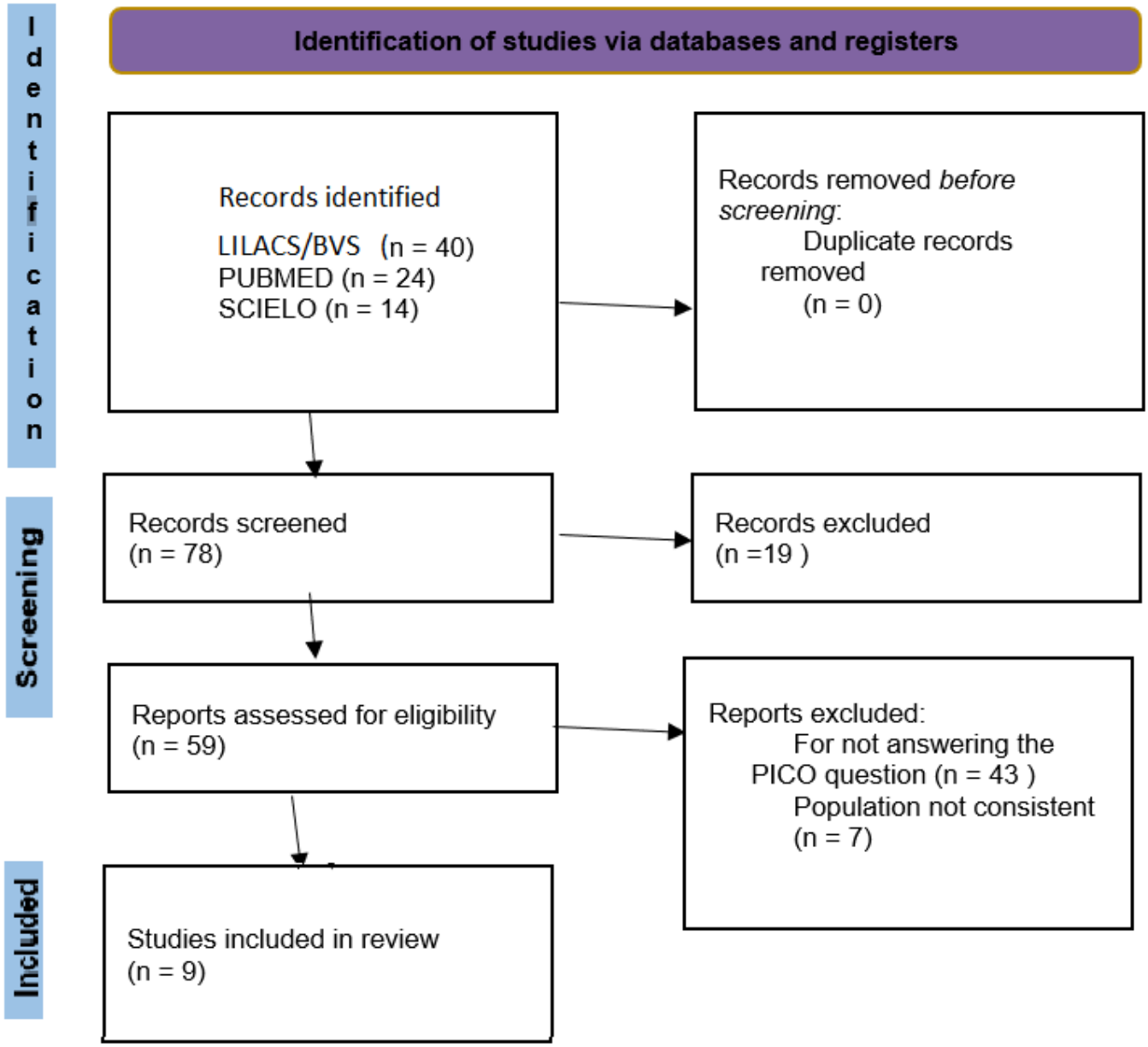
Stages five and six encompassed a detailed interpretation of the extracted data and critical discussion of the findings, highlighting the most relevant aspects of the topic and synthesizing the resulting knowledge.

This study complied with ethical standards and respected all copyright provisions.

3. Results and Discussion

With the search over the years, 24 articles were found in the PUBMED database, 14 articles in the SCIELO database and 40 articles in the LILACS/BVS database, totaling 78 articles. In this way, 59 articles were selected for full reading, the adapted PRISMA flowchart in Figure 1 showed these results. Of these, 43 were excluded because they did not meet the objective of the study and 7 were excluded because they did not have the population we were studying. Among the studies found, 9 were chosen to integrate the research results, which are available in Table 1.

Figure 1 - PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only.



Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.

Table 1 – Selected Studies.

Autor / Country / Year	Objective	Study Design / Sample	Methods / Instruments	Main Findings	Level of Evidence / Theme
Hayat AA, Shateri K, Amini M. Iran, 2020	To investigate metacognitive strategies and emotions in the relationship between self-efficacy and academic performance.	Cross-sectional study; N = 279.	Analytical cross-sectional design based on questionnaires. Instruments: Academic Emotions Questionnaire (AEQ); Metacognitive Learning Strategies Questionnaire; Academic Self-Efficacy Questionnaire. Statistical analysis: SPSS and SmartPLS 3 (partial least squares structural equation modeling – PLS-SEM).	Self-efficacy, positive emotions, and metacognitive strategies were positively associated with academic performance, and emotions and metacognition partially mediated this effect. The model explained 30% of the variance in performance.	Level VI. Psychosocial and educational factors associated with academic performance / self-efficacy / learning strategies.
Popa-Velea, O., Pîrvan, I., & Diaconescu, L. V. Romania, 2021	To investigate the role and relative importance of self-efficacy, resilience, optimism, and perceived stress in the academic performance of medical students, considering gender differences, stage of training, and subjective perception of performance.	Cross-sectional study; N = 118.	- Online application in a single session of four validated psychometric instruments (G-SES, LOT-R, BRS, PSS-14). - Collection of demographic data and GPA. - Statistical analyses included normality tests, group comparisons (gender and academic stage), and linear regression.	Among low-performing students, optimism and resilience were positively associated with GPA, whereas perceived stress showed a negative association. No psychological variables predicted GPA among high-performing students. Preclinical students reported higher stress than clinical students, and dissatisfaction with one's performance was associated with lower GPA. No gender differences were found.	Level VI. Mental health, stress, and psychological factors related to academic performance in medical students..
Ruiz, J., Kaminnik, P., Kibble, J., & Kauffman, C. USA, 2024.	To describe well-being and self-efficacy among medical students in the post-COVID period, assess relationships between these variables, and examine whether well-being or self-efficacy correlate with academic performance.	Prospective observational longitudinal study; N = 82.	- Online administration of validated well-being instruments: GSI-R, School Burnout Inventory, CDC Healthy Days, Pearlin Mastery Scale, MSPSS, De Jong Gierveld Loneliness Scale, Lubben Social Network Scale. - Self-efficacy: MSLQ (preclinical) and Artino et al.'s clinical self-efficacy scale (clerkship). - Academic performance: multiple-choice exams, mean clerkship grades, and OSCE. - Statistical analyses: nonparametric tests and Spearman correlation..	Among second-year students, self-efficacy correlated with well-being and final performance, which was influenced only by burnout and self-efficacy. Among third-year students, self-efficacy had weaker associations with well-being, and only evidence-based medicine self-efficacy correlated with OSCE performance.	Level IV. Well-being, self-efficacy, and academic performance in medical students.

Chen, D. P., Hour, A. L., Tsao, K. C., Huang, C. G., Lin, W. T., & Hsu, F. P. **Taiwan, 2024.**	To identify how motivational factors, particularly self-efficacy, study methods, and burnout symptoms relate to academic performance of medical technology students in an e-learning environment.	Quantitative, observational, cross-sectional study; N = 37.	- In-person application of validated questionnaires in Chinese: motivation (MSLQ), study approaches (ALSI), and burnout (MBI-SS). - Analyses: Kruskal–Wallis tests with Dunn's post hoc test; Spearman correlations	Psychological and learning factors (including self-efficacy, study strategies, motivation, and burnout) showed distinct relationships with performance across achievement levels. High-performing students exhibited higher emotional exhaustion and lower self-efficacy. Medium-performing students relied more on self-efficacy and motivation. Low-performing students performed better when using deep and organized study approaches.	Level IV. Academic performance and psychosocial factors in health education.
Chen, H., Chen, Y., Zheng, A., Tan, X., & Han, L. **China, 2025.**	To investigate factors influencing professional commitment among nursing students, examining how individual and educational elements, including self-efficacy, relate to their dedication, professional development, and intention to remain in the profession.	Systematic review; N = 16 studies.	- Registered in PROSPERO; followed PRISMA. - Searches in PubMed, EMBASE, MEDLINE, CINAH. - Risk L, Cochrane, Web of Scienceof bias assessed with RoBANS, JBI, NOS, MMAT. - Data extracted and synthesized via thematic analysis (Braun & Clarke).	Self-efficacy emerged as a key factor: students with higher self-efficacy and prosocial motivation showed stronger professional commitment. Positive psychological well-being and high-quality educational experiences reinforced commitment, whereas stress, anxiety, involuntary career choice, and occupational stigma reduced it. Family and social support also strengthened self-efficacy and engagement.	Level II. Factors influencing professional commitment in nursing students.
Lopes, J. M., Castro, J. G. F., Peixoto, J. M., & Moura, E. P. **Brazil, 2020.**	To assess academic self-efficacy among fourth-year medical students in two schools with different methodologies: problem-based learning (PBL) versus traditional teaching.	Cross-sectional study; N = 147.	- Conducted in two medical schools (PBL vs. traditional). - This study included 147 fourth-year medical students divided into two groups: 73 from the school using the PBL methodology and 74 from the school using the traditional methodology. -Self-administered questionnaire with sociodemographic and health questions + Higher Education Self-Efficacy Scale.	Students in the PBL school showed significantly higher total and domain-specific self-efficacy scores ($p < 0.01$). Female sex, older age, living alone, not using medication for chronic illness, and engaging in extracurricular activities were associated with higher self-efficacy scores.	Level IV. Academic self-efficacy in medical students; impact of teaching methodologies (PBL vs. traditional).
Alves, D. de M., Pompeo, D. A., Sacardo, Y., Eid, L. P., Lourenção, L. G., & André, J. C.. **Brazil, 2024.**	To analyze general self-efficacy beliefs among university students (Nursing, Medicine, Psychology) during the COVID-19 pandemic and examine associations with psychological well-being and anxiety/depressive symptoms.	Cross-sectional study; N = 329.	- Questionnaires and scales; - Mann–Whitney test and Spearman correlation.	Participants' self-efficacy was moderate (34.3 ± 7.5). Higher self-efficacy scores correlated with better psychological well-being ($p < 0.001$; $r = -0.582$) and absence of anxiety and depressive symptoms. Strengthening self-efficacy in universities may improve student health behaviors and mental health.	Level IV. General self-efficacy and mental health among health-related university students.

Ferreira, M. R. C., Fernandes, R. A. F., Malloy-Diniz, L. F., & Ibiapina, C.. **Brazil, 2025.**	To evaluate the psychometric properties and factorial structure of the Higher Education Self-Efficacy Scale (EAEFS) among medical students and pediatric residents.	Cross-sectional observational study; N = 269.	- Higher Education Self-Efficacy Scale (34-item Likert scale). - Analyses: principal component analysis (PCA), Varimax rotation, KMO, Bartlett's test, Cronbach's alpha.	Seven self-efficacy factors were identified with good reliability (α = 0.70–0.86). The scale proved valid and useful for assessing academic competence perceptions and for guiding educational strategies such as practical experiences, modeling, and feedback.	Level IV. Academic and clinical self-efficacy in medical training.
AHMADY, S.; KHAJEALI, N.; SHARIFI, F.; MIRMOGHTADAEI, Z. S. **Iran, 2019.**	To identify factors leading preclinical medical students to failure and dropout, emphasizing low self-efficacy as a key determinant.	Systematic review; N = 89.	- Structured protocol; independent screening by two reviewers; manual search; reference tracking; author contact. - Quality assessment using STROBE checklist.	Several factors were associated with low performance in preclinical training, particularly personal factors. Self-efficacy was one of the most relevant predictors of academic success. Students with higher self-efficacy showed lower risk of difficulties and dropout, reinforcing its central role in preventing academic failure.	Level Ib. Personal, pedagogical, institutional, and psychosocial factors related to academic performance in medical students.

Source: Research data (2025).

The findings of this integrative review indicate that self-efficacy is one of the main determinants of academic performance among medical and nursing students, aligning with the assumptions of Bandura's Social Cognitive Theory, which posits that efficacy beliefs influence self-regulation, engagement, and the ability to cope with challenges. Across the analyzed studies, multiple factors were shown to interact in complex ways in shaping self-efficacy and academic achievement, although important gaps remain in the integrated understanding of these elements. These findings are consistent with international evidence demonstrating that self-efficacy is a robust predictor of academic success across different educational settings.

Consistent with this perspective, Ahmady et al. (2019) identified that, during the preclinical cycle, personal factors play a decisive role in academic performance, highlighting self-efficacy as one of the most relevant predictors. According to the authors, students with stronger beliefs in their own abilities tend to achieve better performance and present a lower risk of difficulties or attrition, reinforcing the central role of self-efficacy in preventing academic failure during early training.

Regarding psychological factors associated with academic achievement, Hayat et al. (2020) demonstrated that self-efficacy, positive emotions, and metacognitive strategies jointly explain approximately 30% of the variance in academic performance among medical students, indicating that affective and cognitive aspects directly influence learning. Similarly, Popa-Velea et al. (2021) found that resilience, optimism, and perceived stress exert distinct effects on performance, particularly among low-achieving students, for whom positive psychological variables were associated with higher grades, while elevated stress levels negatively affected GPA. These results underscore the importance of understanding self-efficacy not in isolation but as part of a broader constellation of socioemotional competencies that shape academic success. In addition, large-scale international research, such as Ampuero-Tello et al. (2022), has shown that self-efficacy functions as a protective factor against depressive and anxiety symptoms and academic stressors, broadening its relevance to student well-being.

More recent studies have examined the role of self-efficacy in the post-pandemic educational context, pointing to the influence of psychological well-being and burnout on academic outcomes. Ruiz et al. (2024) showed that among second-year students, final performance was predicted by both self-efficacy and burnout, whereas among third-year students only self-efficacy related to evidence-based medicine correlated with OSCE performance. These findings suggest that the relationship between self-efficacy and performance may vary across stages of training, indicating that pedagogical interventions designed to strengthen efficacy beliefs should be tailored to the student's level of progression. This developmental gradient aligns with findings by Cabras et al. (2024), who identified that self-efficacy can mediate the relationship between stress, available study time, and academic performance, reinforcing its regulatory function in contexts of academic overload.

Studies investigating learning processes, motivation, and study strategies further highlight the differentiated role of self-efficacy. Chen et al. (2024) found that self-efficacy, deep learning approaches, motivation, and burnout symptoms affect students differently depending on their performance level, revealing that high-achieving students may experience greater emotional exhaustion, whereas average-performing students rely more heavily on their self-efficacy and motivation. These findings expand the understanding that self-efficacy does not operate uniformly across student populations but varies according to performance profiles and academic demands. Similar patterns are described in recent international reviews suggesting that self-efficacy may serve as a buffer against academic stress (Nawawi, 2024).

The influence of teaching methodologies also emerged as a relevant factor in the development of self-efficacy. Lopes et al. (2020) demonstrated that students engaged in active learning approaches, such as Problem-Based Learning (PBL), showed significantly higher self-efficacy scores compared to those in traditional instruction. Sociodemographic factors—including female sex, older age, living alone, absence of chronic illness, and participation in extracurricular activities—were also associated with higher self-efficacy levels. These findings suggest that both individual characteristics and learning environments play essential roles in strengthening academic confidence, emphasizing the importance of student-centered curricula grounded in

autonomy, problem solving, and practical experiences. These results align with recent meta-analyses showing that student-centered methodologies (e.g., PBL, project-based learning, case-based learning) enhance motivation, self-regulation, and competence beliefs, even if they do not always produce uniform effects on grades or summative assessments (Muhtadi & Hukom, 2025; Educational Psychology Review, 2024).

The literature analyzed also revealed that health conditions and overall well-being significantly influence self-efficacy. Alves et al. (2024) found that higher self-efficacy levels were associated with better psychological well-being and lower prevalence of anxiety and depressive symptoms during the COVID-19 pandemic. These findings converge with prior evidence on the protective function of self-efficacy for mental health, suggesting that strong efficacy beliefs help mitigate the impact of everyday stressors. Similarly, Chen et al. (2025) identified that high self-efficacy, prosocial motivation, and high-quality educational experiences contribute to stronger professional commitment among nursing students, indicating that self-efficacy influences not only academic performance but also persistence and engagement in the profession. International studies likewise reinforce this protective effect, demonstrating reductions in emotional exhaustion and improved academic engagement among students with higher self-efficacy.

Concerning the measurement of self-efficacy, Ferreira et al. (2025) demonstrated the psychometric robustness of the Higher Education Self-Efficacy Scale (EAEFS), identifying factors with high internal consistency. This reinforces the validity of using this instrument in studies aiming to assess students' perceptions of their academic abilities. This finding is particularly relevant because identifying the self-efficacy dimensions most sensitive to the educational context can guide more specific and effective pedagogical interventions aligned with students' real needs.

Despite the substantial body of evidence, this review identified important gaps in the literature. Few studies systematically integrate sociodemographic variables, physical and mental health conditions, lifestyle factors (such as sleep, physical activity, or medication use), and academic performance. Although Lopes et al. (2020) consider some of these variables, analyses capable of identifying how such factors interact and influence achievement remain limited. Moreover, most studies employ cross-sectional designs, limiting causal inferences. The scarcity of longitudinal studies hinders understanding of how changes throughout training—such as the development of clinical skills, emotional experiences during internships, and adaptation to academic environments—affect self-efficacy and performance. These limitations are also noted in recent international reviews, which emphasize the need for more comprehensive analytical models and longitudinal investigations capable of capturing the complex interaction between psychological, pedagogical, and sociodemographic factors (Nawawi, 2024).

4. Conclusion

The present review demonstrated that self-efficacy is a central determinant of academic performance and psychological well-being among Nursing and Medical students. It is influenced by psychological variables such as resilience, motivation, self-regulation strategies, and perceived stress. The analyzed evidence indicates that active learning methodologies, especially Problem-Based Learning, are associated with higher levels of self-efficacy compared to traditional teaching approaches, reinforcing the relevance of student-centered pedagogical practices.

Sociodemographic characteristics and health-related conditions were also associated with variations in self-efficacy, suggesting that educational environments that are responsive to individual needs and provide emotional support contribute to greater academic engagement and improved performance. However, the predominance of cross-sectional study designs limits causal interpretations and constrains understanding of the temporal dynamics among these factors.

It is concluded that strengthening self-efficacy should be considered an institutional priority, given its capacity to enhance academic performance, promote resilience, and support the development of professionals who are better prepared to meet the challenges of healthcare practice. Longitudinal and analytical studies are recommended to deepen the understanding of how psychological, pedagogical, and sociodemographic factors interact and jointly influence self-efficacy and academic performance throughout the educational trajectory.

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