

The effects of academic self-efficacy on the academic achievement of Chinese and foreign university students

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Abstract. With the growing trend of internationalisation in global higher education, studying abroad has become more frequent. Due to factors such as different cultural backgrounds and living habits, foreign and native students have differences in adaptation to academic life and face various psychological challenges. The objective of this research is to systematically review the existing literature and examine the impact of academic self-efficacy on the academic achievement of both native Chinese students and foreign native students in higher education, with a focus on the perspective of educational psychology. To explore practical solutions to help Chinese international students improve their academic self-efficacy, which can influence their pursuit of higher academic performance. To better understand the influence of the educational environment and cultural elements on this association, the present study undertakes a comparative analysis of the correlation between students' academic self-efficacy and academic performance across different countries and cultural contexts. The results of this study will enable Chinese international students to grow better in the future global higher education environment, promote sustainable education development, and foster cross-cultural understanding and cooperation.

1 Introduction

With the growing trend of internationalisation of higher education worldwide, studying abroad has become an educational choice for many families in China. Colleges and universities with different cultural backgrounds outside China provide students with rich learning experiences and advanced communication. However, Chinese students will face various educational and psychological challenges in a foreign country to achieve higher academic performance and better future development. International studies suggest a correlation between student academic achievement and academic self-efficacy. A strong sense of self-efficacy may benefit more from the experience of studying abroad. It will lead students to have a more relaxed view of the confrontation with the new culture and to perceive the challenges of the new culture as less intractable [1]. A strong sense of self-efficacy will help international students to develop better abroad and prevent them from going off track when faced with upcoming challenges. From a socio-historical standpoint, it is readily apparent that China and the Western world exhibit notable cultural disparities in conceptions and ways of life. Chinese international students may show more difficulties adapting to the situation after entering an unfamiliar environment due to the lack of knowledge about the Western education system, Western culture and beliefs, and academic language [2]. The mechanism of academic self-efficacy on academic achievement for Chinese overseas students in international higher education situations still needs further investigation and analysis.

The main focus of this study is to conduct an in-depth analysis of the existing research and explore the impact of academic self-efficacy on the academic achievement of both native Chinese students and foreign native students in higher education. This research will be approached from the standpoint of educational psychology. This research does a comparative analysis of the association between students' academic self-efficacy and their academic performance across various nations and cultures to have a deeper comprehension of the moderating influences exerted by the educational environment and cultural elements on this particular association and to examine viable strategies for enhancing the academic self-efficacy of Chinese overseas students, which in turn may impact their pursuit of better academic achievement. The results of this study will enable Chinese international students to grow better in the future global higher education environment, promote sustainable education development, and foster cross-cultural understanding and cooperation.

2 Academic self-efficacy

The notion of self-efficacy was first developed by Bandura in the year 1977 in his famous book *Social Learning Theory*. Bandura conceptualised it as a relatively precise anticipation of individuals' convictions regarding their capacity to engage in a specific behaviour or execute it necessary to yield a particular outcome. This pertains to an individual's beliefs and assurance in their aptitude to arrange a series of actions and exert the effort required to attain a specific objective [3]. It can be seen that self-efficacy is not an

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ability possessed by the individual, nor is it simply a judgement of one's abilities. However, it is essential to note that self-belief refers to an individual's self-assurance and personal decisions of their capacity to accomplish a job or attain a specific objective. These subjective sentiments play a crucial role in shaping an individual's self-perception. As defined by Schunk in 1989, academic self-efficacy is the perception of an individual's intellectual ability. The learner's perspective of evaluation pertains to their self-assessed confidence in effectively utilising their talents or skills to accomplish academic objectives. [4]. In this context, Schunk emphasised how individuals' information about their skills and performance can influence their behaviour and decision-making. Conversely, academic self-efficacy emerges as a noteworthy indicator of academic achievement, whereby those with elevated levels of academic self-efficacy tend to harbour the belief that they possess the capacity to surmount academic challenges. Therefore, they are more motivated to adopt positive learning strategies, invest time and effort in their studies, and are more likely to pursue better academic achievement.

3 Influencing factors for Chinese domestic students

In contemporary times, local Chinese students may experience heightened psychological stress about their academic pursuits. This may be attributed to the implementation of the "one-child" policy in China during the 1980s, which has led to a significant proportion of college students born in the 1990s being the only offspring within their households. Chinese-only children usually have high expectations from their families, who want them to succeed in university and bring honour to the family. As a result, they present unique psychological characteristics in receiving education compared to their foreign families. Most of the students suffer from high psychological pressure in academics and are often described as lonely, sensitive, fragile, and having a low mental capacity. Although it may not be possible to enhance cognitive elements such as IQ in the immediate term, it could be feasible to modify non-cognitive aspects, such as psychological emotions, in specific ways to assist these kids. Hence, it is valuable to investigate the impact of academic self-efficacy on academic achievement in the presence of negative emotions such as anxiety, despair, and stress.

In their 2019 research, Liu et al. investigated the effects of negative emotions, achievement goals, and academic self-efficacy on academic performance using Beijing College Students Panel Survey (BCSPS) data [5]. This study used a comprehensive analysis of the psychological condition of Chinese college students born after 1990. The research methodology included sampling and screening data, resulting in a dataset of over 2,000 Chinese college students over four years [5]. The research included regression analysis and two-way fixed-effects models to examine the impact of psychological states on academic performance. In conclusion, the study determined that grade and gender affected negative emotions, accomplishment objectives, and academic self-efficacy among Chinese college students. The story of academic self-efficacy shown by college students

declined from their first year of enrollment to their third year of study. Furthermore, it was revealed that there is a substantial relationship between academic self-efficacy and academic performance, with higher levels associated with better academic performance. Additionally, it was observed that goal avoidance hurts academic success. Therefore, improving academic performance by improving mental state and academic self-efficacy is feasible to achieve educational sustainability [5].

Numerous academic investigations have shown a beneficial correlation between elevated levels of self-efficacy among pupils and their inclination to embrace constructive learning practices. Nevertheless, a limited number of contemporary research investigates the many aspects that influence students' academic self-efficacy within blended learning settings. In China, especially during the COVID-19, traditional face-to-face education was limited by the closure of schools due to the pandemic and the requirements of social distancing. In this particular case, the educational approach known as blended learning effectively utilises technology and online resources to enhance the efficacy and adaptability of student learning while still preserving the interactive and social benefits associated with conventional classroom instruction.

In their 2022 research, Wei et al. conducted a study that examined the many elements that influence students' academic self-efficacy within a blended learning environment. The researchers also constructed a complete model to understand this phenomenon better. The data for this research was obtained by a questionnaire survey administered to a sample of 366 college students enrolled at a university in China. Subsequently, the acquired data was analysed using hierarchical regression techniques [6]. The research findings indicate that blended teaching, in contrast to conventional face-to-face instruction, included in-person classroom instruction and online learning facilitated by a learning management system (LMS). The analysis of the research findings revealed that many factors, including intrinsic motivation, extrinsic incentives, teacher support, performance expectations, and enabling settings, emerged as noteworthy indicators of students' academic self-efficacy within the context of blended learning. The study results indicate that students are more likely to invest more effort and maintain their commitment to educational objectives when they regard the LMS as beneficial and believe that the necessary circumstances are in place to enable its usage. However, it is worth noting that loneliness in online learning must also be considered to help students cope with it. The regression analyses yielded conclusive findings indicating that motivation to learn, encompassing intrinsic and extrinsic motivation, emerged as the primary predictor of academic self-efficacy. Furthermore, it was observed that students who demonstrated a proactive engagement in their studies and classroom activities exhibited a heightened level of organisation and execution in their pursuit of desired educational outcomes [6].

Academic achievement is essential in educational psychology and addresses several critical student learning and educational process aspects. Academic achievement assesses students' progress and achievement levels and motivates them to learn. In China, students with high academic achievement is often perceived as having robust

learning and problem-solving skills, which also usually increase university graduates' competitiveness in the job market or subsequent further education. Furthermore, achieving high academic success is beneficial for personal growth and facilitates integration into positive social networks, while poor academic performance may indicate the presence of harmful behaviours among students. Academic self-efficacy is a prominent non-intellectual element among many variables influencing intellectual accomplishment [7].

Luo et al. 2023 conducted a survey of valid questionnaires completed by 1,158 Chinese university students. The research findings revealed a favourable correlation between the academic self-efficacy of Chinese college students and their academic achievement and level of learning engagement. Furthermore, the use of structural equation modelling revealed that the presence of learning engagement can modulate the relationship between academic self-efficacy and accomplishment [7]. In addition, it was found that students in higher grades had higher achievement. Nevertheless, the data did not reveal any noteworthy disparity in academic achievement across different academic years, indicating that as students mature, their self-efficacy and level of participation in the learning process tend to rise. The study's findings on students' self-efficacy, engagement in education, and academic achievement demonstrated that the influence of academic self-efficacy on college students' achievement sheds light on the understanding of learning engagement. Moreover, these results provided valuable insights for developing interventions to enhance academic achievement among college students [7].

4 Influencing factors for foreign domestic students

Globally, substantial scholarly research on international students has underscored the significance of academic self-efficacy concerning students' future learning outcomes and academic achievement. This reflects the importance attached internationally to the development of university students and the fact that good academic achievement is beneficial to their subsequent growth in a globalised marketplace and to the advancement of society.

In their 2016 research, Honicke et al. conducted a comprehensive review of the existing scholarly literature on the correlation between academic self-efficacy and the academic achievement of international university students. The study encompassed 12 years, from 2003 to 2015, and examined the cognitive and motivational factors identified as influential in elucidating this association [8]. Prior studies have described modest correlations between these variables but have rarely discussed the mediators and moderators influencing this relationship. Honicke et al. researched psychological, educational, and related web databases to examine the relationship between academic self-efficacy and performance among international university students. The meta-analysis comprised 59 research articles, encompassing studies conducted in various countries. Specifically, 33 studies were born in the United States, while the United Kingdom, Belgium, the Netherlands,

Turkey, and Australia each contributed two or more studies. Additionally, one study was conducted in Bangladesh, Canada, Egypt, Iran, Nigeria, Norway, the Philippines, Spain, Taiwan, and the United Arab Emirates [8]. The findings from the meta-analysis conducted on the survey literature on the population of university students in various nations revealed a statistically significant and moderate positive association between academic self-efficacy and academic performance among university students worldwide. Furthermore, previous research has shown that several factors, including effort management, academic procrastination, depth processing strategies, parental engagement, and goal orientation, largely influence the association and how academic self-efficacy impacts academic performance. Nevertheless, high academic self-efficacy may lead to overconfidence and higher exam preparation, resulting in unsatisfactory grades [8].

Colleges and universities abroad often use diversified assessment methods such as exams, classroom assignments, group projects, essays, lecture reports and other forms to assess students' mastery of course learning due to different education systems. In the process of assessment, students' assessment anxiety is the tension associated with evaluation, which may contain emotions such as students' worry about the assessment results, fear of failure or poor performance. According to existing research, there is evidence to indicate that students who possess lower levels of academic self-efficacy may experience heightened levels of anxiety and distress in the context of assessments. Individuals with greater academic self-efficacy tend to be more likely to maintain a composed and assured demeanour when confronted with evaluative situations.

Roick et al. conducted a longitudinal research on self-efficacy and academic achievement in their 2017 publication. The study used the emotion appraisal theory (Control-value theory) to validate the structure of anxiety predictors through a longitudinal design to test whether self-efficacy was related to each link in the chain [9]. At different times, the study administered questionnaires to 92 university students at a German university. The research used structural equation modelling to analyse the direct impact of self-efficacy on various variables comprehensively. This analysis included sequentially running five distinct models. Eventually, the study showed that self-efficacy influenced the expected outcomes proposed by the emotional appraisal theory (Control-value theory). That self-efficacy was positively correlated with expected academic success and positively correlated with the degree of importance students attached to these outcomes. Moreover, the high success volume is associated with an increase in students' pre-test state test anxiety, which determines a higher stress level after the test [9]. Post-test fear is unrelated to the scores obtained; worry is responsible for the decline in test scores, and students' concern about the outcome weakens their ability to remember to process the task effectively. However, whether emotion produces a debilitating or facilitating effect depends on its level of intensity; low to moderate levels of emotion may enhance achievement, while high levels of emotion usually impair achievement [9].

Academic Satisfaction (AS) is a crucial measure of the success of a college education that focuses not only on the student's overall experience and development in campus life

but also on the student's academic success. There is an interactive relationship between AS and academic achievement. Higher educational attainment may increase students' AS as they feel confident in their academic success. And students with higher intellectual satisfaction may be more driven and motivated to achieve better grades.

The research conducted by Morelli et al. in 2023 aimed to examine the potential moderating role of college friendships in the associations between AS and academic self-efficacy, as well as between intellectual satisfaction and diverse motives to pursue higher education [10]. The study was conducted among 431 university students at an Italian university. Five regression analyses analysed the research and finally concluded that students' AS positively affected the number of friendships they make at university [10]. The organisation encompasses both assistance and engagement, and students with an extensive social network at the institution may enhance the influence of self-determination on academic success. The study showed that intellectual satisfaction was related to self-efficacy and intrinsic motivation. For young people, the need for friendships is crucial and complementary to their educational experience. This peaks during adolescence and young adulthood is critical to having friends and positive peer relationships, enhancing students' perceived well-being and overall life satisfaction. Moreover, when students exhibit a deficiency in motivation or possess elevated levels of extrinsic motivation, their levels of academic satisfaction tend to be comparatively lower [10].

5 Discussion

There was a favourable correlation between Chinese college students' academic self-efficacy and their academic achievement, engagement, and accomplishment [7]. Moreover, academic self-efficacy significantly contributes to educational achievement and avoidance goals have been shown to impact academic achievement negatively [5]. The variables of grade and gender may influence the adverse emotional experiences, pursuit of accomplishment objectives, and levels of academic self-efficacy among Chinese undergraduate students [5]. In the current context of blended learning, students demonstrate increased effort and persistence in pursuing educational objectives when they regard online learning as beneficial or when they perceive conducive settings for its implementation [6]. When students proactively engage in learning and classroom activities, they exhibit a higher level of organisation and actively pursue behaviours that lead to attaining desired academic results [6]. The relationship between academic self-efficacy and accomplishment is influenced by learning engagement [7].

For Chinese university students, improving academic performance by improving their mental state and academic self-efficacy is feasible to achieve educational sustainability [5]. However, it is worth noting that loneliness in learning also needs to be emphasised, and teachers should help students cope with it [6]. The findings from the investigation on students' self-efficacy and engagement in the learning process, as well as their subsequent academic outcomes, demonstrate that the mechanisms of academic self-efficacy

among college students significantly impact their academic achievement. This study contributes to the existing research on educational engagement and provides valuable insights for designing and implementing interventions to enhance college students' academic achievement [7].

A discernible positive correlation exists between academic self-efficacy and academic achievement among international college students [8]. Self-efficacy is positively correlated with expected academic success and positively correlated with the importance students place on these outcomes [9]. Moreover, the high importance of success was associated with an increase in students' pre-test state test anxiety, which determined higher anxiety levels after the test [9]. As a correlate of academic achievement, students' intellectual satisfaction is positively correlated with how many friendships they make in college [10]. The correlation between academic self-efficacy and academic success and the underlying mechanisms of this connection is often influenced by several factors, including effort management, academic procrastination, depth processing strategies, parental engagement, and goal orientation [9]. Excessive academic self-efficacy may cause students to be overconfident, which reduces their preparation for exams and leads to unsatisfactory grades [8]. When students exhibit a deficiency in motivation or possess elevated levels of extrinsic motivation, it is often seen that their levels of academic pleasure tend to be diminished [10].

For college students in foreign universities, the impact of friendship needs on their academic achievement is relatively significant. Friendship needs can maximise the impact of self-determination on intellectual satisfaction and enhance students' perceived well-being and overall life satisfaction [10]. Thus, the academic achievement of peers has a beneficial impact on improving the academic achievement of both individuals involved. In addition, foreign universities should strive to develop students' self-efficacy, independence and social relationships, and in due course, make students aware that their academic goals have been achieved by presenting them with appropriate new challenges, giving students more opportunities to meet and work together, organise events, etc. [10].

Based on the above analyses of the situation of local Chinese college students and local college students in other countries, this paper provides some comments on the status of Chinese international students going to study abroad. Cultural adaptation is an expected challenge for Chinese international students, who may feel confused when they face new values, social etiquette, social relationships, and the learning atmosphere abroad. However, socio-cultural adaptation is processual, affected by the length of study abroad, and the consequent changes show different characteristics at each stage [2]. Chinese international students' general self-efficacy can enormously enhance their sociocultural adaptation [2]. Those with high self-efficacy will benefit more from their experiences abroad, and increased self-efficacy promotes other positive relationships, such as better coping with stress, healthier and more positive behavioural performance, and tremendous success in achieving goals [1]. By improving their academic self-efficacy, Chinese international students can better regulate their mindset, actively participate in the classroom and

integrate into the local society to pursue good academic achievement.

6 Conclusion

Extensive worldwide research supports a positive association between academic self-efficacy and academic achievement among domestic and international university students. However, achieving this balance between self-efficacy and academic success may have some variations across countries and cultures.

For college students in Chinese universities and colleges, improving their mental state and engagement in learning are critical factors in improving academic achievement. Research has shown that positive emotions and good mental states among college students can enhance academic self-efficacy and motivation. Therefore, schools and families should work together to provide mental health support and resources to help students deal with academic stress and emotional problems. In addition, the loneliness of only children must be addressed, which is prevalent among Chinese college students. This loneliness may affect their academic achievement and overall well-being. Therefore, schools and society should provide appropriate networks and activity support to alleviate this loneliness and help students better integrate into society.

For college students in foreign colleges and universities, friendship needs and appropriate (not too high and not too low) academic self-efficacy are relatively crucial for their academic achievement. Cross-cultural studies have found that foreign college students typically place a greater emphasis on social interactions and friendships. Schools should provide opportunities to promote student communication and cooperation, such as study groups, social activities, and volunteer programmes. On the other hand, educators should make students realise that their learning goals have been achieved at the right time and then propose appropriate new challenges. This can be done by recommending higher-level courses, research opportunities or involvement in student organisations. Through these initiatives, students will have more opportunities to meet and work together, thus improving their academic achievement and overall competence.

A correlation exists between academic self-efficacy and academic achievement inside national borders and beyond international contexts. However, it is essential to note that the elements influencing this connection may differ based on the specific cultural and educational settings. There are discernible distinctions between Chinese and international university students regarding the aspects that impact their academic self-efficacy and academic achievement. These disparities are driven by cultural background, educational environment, and personal experiences. Therefore, these factors need to be considered in educational practice to support different groups of students better.

In the future, the study will explore the differences in motivation and academic self-efficacy between students of Chinese-foreign co-operative universities in China, Chinese overseas students and students of Chinese general universities and expand the evidence of quantitative research.

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