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Relationship between International Students' Psychological Well-being and Academic Performance: A Review and Research Agenda

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Abstract

The relationship between psychological well-being and academic success is critical, especially for international students, due to their challenges. These challenges may affect their mental health which can have negative effects on their academic success. This study's aim was to find the correlation between psychological well-being and academic performance. A comprehensive review of the existing literature was conducted between 2005-2022, following PRISMA guidelines, using the databases Scopus and Web of Science. After evaluating the components and contents of

the articles, 20 were found to be eligible. The results were varied, with some studies showing a positive association, others finding no correlation, and others yielding conflicting results. The studies that reported a positive link were largely cross-sectional, focused on relational psychological well-being, involved international students, and relied on self-reports. The conflicting results highlight the need for future research using long-term study designs to focus on more specific aspects of psychological well-being and academic success.

Keywords: International Students, Academic Performance, Psychological Well-Being, Mental Health

1. Introduction

International students have risen globally in the last few decades, and their psychological well-being has become a significant concern for policymakers, educators, and mental health professionals (Adnett, 2010; Ahmed & Shah, 2018; Shah *et al.*, 2019) [1, 2, 62]. In many countries, these students face several challenges, including language barriers, culture shock, loneliness, and discrimination, which can impact these students' academic and psychological well-being (Jin & Wang, 2016; Kawamoto *et al.*, 2017) [31, 34].

International students have become a significant part of higher education globally. There has been a 57% increase in international students enrolled in higher education between 2000 and 2012 (UNESCO, Institute of Statistics [UIS] 2015) [70]. The Organization for Economic and Cooperation and Development (OECD) data also showed that European and North American countries host the most significant number of international students, and Asian countries are the highest senders, followed by sub-Saharan African countries (OECD, 2023) [51]. International students enroll in universities in different countries intending to obtain a degree, enhance their career prospects, or gain new experiences (Bordia *et al.*, 2015) [9].

However, international students often face challenges impacting their psychological well-being, including language barriers, culture shock, discrimination, and isolation (Baba & Hosoda, 2014; Jung *et al.*, 2007; Khawaja & Stallman, 2011) [5, 33, 36]. These challenges can cause stress, anxiety, and depression. They may also lead to other mental health problems, which can affect their academic performance. For example, an Australian study found that international students who experienced cultural shock and discrimination had lower academic performance and high stress and anxiety levels than students who did not experience these challenges (Lowinger *et al.*, 2014) [44].

Despite the growing number of international students and the potential impact of their psychological well-being on their academic performance, there needs to be more research on the relationship between the two (Topham & Moller, 2011) [69]. The current literature needs to be more cohesive and often focuses on specific aspects of the relationship or populations of international students. There is a need for a comprehensive review that synthesizes the existing evidence and identifies the relationship between international students' psychological well-being and academic performance.

The main objective of this systematic review is to investigate the relationship between international student's psychological well-being and academic performance and the effects of this relationship. This review will also aim to 1) Identify the prevalence of psychological well-being problems among international students and how they affect academic performance. 2) Evaluate the effectiveness of interventions designed to improve these students' psychological well-being and academic performance. 3) Synthesize the existing evidence on the relationship between psychological well-being and academic performance and identify gaps in the literature.

International students' role in higher education is essential, and their psychological well-being and academic performance are critical concerns for educators and policymakers. The findings of this review provide valuable insights for policymakers, educators, and mental health professionals to improve the support and services available to international students and enhance their educational performance and overall well-being.

An Overview of International Students (2005-2022)

The Institute of International Education (IIE) stipulated that international students' enrolment in the United States rose to 1,094,792 in 2020. Similarly, the United Kingdom experienced a significant increase in the enrolment of international students from 2005 to 2021 (United Kingdom Higher Education Statistics Agency [UKHESA], 2022) ^[71]. The growth of international student enrolment can be attributed to several factors.

Firstly, the increasing demand for higher education globally has driven more students to pursue their studies abroad. Secondly, the globalization of the economy has created a need for a more culturally diverse workforce, making international students more attractive to employers (Stromquist, 2007; Choudaha, 2017) ^[67, 13]. Additionally, the rise of technology has made it easier for students to access information and resources, making studying abroad more accessible (Guruz, 2011; James-MacEachern & Yun, 2017) ^[23, 30]. Most international students are from Asia, with China, India, and South Korea being the top three sending countries (Li, J *et al.*, 2019) ^[40]. This trend is expected to continue as these countries continue to invest heavily in education and the pursuit of higher education becomes increasingly popular (Altbach *et al.*, 2019) ^[3].

Despite the overall growth in international student enrolment, there have been some challenges that international students face. These include language barriers, cultural differences, and financial difficulties (Gatwiri, 2015; Poyrazli & Grahame, 2007; Sherry *et al.*, 2010; Smith & Khawaja, 2011) ^[21, 55, 63, 65].

Psychological Well-being (PWB)

Psychological well-being refers to a person's overall sense of satisfaction, emotional adequacy, and happiness. Psychological well-being is a multidimensional construct encompassing various aspects of an individual's mental and emotional health, including relationships, physical health, personal growth, life purpose, and spirituality (Vaingankar *et al.*, 2012) ^[72]. In other words, it refers to people's ability to cope with trauma, stress, and adversity (Salami, 2010) ^[59].

Research on psychological well-being has shown that it is not just the absence of adverse mental health outcomes and disorders such as depression, anxiety, and mental disorders.

Instead, it is a positive and holistic mental and emotional health (Diener *et al.*, 1999) ^[16]. Positive emotions and experiences, such as happiness, satisfaction with life, and healthy relationships, are crucial components of psychological well-being. In addition, people with a sense of purpose and who feel they are making a positive impact are more likely to experience optimum psychological well-being (Deci & Ryan, 2008) ^[15]. One of the most used models of psychological well-being is the PERMA model, developed by (Goodman *et al.*, 2018) ^[22]. The model identifies five essential elements of well-being: positive emotions, engagement, relationships, meaning, and accomplishment. Positive emotions refer to experiencing a range of positive emotions and experiences, such as joy, contentment, and happiness. Engagement refers to feeling fully immersed and involved in enjoyable and fulfilling activities. The model describes relationships as a critical component of well-being, as social connections and supportive relationships contribute to a sense of belonging and security. Meaning and purpose in life refer to having a sense of direction and purpose and feeling that one's life is meaningful and worthwhile. The last component of the model - accomplishment - refers to a sense of achievement and accomplishment, whether through work, hobbies, or other activities.

Studies have also shown that spiritual well-being, or a sense of connection to a higher power or purpose, is another crucial component of psychological well-being (Wong, 2011) ^[75]. A connection has been established between spirituality and several beneficial results, such as increased resilience, reduced stress, and anxiety levels (Najafi *et al.*, 2022) ^[49], and an augmented sense of life's purpose (Villani *et al.*, 2019). Physical health is also closely linked to psychological well-being. Regular physical exercise, a nutritious diet, and sufficient sleep can enhance mental well-being, whereas physical illness and chronic pain can adversely affect one's psychological state (Hakanen *et al.*, 2006; Kwon *et al.*, 2018) ^[24, 39].

Several factors can impact psychological well-being, including socio-demographic factors, life events, and personality traits. For example, individuals with higher education and income levels tend to have positive well-being. In contrast, individuals who experience chronic stress, trauma, or loss may struggle with their mental and emotional health (Diener *et al.*, 1999) ^[16].

In addition, several studies have identified the factors responsible for the negative psychological well-being of international students (Chow, 2007; Forbes-Mewett & Sawyer, 2019; Khanal & Gaulee, 2019; Khawaja *et al.*, 2011; McKenna *et al.*, 2017; O'Reilly *et al.*, 2010; Puskar *et al.*, 2007) ^[14, 18, 35, 36, 48, 53, 56]. These factors include language barriers, financial difficulty, discrimination, racial profiling, loneliness, lack of social connection, and homesickness.

Academic Performance

The concept of academic performance is multifaceted and pertains to a student's capacity to attain academic achievement (Puskar & Bernado, 2007) ^[56]. This success is measured by various factors such as grades, standardized test scores, and participation in academic activities. The construct of academic performance has been studied extensively by researchers over the past two decades, and a standard definition has been established. One key factor contributing to academic performance is a student's

motivation.

In a study published in 2010, researchers found that intrinsically motivated students, that is, driven by an inward desire to learn and achieve personal satisfaction, tended to perform better academically than students who were extrinsically motivated, meaning driven by external factors such as rewards or grades (Wigfield & Cambria, 2010) ^[74].

Another study published in 2015 found that students with a growth mindset - believing they can develop their abilities through hard work and dedication - were more likely to perform better academically than students with a fixed mindset, who believed their abilities were predetermined and could not be changed (Paunesku *et al.*, 2015) ^[54].

Apart from motivation, academic performance is also influenced by a student's learning strategies and study habits. A 2008 study found that students who used effective learning strategies, such as active reading, self-testing, and summarizing, performed better academically than students who used fewer effective strategies, such as re-reading or cramming (Dunlosky *et al.*, 2013) ^[17]. Another study found that students with sound study habits, such as allocating specific study hours and establishing a favorable study atmosphere, generally exhibited superior academic performance compared to those who lacked such habits (Kim *et al.*, 2018) ^[37].

The home environment also plays a role in academic performance. One study found that students with supportive and involved parents, who monitored their academic progress and provided academic support, performed better academically than students who lacked such support (Henderson & Mapp, 2002) ^[26]. Another study found that students who grew up in households with high levels of stress, such as poverty or family conflict, were more likely to experience negative academic outcomes, such as poor grades and low graduation rates, than students who grew up in less stressful households (Martin, & Dwyer, 2021) ^[47].

Furthermore, a student's socio-emotional skills, such as emotional intelligence and self-efficacy, influence academic performance. Studies indicated that students with heightened emotional intelligence, meaning the ability to recognize and regulate their own emotions and that of others, tended to exhibit better academic performance than students with lower levels of emotional intelligence (Salovey & Mayer, 1990; Swanepoel & Britz, 2017) ^[60, 68]. Self-efficacy can also determine academic performance (Bandura, 1997) ^[6]. Students with high self-efficacy, meaning they believed in their ability to succeed academically, tended to perform better academically than those with low self-efficacy (Honicke & Broadbent, 2019; John & Andrew, 2001) ^[32].

Finally, a student's prior academic experiences and knowledge can influence academic performance. One study noted that students with a strong foundation of prior knowledge in a subject tended to perform better academically than those without prior knowledge (Fulano *et al.*, 2021) ^[19]. Another study found that students with positive prior academic experiences, such as supportive teachers or successful test-taking experiences, were more likely to perform better academically in the future than those with negative prior academic experiences (Valentine *et al.*, 2017) ^[73].

2. Methodology

Objectives

The primary objective of this systematic literature review is

to thoroughly analyze the available literature on the correlation between psychological well-being and the academic performance of international students. The objective here is to present an up-to-date summary of the research in this field and highlight any deficiencies in the current knowledge base.

Search Strategy

The systematic literature review was conducted by comprehensively searching academic databases such as the Web of Science and Scopus. Keywords such as 'international students,' 'psychological well-being,' 'academic performance,' 'adjustment,' 'mental health,' and 'mental well-being' guided the search. Additionally, the search was limited to articles published in English and between 2005-2022.

Inclusion and Exclusion Criteria

This review considered studies that specifically examine the association between the psychological well-being and academic performance of international students as part of its inclusion criteria. Also, only studies with international student participants were included, although comparative studies with a mixture of domestic and international students were also considered. The exclusion criteria include studies not written in English, studies focusing on a specific cultural group, and those without international student participants.

Data Extraction

Table 1 contains the extracted data from the chosen studies, such as authors, publication year, study design, sample size, study location, strengths, weaknesses, and key findings.

Quality Assessment

All selected articles were checked for quality to evaluate the potential risk of bias in study design, sample selection, and data analysis. The Cochrane Risk of Bias tool was employed to assess the quality of each study.

Data Synthesis

The extracted data were synthesized and analyzed to identify by summarizing the findings of the studies and drawing conclusions on the relationship between international student's psychological well-being and academic performance. The review also identifies gaps in the literature and suggests areas for future research.

Ethical Considerations

The systematic literature review adheres to ethical principles and guidelines. All studies were evaluated for ethical considerations, and any studies that violated ethical principles were excluded from the review.

3. Results and Discussion

General Description

A total of 20 studies examining international students were analyzed, covering the period from 2005 to 2022. Most studies, 36%, focused solely on international students in Australia, while 26% focused solely on international students in the USA. The remaining studies consider international students in Malaysia, Canada, the UK, and the Netherlands. The sample sizes of the studies varied, with a sample size from 14 to 5,276, out of which 40% had over 500 participants.

Findings

Twenty studies conducted between 2005 and 2022 aimed at examining international students' psychological well-being and academic performance were analyzed and summarized in a systematic review. The results revealed that (1) a majority of the research was centered on Chinese international students; (2) the factors most closely associated

with the psychological well-being of international students were the length of their stay in the host country, their level of English language proficiency, their willingness to seek help, their experiences of depression, and their acculturation process; and (3) depression was the most frequently studied variable, followed by acculturation, in the literature.

Table 1: Summary of studies included in the review for the Period 2005-2022

Year	Authors	Study design	Sample size	Location of study	Strength	Weakness	Main findings
2010	O'Reilly, A., Ryan, D., & Hickey, T.	Qualitative study	124	Ireland	The study explores the unique experiences of short-term international students, providing valuable insights into their psychological well-being and sociocultural adaptation.	The study is limited in its generalizability as it only focuses on short-term international students in Ireland.	The research discovered that in Ireland, short-term international students faced difficulties in adjusting to the new cultural and academic setting. These challenges were related to cultural differences, language barriers, and limited support networks. The study also found that despite these challenges, the majority of short-term international students reported high levels of psychological well-being, which was attributed to their positive outlook and resilience.
2019	Li, J., Wang, Y., & Xiao, F.	Systematic review	18	USA	The existing literature on the psychological well-being of east Asian international students was comprehensively reviewed.	Limited to East Asian international students	The systematic review found that East Asian international students face various challenges related to psychological well-being, including cultural adjustment difficulties, language barriers, and homesickness. The positive impact of social support and coping strategies on the psychological well-being of east Asian international students was noted by the authors
2007	Chow, H. P.	Cross-sectional	373	Canada	The study investigated the correlation between psychological well-being and academic performance among university students.	The generalizability of the results to other populations may be limited by the fact that the sample is limited to university students in a Canadian prairie city.	The study observed that higher levels of academic achievement were correlated with higher levels of psychological well-being among university students. Results suggest that promoting university students' psychological well-being may help improve their academic performance.
2012	Rienties, B., Beausaert, S., Grohnert, T., Niemantsverdriet, S., & Kommers, P.	Correlational	958	Netherland	The study investigates the impact of ethnicity and academic and social integration on the academic performance of international students.	generalizability of the results	The research indicated that academic and social integration could positively influence academic performance for international students, while ethnicity was not found to have a significant impact on academic performance. These results suggest that promoting academic and social integration can be a promising strategy to enhance the academic performance of international students.
2014	Martin, A. J., Papworth, B., Ginns, P., & Liem, G. A. D.	Longitudinal	5276	Australia	A large-scale investigation with a longitudinal design	Generalizability of the results, quantitative design	The study's findings indicated a positive correlation between attending a boarding school and psychological well-being but a negative correlation between attending a boarding school and academic motivation and engagement.
2006	Spencer-Oatey, H. and Xiong, Z	qualitative	112	Britain	Deep qualitative investigation	Sample size and generalizability	Negative correlation between psychological well-being and GPA
2007	Khawaja, N. G., & Dempsey, J.	quantitative	86	Australia	The study provides valuable insight into the distressed experiences of international students in Australia. It offers practical applications for international student support services and mental health professionals in assessing and treating distress among this population.	Social desirability and applicability Hopkins symptom checklist	The prevalence of psychological distress is high among international students in Australia, with obsessive compulsiveness being the most reported symptom. Interestingly, demographic and social factors were not found to be associated with psychological distress. However, dysfunctional coping strategies were found to be a significant predictor of psychological distress in this population.
2018	Singh Jasvir Kaur	Qualitative	55	Malaysia	Insights into non-western perspective on academic success	Single method of data collection, generalizability,	The results of this study indicate a direct correlation between personal traits such as discipline and independence as learners and

					factors of international students	lack of stereotypical perspectives	academic success, which encompasses timely completion of studies and conducting research.
2015	Dely Lazarte Elliot, Kate Reid & Vivienne Baumfield	Qualitative	14	UK	By focusing specifically on the chronosystem, the study provides a valuable contribution to, rather than a complete understanding of, the processes involved in the acculturative experiences of international students.	The study design has limited generalizability and practicality due to the diversity of human populations.	This paper employed Urie Bronfenbrenner's bio-ecological theory of human development as a theoretical framework to provide a deeper understanding of the complex challenges encountered by international students. Such challenges can significantly impact the success or failure of their study abroad experience.
2016	Ling Jin & Chiachih D.C. Wang	Quantitative Survey	217	USA	The study employed Berry's conceptual framework to investigate how adult attachment and mental toughness impact the psychological well-being of international students. The study aimed to test a mediation model in which adult attachment was hypothesized to be associated with mental toughness, which, in turn, would predict the psychological outcomes of international students. In order to test the proposed mediation model, the study utilized structural equation modeling (SEM) as it allowed for the examination of the relationships among the selected variables.	Cross-sectional design, self-reported survey, generalizability.	According to the study, Mental Toughness played a mediating role between attachment anxiety and psychological distress, as well as life satisfaction as a measure of well-being. However, attachment avoidance directly affected adjustment difficulties without the involvement of Mental toughness.
2017	Aki Kawamoto, Soo Jeong Youn, Theodore T. Bartholomew, Louis G. Castonguay & Benjamin D. Locke	Quantitative Comparative Analysis	607	USA	This study provided a comparative analysis of different levels of distress among individuals from specific domains.	Cross-sectional design, nonparametric statistical methods, generalizability	The study findings indicate that international students from Asia and Africa experience significantly higher levels of psychological distress across various domains when compared to their counterparts from Europe, North America, or South America.
2018	https://doi.org/10.1080/17475759.2018.1437463	Quantitative Survey	189	Australia	Utilization of AP measure, validation of CQ model	Single source data collection, cross-sectional design, nonparametric statistical methods, generalizability.	The study results indicate that various aspects of Cultural Intelligence (CQ) are positively related to Interactional Adjustment and General Adjustment among international students. However, a negative relationship was observed between CQ and Academic Performance. Moreover, the study introduced a new construct, Cultural Exposure (CE), which was found to consist of three dimensions: Geographical, Environmental, and Inherited. The Geographical and Environmental dimensions of CE were significantly and positively correlated with Academic performance. These findings contribute to understanding the complex interplay between cultural factors and academic success among international students.
2019	Sarbari Bordia, Prashant Bordia, Michael Milkovitz, Yaxi Shen & Simon Lloyd D. Restubog	Qualitative	57	Australia	The study's strength is its focus on the content, formation, and fulfillment of the psychological contract between international students and educational institutions. This focus addresses recent calls to	Single source data collection, cross-sectional design, cross-cultural difference.	The study's results indicate that social and institutional sources play a crucial role in forming the psychological contract between international students and educational institutions. Furthermore, fulfilling the contract leads to positive educational and psychological outcomes. This research offers valuable insights into the business and international education literature by identifying the essential

					understand the relationship between these two entities.		elements of the contract. The study highlights the interconnected roles of academic staff, business schools, and universities in fulfilling the contract. By understanding the psychological contract of international students, business schools can better manage the student-institution relationship and create a sustainable strategy for international student enrollment.
2015	Kylie Redfern	Empirical	201	Australia	This study contributed to the existing notion of international students' psychological well-being, presenting a fresh perspective on stress sources among international students.	Use of DAS-42 measure, which is not validated with the Chinese population. Generalizability of results. Single-source data collection.	The stress and anxiety levels experienced by Chinese international students are notably higher than their Australian peers, which appear to be rooted in cultural factors. Universities should address the psychological distress among Chinese international students. Strategies for psychological support, including counseling and academic assistance, must be tailored to the cultural context and consistently reinforced throughout the academic term as stress and anxiety accumulate.
2017	Azadeh Shafaei, Mehran Nejati & Nordin Abd Razak	Quantitative	974	Malaysia	This study aimed to investigate the relationship between acculturation attitudes and psychological adaptation among international students, to improve their resilience and ability to adapt to a new environment.	Cross-sectional design, cross-cultural differences, and the generalizability of the results.	The study found a significant correlation between adjustment and attachment attitudes and factors such as life satisfaction and self-esteem, with only adjustment attitudes being associated with depression. It also confirmed that all three dimensions of psychological adaptation play an essential role in overall psychological well-being. It supported the idea that life satisfaction, self-esteem, and depression mediate the relationship between adjustment attitude and psychological well-being.
2015	Sarbari Bordia, Prashant Bordia & Simon Lloyd D. Restubog	Review	NA	Australia	Constructed a new and innovative theoretical model to study the relationship between international students and business schools. The study analyzed the impact of students' cultural backgrounds on the psychological contract process.	Lacking empirical test Applicability of the model is limited to international students only.	This study contributes to the field of higher education by providing a robust theoretical framework for examining the essential factors, perceived obligations, and socio-educational consequences of international students. Moreover, it sheds light on the literature on employees' psychological contracts. While previous research has mainly focused on the consequences of breaching a psychological contract, this paper addresses the lesser-explored issue of forming a psychological contract.
2007	Jenny Hyun, Brian Quinn, Temina Madon & Steve Lustig	Survey	551	USA	Highlighted the mental health needs prevalent among the general graduate student population, regardless of seeking counseling services. We relied on self-reported data, which is unique compared to other mental health studies that use information from counselors and counseling centers. The respondents were diverse, representing a range of cultural and academic backgrounds rather than a specific group or academic discipline.	Nonrandomized sample selection, cross-sectional design, single-source data, the generalizability of the results.	According to the results, 44% of graduate students from international backgrounds experienced stress-related problems affecting their academic performance or well-being within the last year. The study found that graduate students with a positive relationship with their advisors were less likely to seek counseling services or experience these problems. The study also found that international students with a positive outlook on their financial situation were less likely to utilize counseling services.
2009	Danny Ong & Gaby Ramia	Mixed-Method survey	537 Survey, 21 Semi-Structured Interview	Australia	The analysis highlights the potential for universities and policymakers to leverage the economic success of international education as a vital export industry. Initially, attention should be given to the	Nonrandomized sample selection, cross-sectional design, single-source data, the generalizability of the results.	The findings highlight the limitations of a policy agenda that only focuses on students' academic experience. Examining student welfare expands the discourse beyond traditional perspectives of the "overseas student experience" and advocates for recognizing international students as deserving of rights that encompass more than just education and economics, including employment, work, and life outside the university.

					reality that many students work while residing in the host country. Some may face exploitation by unscrupulous employers due to their vulnerable bargaining position.		
2013	Xuesong Han, Xuemei Han, Qianlai Luo, Selby Jacobs, Michel Jean-Baptiste	Survey	130	USA	The study's strength lies in its examination of the special bond between students and their advisors, which is aimed at elevating awareness and making mental health and counseling resources more accessible to boost the mental well-being of international students from China.	Cross-sectional design, single-source data, and the generalizability of the results only to Chinese international students at Yale.	The study found that 45% of the participants showed symptoms of depression, and 29% reported anxiety symptoms. The results also revealed that poor self-rated health, a strained relationship with the advisor, and an inactive lifestyle were associated with a higher likelihood of experiencing depression and anxiety symptoms. Furthermore, 27% of the respondents were unaware of the availability of mental health and counseling services on campus.
2021	King, Rivera, Cunningham, Pickett, Hackness, McNevin, <i>et al.</i>	Survey	3,029	Canada	This study compared undergraduate domestic students' mental health and academic performance with international students. The participants were evenly distributed since international students' enrolment was lower than domestic students. Key foundational demographic concepts that show the difference in the lives of international and domestic students were highlighted.	Cross sectional and generalizable results.	This study found that international students are at comparable or lower risk of specific mental health issues than domestic students. However, it cited that international students were at more risk of suicide. Additionally, the study revealed that international students performed less academically and felt disconnected from the university. The study recommended that international students may improve their mental health and academic performance if they benefit from academic and social support.

With the growing number of international students pursuing higher education, it is vital to comprehend the factors that contribute to their academic and emotional success. Previous studies have demonstrated that the psychological well-being of international students is a significant factor that impacts their academic performance (Forbes-Mewett & Sawyer, 2016; Furnham & Trezise, 1983^[20]; Liu, 2009^[42]). Therefore, exploring the relationship between international student's psychological well-being and academic achievement is a crucial subject that warrants attention. These students are subjected to various stressors, such as feelings of homesickness, difficulties with the language, cultural disparities, financial hardships, and academic demands (Bender *et al.*, 2019; Khanal & Gaulee, 2019)^[7, 35]. These stressors can have a significant impact on their well-being, leading to feelings of anxiety, depression, and stress (Altinyelken *et al.*, 2017; Chen *et al.*, 2022^[12]). When international students are not emotionally well, it becomes more difficult for them to concentrate on their studies and perform to their full potential academically (Carmona *et al.*, 2008; Liu, 2020)^[11, 43]. On the other hand, academic success can also positively impact international students' psychological well-being. Students who perform well academically feel more confident and motivated, leading to improved mental health (Wyatt *et al.*, 2017)^[76]. This highlights the importance of providing support to international students in order to help them perform to their full potential, both academically and emotionally.

Despite the growing interest in this topic, most studies have limitations, such as focusing on specific populations, countries, or universities. Many studies have neglected the cultural differences among international students, which can impact their psychological well-being and academic performance (Bethel *et al.*, 2020; Shafaei *et al.*, 2017)^[8, 61]. The language barrier is a significant factor that can substantially influence international students' psychological well-being and academic performance (Nazir & Özçiçek, 2022; Sherry *et al.*, 2010; Smith & Khawaja, 2011; Poyrazli & Grahame, 2007)^[50, 63, 65, 55]. There also needs to be more investigation in the literature on the impact of support systems on international student's psychological well-being and academic performance. (Kim *et al.*, 2018)^[37]. Additionally, most of the studies have been cross-sectional, thus limiting the understanding of the long-term effects of psychological well-being and academic performance on international. Some studies still need to control essential variables affecting psychological well-being and academic performance, such as language proficiency and cultural adjustment. (Li. M *et al.* 2015)^[41]. Studies have only used GPA to measure academic performance, neglecting other important aspects of academic success, such as engagement and persistence. (Luthans, *et al.* 2019)^[45]. Most research studies have concentrated on delineating the association between psychological well-being and academic performance, overlooking the possibility of interventions that could enhance both outcomes. (Zhang *et al.*, 2020)^[77].

4. Research Agenda

The psychological well-being and academic performance of international students can be affected by numerous challenges. However, there is undeniably a relationship between psychological well-being and the academic performance of international students. Results from various studies suggest that international students' psychological well-being is positively associated with their academic performance. Factors such as social support, cultural adaptation, and stress management can play a crucial role in maintaining the psychological well-being of international students and improving their academic performance. Despite these findings, there still needs to be more research on the relationship between the psychological well-being and academic performance of international students.

This review recommends methodological and theoretical research areas that can help researchers to add more literature to this topic.

Methodological:

- Which assessments can be utilized to evaluate the psychological well-being of international students and how it affects their academic performance?
- How can researchers structure their studies to manage factors such as culture shock, language barriers, and acculturation that could influence the psychological well-being of international students and their academic performance?
- What methods can be employed to evaluate the efficiency of interventions that aim to enhance international students' psychological well-being and academic performance, for instance, counseling services, academic accommodations, or support programs?

Theoretical:

- Social Support Theory: How does the perceived level of social support from peers and family members impact the psychological well-being and academic performance of international students?
- Acculturation Stress Theory: How do acculturation stress and cultural identity affect the psychological well-being and academic performance of international students?
- Multicultural Personality Theory: What is the relationship between the personality traits of openness, neuroticism, and extraversion and international students' academic performance?
- Can the impact of various sources of social support (e.g., family, peers, and university support services) on international students' psychological well-being and academic performance differ?
- How does the extent of acculturation stress differ across international students of various cultural backgrounds, and how does this variation influence their psychological well-being and academic performance?
- How does the type and level of social support international students receive influence their acculturation stress levels and cultural identity?
- How do individual personality traits moderate the relationship between social support, acculturation stress, cultural identity, and international students' psychological well-being and academic performance?
- How does the duration of stay in the host country and

level of English language proficiency impact the psychological well-being and academic performance of international students?

- What interventions (e.g., counseling and peer support groups) effectively reduce acculturation stress and improve international students' psychological well-being and academic performance?
- How do cultural differences in attitudes toward mental health and help-seeking behaviors affect international students' psychological well-being and academic performance?

5. Conclusion

This systematic review investigated the connection between international students' psychological well-being and academic performance. Both policymakers and organizations like the WHO have brought attention to this issue, but the review found that research in this area needs to be more extensive and provide conflicting results.

Despite existing studies on the relationship between psychological well-being and academic success, the evidence still needs to be comprehensive and requires further research. The link between the two is not as strongly supported by evidence as previously thought. As such, more studies will help researchers, university boards, and faculty members understand the impact of psychological well-being on the academic performance of international students.

6. References

1. Adnett N. The growth of international students and economic development: Friend or foe? *Journal of Education Policy*. 2010; 25(5):625-637. Doi: <https://doi.org/10.1080/02680931003782827>
2. Ahmad AB, Shah M. International students' choice to study in China: An exploratory study. *Tert Educ Manag.* 2018; 24:325-337. Doi: <https://doi.org/10.1080/13583883.2018.1458247>
3. Altbach PG, Reisberg L, Rumbley LE. Trends in global higher education: Tracking an academic revolution. Brill, 2019. [Cited 2023 Feb. 17] Retrieved from: https://efaidnbmnnnibpcajpcglclefindmkaj/http://atepie.cep.edu.rs/public/Altbach,_Reisberg,_Rumbley_Tracking_an_Academic_Revolution,_UNESCO_2009.pdf
4. Altinyelken HK, Hoek L, Jiang L. Improving the psychosocial well-being of international students: The relevance of mindfulness, *British Journal of Guidance & Counselling*. 2020; 48(4):524-536. Doi: <https://doi.org/10.1080/03069885.2019.1600189>
5. Baba Y, Hosoda M. Home away home: Better understanding of the role of social support in predicting cross-cultural adjustment among international students. *College Student Journal*. 2014; 48(1):1-15. *College Student Journal*. Gale Academic OneFile, <https://link.gale.com/apps/doc/A372252062/AONE?u=googlescholar&sid=bookmark-AONE&xid=6a36dcbe>
6. Bandura A. Self-efficacy: The exercise of control. W H Freeman/Times Books/ Henry Holt & Co, 1997.
7. Bender M, van Osch Y, Slegers W, Ye M. Social support benefits psychological adjustment of international students: Evidence from a meta-analysis. *Journal of Cross-Cultural Psychology*. 2019; 50(7):827-847. Doi: <https://doi.org/10.1177/0022022119861151>
8. Bethel A, Ward C, Fetvadjev VH. Cross-Cultural

- Transition and Psychological Adaptation of International Students: The Mediating Role of Host National Connectedness. *Frontiers in Education*, 2020, p5. Doi: <https://doi.org/10.3389/feduc.2020.539950>
9. Bordia S, Bordia P, Restubog SLD. Promises from afar: A model of international student psychological contract in business education. *Studies in Higher Education*. 2015; 40:2:212-232. Doi: <https://doi.org/10.1080/03075079.2013.823935>
 10. Bordia S, Bordia P, Milkovitz M, Shen Y, Restubog SLD. What do international students really want? An exploration of the content of international students' psychological contract in business education, *Studies in Higher Education*. 2019; 44(8):1488-1502. Doi: <https://doi.org/10.1080/03075079.2018.1450853>
 11. Carmona C, Buunk AP, Dijkstra A, Peiró JM. The relationship between goal orientation, social comparison responses, self-efficacy, and performance. *European Psychologist*. 2008; 13(3):188-196. Doi: <https://doi.org/10.1027/1016-9040.13.3.188>
 12. Chen YA, Fan T, Toma CL, Scherr S. International students' psychosocial well-being and social media use at the onset of the COVID-19 pandemic: A latent profile analysis. *Computers in human behavior*. 2022; 137:107409. Doi: <https://doi.org/10.1016/j.chb.2022.107409>
 13. Choudaha R. Three waves of international student mobility (1999-2020). *Studies in Higher Education*. 2017; 42(5):825-832. Doi: <https://doi.org/10.1080/03075079.2017.1293872>
 14. Chow HP. Psychological well-being and scholastic achievement among university students in a Canadian Prairie City. *Social Psychology of Education*. 2007; 10:483-493. Doi: <https://doi.org/10.1007/s11218-007-9026-y>
 15. Deci EL, Ryan RM. Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*. 2008; 9:1-11. Doi: <https://doi.org/10.1007/s10902-006-9018-1>
 16. Diener E, Suh EM, Lucas RE, Smith HL. Subjective well-being: Three decades of progress. *Psychological bulletin*. 1999; 125(2):276. Doi: <https://doi.org/10.1037/0033-2909.125.2.276>
 17. Dunlosky J, Rawson KA, Marsh EJ, Nathan MJ, Willingham DT. Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*. 2013; 14(1):4-58. Doi: <https://doi.org/10.1177/152910061245326658>.
 18. Forbes-Mewett H, Sawyer AM. International students and mental health. *Journal of International Students*. 2019; 6(3):661-677. Doi: <https://www.ojed.org/index.php/jis/article/view/348>
 19. Fulano C, Magalhães P, Núñez JC, Marcuzzo S, Rosário P. As the twig is bent, so is the tree inclined: Lack of prior knowledge as a driver of academic procrastination. *International Journal of School & Educational Psychology*. 2021; 9(SP1):S21-S33. Doi: <https://doi.org/10.1080/21683603.2020.1719945>
 20. Furnham A, Trezise L. The mental health of foreign students. *Social Science & Medicine*. 1983; 17(6):365-370. Doi: [https://doi.org/10.1016/0277-9536\(83\)90239-3](https://doi.org/10.1016/0277-9536(83)90239-3)
 21. Gatwiri G. The Influence of Language Difficulties on the Well-being of International Students: An Interpretive Phenomenological Analysis. *Inquiries Journal/Student Pulse*. 2015; 7(5). <http://www.inquiriesjournal.com/articles/1042/>
 22. Goodman FR, Disabato DJ, Kashdan TB, Kauffman S B. Measuring well-being: A comparison of subjective well-being and PERMA. *The Journal of Positive Psychology*. 2018; 13(4):321-332. Doi: <https://doi.org/10.1080/17439760.2017.1388434>
 23. Guruz K. Higher education and international student mobility in the global knowledge economy: Revised and updated second edition. Suny Press, 2011. <https://eric.ed.gov/?id=ED524516>
 24. Hakanen JJ, Bakker AB, Schaufeli WB. Burnout and work engagement among teachers. *Journal of School Psychology*. 2006; 43(6):495-513. Doi: <https://doi.org/10.1016/j.jsp.2005.11.001>
 25. Han Xuesong, Han Xuemei, Luo Q, Jacobs S, Jean-Baptiste M. Report of a Mental Health Survey Among Chinese International Students at Yale University, *Journal of American College Health*. 2013; 61(1):1-8. Doi: <https://doi.org/10.1080/07448481.2012.738267>
 26. Henderson AT, Mapp KLA. New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement. Annual Synthesis, 2002. <https://eric.ed.gov/?id=ED474521>
 27. Honicke T, Broadbent J. The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review*. 2016; 17:63-84. Doi: <https://doi.org/10.1016/j.edurev.2015.11.002>
 28. Hyun J, Quinn B, Madon T, Lustig S. Mental Health Need, Awareness, and Use of Counseling Services Among International Graduate Students, *Journal of American College Health*. 2007; 56(2):109-118. Doi: <https://doi.org/10.3200/JACH.56.2.109-118>
 29. International Institute of Education [Cited 2023 Feb.10], 2020. <https://www.iae.org/publications/fall-2020-international-student-enrollment-snapshot/>
 30. James-MacEachern M, Yun D. Exploring factors influencing international students' decision to choose a higher education institution: A comparison between Chinese and other students, *International Journal of Educational Management*. 2017; 31(3):343-363. Doi: <https://doi.org/10.1108/IJEM-11-2015-0158>
 31. Jin L, Wang CDC. International students' attachment and psychological well-being: The mediation role of mental toughness. *Counselling Psychology Quarterly*, 2016. Doi: <https://doi.org/10.1080/09515070.2016.1211510>
 32. John L, Andrew L. Self-efficacy and Academic Performance. *Social Behavior and Personality: An International Journal*. Scientific Journals Publishers. 2001; 21(7):687-698(7). Doi: <https://doi.org/10.2224/sbp.2001.29.7.687>
 33. Jung E, Hecht M, Wadsworth BC. The role of identity in international students' psychological well-being in the United States: A model of depression level, identity gaps, discrimination, and acculturation. *International Journal of Intercultural Relations*. 2007; 31(5):605-624. Doi: <https://doi.org/10.1016/j.ijintrel.2007.04.001>
 34. Kawamoto A, Youn SJ, Bartholomew TT, Castonguay LG, Locke BD. Inter-and intra-group differences in psychological concerns among international students,

- Counselling Psychology Quarterly, 2017. Doi: <https://doi.org/10.1080/09515070.2016.1274962>
35. Khanal J, Gaulee U. Challenges of international students from pre-departure to post-study: A literature review. *Journal of International Students*. 2019; 9(2):560-581. Doi: <https://doi.org/10.32674/jis.v9i2.673>
 36. Khawaja NG, Stallman HM. Understanding the coping strategies of international students: A qualitative approach. *Journal of Psychologists and Counsellors in Schools*. 2011; 2:203-224. Doi: <https://doi.org/10.1375/ajgc.21.2.203>
 37. Kim JY, Choi DS, Sung CS, Park JY. The role of problem-solving ability on innovative behavior and opportunity recognition in university students. *Journal of Open Innovation: Technology, Market, and Complexity*. 2018; 4(1):4. Doi: <https://doi.org/10.1186/s40852-018-0085-4>
 38. King N, Rivera D, Cunningham S, Pickett W, Harkness K, McNevin SH, *et al.* Mental health and academic outcomes over the first year at university in international compared to domestic Canadian students. *Journal of American College Health*, 2021. Doi: <https://doi.org/10.1080/07448481.2021.1982950>
 39. Kwon SJ, Kim Y, Kwak Y. Difficulties faced by university students with self-reported symptoms of attention-deficit hyperactivity disorder: A qualitative study. *Child and Adolescent Psychiatry and Mental Health*. 2018; 12(12). Doi: <https://doi.org/10.1186/s13034-018-0218-3>
 40. Li J, Wang Y, Xiao F. East Asian international students and psychological well-being: A systematic review. *Journal of International Students*. 2019; 4(4):301-313. Doi: <https://doi.org/10.32674/jis.v4i4.450>
 41. Li M, Fang Q, Li J, Zheng X, Tao J, Yan X, Lin Q, Lan X, *et al.* The Effect of Chinese Traditional Exercise-Baduanjin on Physical and Psychological Well-Being of College Students: A Randomized Controlled Trial. *PLoS one*. 2015; 10(7):e0130544. Doi: <https://doi.org/10.1371/journal.pone.0130544>
 42. Liu M. Addressing the mental health problems of Chinese international college students in the United States. *Advances in Social Work*. 2009; 10(1). Doi: <https://doi.org/10.18060/164>
 43. Liu S. An Investigation of International Students' Perception of Social and Emotional Competence and Their Confidence in Achieving Academic Success. Widener University, 2020. [Cited 2023 Feb. 12] Retrieved from: <http://digitalwolfgram.widener.edu/digital/collection/p16069coll41/id/6156/>
 44. Lowinger R, He Z, Lin M, Chang M. The impact of academic self-efficacy, acculturation difficulties, and language abilities on procrastination behavior in Chinese international students. *College Student Journal*. 2014; 48(1):141-152. <https://eric.ed.gov/?id=EJ1034217>
 45. Luthans KW, Luthans BC, Chaffin TD. Refining grit in academic performance: The mediational role of psychological capital. *Journal of Management Education*. 2019; 43(1):35-61. Doi: <https://doi.org/10.1177/1052562918804282>
 46. Martin AJ, Papworth B, Ginns P, Liem GAD. Boarding school, academic motivation and engagement, and psychological well-being: A large-scale investigation. *American Educational Research Journal*. 2014; 51(5):1007-1049. <https://www.jstor.org/stable/24546733>
 47. Martin EC, Dwyer RE. Financial stress, race, and student debt during the great recession. *Social Currents*. 2021; 8(5):424-445. Doi: <https://doi.org/10.1177/23294965211026692>
 48. McKenna L, Robinson E, Penman J, Hills D. Factors impacting the psychological well-being of international students in the health professions: A scoping review. *International Journal of Nursing Studies*. 2017; 74:85-94. Doi: <https://doi.org/10.1016/j.ijnurstu.2017.06.007>
 49. Najafi K, Khoshab H, Rahimi N, Jahanara A. Relationship between spiritual health and stress, anxiety, and depression in patients with chronic diseases. *International Journal of Africa Nursing Sciences*. 2022; 17:100463. Doi: <https://doi.org/10.1016/j.ijans.2022.10046>
 50. Nazir T, Özçiçek A. Language barrier, language related issues and Stress among International Students in Turkish universities. *International Journal of Advanced Multidisciplinary Research and Studies*. 2022; 2(2):213-218. https://openaccess.ihu.edu.tr/xmlui/bitstream/handle/20.500.12154/1754/nazir_t.pdf?sequence=1&isAllowed=y
 51. OECD, International student mobility (indicator). [Cited 2023 Feb. 17], 2023. Retrieved from: <https://doi.org/10.1787/4bcf6fc3-en>
 52. Ong D, Ramia G. Study-work-life balance and the welfare of international students. *Labour & Industry: A Journal of Work's Social and Economic Relations*. 2009; 20(2):181-206. Doi: <https://doi.org/10.1080/10301763.2009.10669399>
 53. O'Reilly A, Ryan D, Hickey T. The psychological well-being and sociocultural adaptation of short-term international students in Ireland. *Journal of College Student Development*. 2010; 51(5):584-598. Doi: <https://doi.org/10.1353/csd.2010.0011>
 54. Paunesku D, Walton GM, Romero C, Smith EN, Yeager DS, Dweck CS. Mind-set interventions are a scalable treatment for academic underachievement. *Psychological science*. 2015; 26(6):784-793. Doi: <https://doi.org/10.1177/0956797615571017>
 55. Poyrazli S, Grahame KM. Barriers to adjustment: Needs of international students within a semi-urban campus community. *Journal of Instructional Psychology*. 2007; 34(1):28.
 56. Puskar KR, Bernardo LM. Mental health, and academic achievement: Role of school nurses. *Journal for Specialists in Pediatric Nursing: JSPN*. 2007; 12(4):215-223. Doi: <https://doi.org/10.1111/j.1744-6155.2007.00117.x>
 57. Redfern K. An empirical investigation of the incidence of negative psychological symptoms among Chinese international students at an Australian university. *Australian Journal of Psychology*. 2016; 68(4):281-289. Doi: <https://doi.org/10.1111/ajpy.12106>
 58. Rienties B, Beausaer S, Grohnert T, Niemantsverdriet S, Kommers P. Understanding academic performance of international students: The role of ethnicity, academic and social integration. *Higher education*. 2012; 63:685-700. Doi: <https://doi.org/10.1007/s10734-011-9468-1>

59. Salami SO. Emotional intelligence, self-efficacy, psychological well-being, and students' attitudes: Implications for quality education. *European Journal of Educational Studies*. 2010; 2(3):247-257.
60. Salovey P, Mayer JD. Emotional intelligence. *Imagination, cognition and personality*. 1990; 9(3):185-211. Doi: <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
61. Shafaei A, Nejati M, Abd Razak NA. Model of psychological well-being among international students, *Educational Psychology*. 2017; 38(1):17-37. Doi: <https://doi.org/10.1080/01443410.2017.1356447>
62. Shah AA, Lopes A, Kareem L. Challenges faced by international students at Kwantlen Polytechnic University. *International Journal of Multidisciplinary Perspectives in Higher Education*. 2019; 4(1):111-135. Doi: <https://doi.org/10.32674/jimphe.v4i1.1408>
63. Sherry M, Thomas P, Chui WH. International students: A vulnerable student population. *Higher education*. 2010; 60:33-46. Doi: <https://doi.org/10.1007/s10734-009-9284-z>
64. Singh J. What are the factors that contribute to postgraduate international students' academic success? A Malaysian qualitative study, *Higher Education Research & Development*. 2018; 37(5):1035-1049. Doi: <https://doi.org/10.1080/07294360.2018.1467383>
65. Smith RA, Khawaja NGA. Review of the acculturation experiences of international students. *International Journal of Intercultural Relations*. 2011; 35(6):699-713. Doi: <https://doi.org/10.1016/j.ijintrel.2011.08.004>
66. Spencer-Oatey H, Xiong Z. Chinese students' psychological and sociocultural adjustments to Britain: An empirical study. *Language, culture and curriculum*. 2006; 19(1):37-53. Doi: <https://doi.org/10.1080/07908310608668753>
67. Stromquist NP. Internationalization as a response to globalization: Radical shifts in university environments. *Higher education*. 2007; 53:81-105. Doi: <https://doi.org/10.1007/s10734-005-1975-5>
68. Swanepoel S, Britz L. Emotional Intelligence and Academic Performance. *Alternation Journal*. 2017; 20:171-188. <https://journals.ukzn.ac.za/index.php/soa/article/view/821>
69. Topham P, Moller N. New students' psychological well-being and its relation to first-year academic performance in a UK university. *Counselling and Psychotherapy Research*. 2011; 11(3):196-203. Doi: <https://doi.org/10.1080/14733145.2010.519043>
70. UNESCO Institute of Statistics, 2015. [cited 2023 Feb. 17] Retrieved from: <https://en.unesco.org/node/252278>.
71. United Kingdom Higher Education Statistics Agency, 2022. [cited 2023 Jan. 27] Retrieved from: <https://www.hesa.ac.uk/news/19-01-2023/sb265-higher-education-student-statistics/numbers>
72. Vaingankar JA, Subramaniam M, Lim YW, Sherbourne C, Luo N, Ryan G, *et al*. From well-being to positive mental health: Conceptualization and qualitative development of an instrument in Singapore. *Quality of Life Research: An International Journal of Quality-of-Life Aspects of Treatment, Care and Rehabilitation*. 2012; 21(10):1785-1794. Doi: <https://doi.org/10.1007/s11136-011-0105-3>
73. Valentine A, Belski I, Hamilton M. Developing creativity and problem-solving skills of engineering students: A comparison of web-and pen-and-paper-based approaches. *European Journal of Engineering Education*. 2017; 42(6):1309-1329. Doi: <https://doi.org/10.1080/03043797.2017.1291584>
74. Wigfield A, Cambria J. Students' achievement values, goal orientations, and interest: Definitions, development, and relations to achievement outcomes. *Developmental Review*. 2010; 30(1):1-35. Doi: <https://doi.org/10.1016/j.dr.2009.12.001>
75. Wong PT. Positive psychology 2.0: Towards a balanced interactive model of a good life. *Canadian Psychology/Psychologie Canadienne*. 2011; 52(2):69. Doi: <http://dx.doi.org/10.1037/a0022511>
76. Wyatt TJ, Oswalt SB, Ochoa Y. Mental Health and Academic Performance of First-Year College Students. *International Journal of Higher Education*. 2017; 6(3):178-187. Doi: <https://doi.org/10.5430/ijhe.v6n3p178>
77. Zhang H, Dai Y, Wang Y. Motivation and second foreign language proficiency: The mediating role of foreign language enjoyment. *Sustainability*. 2020; 12(4):1302. Doi: <https://doi.org/10.3390/su12041302>