



Psychological Factors Associated with Chinese International Students' Well-Being in the United States: A Systematic Review

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ABSTRACT

Chinese international students' well-being is an important part to notice with the rapid number of Chinese international students (CIS) in the U.S. and the increasing number of depressions in college. A systematic review of articles using analytical methods was conducted following the PRISMA guidelines. 1600 studies were initially reviewed from EBSCO, ProQuest, etc. After examining inclusive and exclusive criteria, 30 studies were included in the full review. 19 psychological factors associated with CIS's well-being were found. Results showed that social support is positively associated with CIS's well-being and is correlated with acculturative adjustment for improving psychological well-being. This research revealed the importance of considering cultural psychology in mental health professions, such as acculturation, language issues, and social support. When this population reports depression, anxiety, or academic stress symptoms, mental health providers need to be aware of these impacts and provide psychoeducation for counseling services in the U.S. college.

Keywords: Chinese international student, counseling, mental health, psychological well-being, systematic review

LITERATURE REVIEW

The number of international students studying in the United States (U.S.) increased rapidly from 2012 to 2021, which ranged from 819,644 students in the 2012-2013 academic year to 1,094,792 students in the 2017-2018 academic year (Institute of

International Education (IIE), 2018), and then dropped to 914,095 students in 2020-2021 academic year due to the impact of the COVID-19 pandemic. Overall, the number of international students who are coming to the U.S. has been on the rise. Moreover, according to the Fall 2022 Snapshot on International Student Enrollment (IIE, 2023), the total number of international students, including those who were enrolled in classes and the Optional Practical Training (OPT) has increased by nine percent despite the COVID-19 pandemic. Furthermore, sixty-three percent of institutions in the U.S. reported an increase in new international student enrollment in Fall 2022 (IIE, 2023).

As the number of Chinese International Students (CIS) grows in U.S. college campuses, CIS's mental health and psychological well-being are an area of growing concern. Yueng et al. (2021) reported that although international students were less likely to report anxiety or other mental illness diagnoses, they tended to exhibit suicidal ideation and major depression. Specifically for CIS, the most common mental health issues are depression and anxiety. Depression has been prominent among CIS in U.S. colleges (Song, 2020). During the pandemic, within a sample of 261 CIS who studied in a U.S. college, almost 50% reported moderate-to-severe anxiety, and 37.5% reported having moderate to severe PTSD (Song et al., 2021). The prevalence of mental health symptoms varied depending on the participants' environmental and societal experiences. Surveying 130 CIS who studied in an Ivy League and a high academic pressure university, researchers found that 45.5% of the students reported depression symptoms while 29.2% reported anxiety symptoms (Han et al., 2013). Meanwhile, during the COVID-19 pandemic, it was found that the prevalence of depression was 24.5% and that of anxiety was 20.7% among 1881 participants who were international students (Lin et al., 2022).

On the other hand, studies showed that CIS experiences a variety of life stressors such as adapting to a new culture, social isolation, financial limitations, and concern over visa status and immigration (Ching et al., 2017; Yan & Berliner, 2013). Acculturative stress could be associated with the fact that CIS needs to fit into a more individualistic culture when transitioning to universities in the United States (Chen & Zhou, 2019; Ma et al., 2020; Yan, 2020). When investigating variables that related to CIS's mental health, it was found that self-reported health, relationship with one's academic advisor, and physical exercise were negatively correlated with depression and anxiety symptoms (Han et al., 2013). During the pandemic, it was reported that traumatic exposure, remote learning, personal relationships, financial status, and sleep deprivation were highly associated with depression. Moreover, international students also faced the pandemic effects of loneliness, race- and language-based discrimination, and lack of social support (Lin et al., 2022; Ma et al., 2020; Maleku et al., 2021; Sun et al., 2021).

To manage their life stressors and acculturative stress, CIS exhibited different coping strategies for handling their mental health experience in the U.S. Jin and Acharya (2021) reported that talking about mental health issues like depression is a challenging experience for CIS. Using a qualitative research design, researchers found that CIS shared some common mental health experiences. Common themes were observed such as participants experiencing a change in their perceptions about the U.S., encountering acculturative stress (i.e., language barriers and cultural shock),

and acquiring various forms of social support (Bertram et al., 2014; Li et al., 2017). Nonetheless, aiming at knowing if social support played an integral role in coping with mental health issues among CIS using a qualitative approach, it was found that although engaging in social organizations within the universities could be helpful for emotional support, there were stressors associated with their participation (Tsai & Wong, 2012). In addition, Bertram et al. (2014) led a consensual qualitative research (CQR) study to examine CIS's acculturation lived experience and their satisfaction with their social support system. It was found that CIS still had a stigma attached to mental illness and tended to seek support from their international students' social circle, either in the U.S. or in their home country.

Several pilot studies were conducted to examine the effects of culturally adaptive psychological intervention in helping international students acculturate into their host country. In collaboration with an international student advisory board, Smith and Khawaja (2015) in Australia found that their group intervention was effective in increasing the participants' psychological adaptation and coping self-efficacy. Facilitated and led by an international doctoral student, a psychoeducational intervention has shown success in enhancing international students' coping self-efficacy and psychological adaptation in Turkey (Elemo & Türküm, 2019). Only one article was found on a case study using a culturally adaptive dialectical behavior therapy (DBT) with a Chinese international student in the U.S. By integrating the Chinese cultural values such as conformity, interdependence, and filial piety in the case conceptualization and treatment approach, it was found that the approach contributed to the student's satisfaction in mental health, social relationships, and social roles (Cheng & Merrick, 2017).

Despite the accelerating growth of CIS in the U.S., limited research has been conducted to examine the severity as well as the variety of psychological problems among this population in the recent decade. Studies on CIS's mental health only involved psychological factors such as acculturative stress, social support, life satisfaction, and a culturally adaptive therapy approach. Researchers have employed either quantitative cross-sectional research design or qualitative research using thematic analysis or CQR.

In the present study, psychological well-being is defined as a combination of factors such as happiness, general good physical situation, contentment, mental health, and good quality of life with low levels of distress (APA, 2023). The study of well-being began with Ryff and Singer's (1996) six-factor model of psychological well-being where the six dimensions of psychological well-being are: 1) self-acceptance; 2) positive relationship with self and others; 3) autonomy; 4) purpose of life; 5) personal growth 6) environment mastery. This model has been used widely to understand adolescents and college students' well-being in the U.S and overseas, and to promote positive psychology (Nava et al., 2018; Wigtil & Henriques, 2015). In 2011, Seligma introduced the PERMA model where well-being was defined as Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment (PERMA) (Seligma, 2011). The PERMA model has been used as a well-being framework to validate college students' general experience (Kovich et al., 2023), to understand college life adjustment of students with disabilities (Tansey et al., 2017), and veteran students (Umucu et al., 2020), and to develop programs that improve

college students' quality of life (Morgan & Simmons, 2021). In terms of understanding international students' well-being, numerous studies have presented factors related to psychological well-being such as social-emotional adjustment, social support, acculturation attitudes, and psychological adaptations among international students over the last decade (Brunsting et al., 2021; Jin & Wang, 2018; Shafaei et al., 2018). However, there were only a few that were related to CIS.

To reduce subjectivity and potential bias in the research of CIS, we conducted a systematic review of research articles from 2012 to 2022 as a critical evaluation to examine factors related to the mental health of CIS. The authors explored the multicultural experience and mental health well-being of CIS studying in colleges/universities in the United States. We also provided recommendations for future research and college counseling services. Based on this review, we propose a culturally responsive model of mental health care for CIS. The model can also guide the adaptation of mental health intervention for other international student groups.

METHOD

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline (Page et al., 2021) and was registered in PROSPERO (ID: 382995). All data were searched through the following database engines: ProQuest, Elton B. Stephens Company (EBSCO), APA PsycArticles, PsycINFO, and Google Scholar. The keywords used included: "Chinese international student," "counseling," "mental health," "psychological well-being," "depression," or "suicide," "acculturation," or "help-seeking," or "stress," or "discrimination," or "distress," or "anxiety," or "microaggression." The articles were published in English, and they are all peer-reviewed articles. Articles published between January 2012 and December 2022 were retrieved from the database.

Inclusion and Exclusion Criteria

The inclusion criteria for this study include: (a) the articles reported quantitative research that found statistically significant factor(s) ($p < .05$) associated with psychological well-being among international Chinese students; (b) the articles were published in English; (c) the articles were published in peer-reviewed journals; (d) the full text of the article was available to be retrieved; (e) the articles were published between 2012 and 2022; (f) the participants were all CIS who studied in the United States; and (g) the studies were conducted in the United States only. The authors narrowed down the review by only focusing on CIS's psychological well-being in the U.S. Consequently, 30 articles were fully reviewed.

Data Abstraction Procedure and Methodological Quality Assessment

Using the analytical method of Li et al. (2014), the author put all selected keywords into searching for the first step. As a result, the search in EBSCO generated 727 peer-reviewed journal articles; the search in the ProQuest databases generated 612 peer-reviewed journal articles; and the PsycArticle and PsycINFO provided 612

peer-reviewed journal articles. Then, two different researchers reviewed all abstracts of 1600 articles and selected 52 articles initially based on title and abstract. After reviewing the full article of these 52 articles, 30 of them were ultimately deemed to meet the inclusion criteria. In the next stage, we used the matrix method (Garrard, 2011), which is designed for analyzing health literature. Finally, 30 articles were selected for a full review.

Table 1

Criteria and the Number and Percentage of Studies Meeting the Criteria

| No | Criterion | Score | Number of studies meeting the criterion | Percent of studies meeting the criterion |
|----|--|-------|---|--|
| 1 | Provided operational definition of dependent variable (DV) | 1 | 29 | 96.7% |
| | Did not provide operational definition of dependent variable (DV) | 0 | 1 | 3.3% |
| 2 | Tested own DV data's validity (including on whole instrument) | 1 | 12 | 40.0% |
| | Did not test own DV data's validity | 0 | 18 | 60.0% |
| 3 | Tested own DV data's reliability (including on whole instrument) | 1 | 27 | 90.0% |
| | Did not test own DV data's reliability | 0 | 3 | 10.0% |
| 4 | Tested own independent variable (IV) data's validity or reliability (including on whole instrument) | 1 | 26 | 86.7% |
| | Did not test own IV data's validity or reliability | 0 | 4 | 13.3% |
| 5 | Random/probability sampling | 1 | 30 | 100.0% |
| | Not random/nonprobability sampling | 0 | 0 | 0.0% |
| 6 | Employed longitudinal design | 1 | 10 | 33.3% |
| | Employed cross-sectional design | 0 | 20 | 66.7% |
| 7 | Interview conducted in Asian languages (e.g., survey was translated and back translated to ensure cultural sensitivity and accuracy) | 1 | 16 | 53.3% |

| No | Criterion | Score | Number of studies meeting the criterion | Percent of studies meeting the criterion |
|---------|---|-------|---|--|
| | Interview conducted in English only or did not report language used in interview | 0 | 14 | 46.7% |
| 8 | Used multiple/logistic regression as the highest level of statistical analysis | 1 | 25 | 83.3% |
| | Used bivariate statistics (Pearson's r and chi-square) as the highest level of statistical analysis | 0 | 5 | 16.7% |
| 9 | Reported effect sizes | 1 | 11 | 36.7% |
| | Did not report effect sizes | 0 | 19 | 63.3% |
| 10 | Presented theoretical linkages to connect IV and DV | 1 | 30 | 100.0% |
| | Did not present theoretical linkages | 0 | 0 | 0.0% |
| Maximum | | 10 | N/A | N/A |

In the next stage, two authors met weekly to discuss the procedure of analysis. In light of Li et al. (2014) and Schuler et al. (2008) rating principle, two raters discussed unclear doubts while performing analysis and achieved agreement for the dissents. Then, two raters gave every research article a score according to the pre-established criteria (Zhang & Wang, 2008), which was designed to determine the methodological quality of the studies (maximum possible score = 10). Table 1 presents the criteria, the number of studies meeting the criteria, and the percentage of studies meeting the criteria.

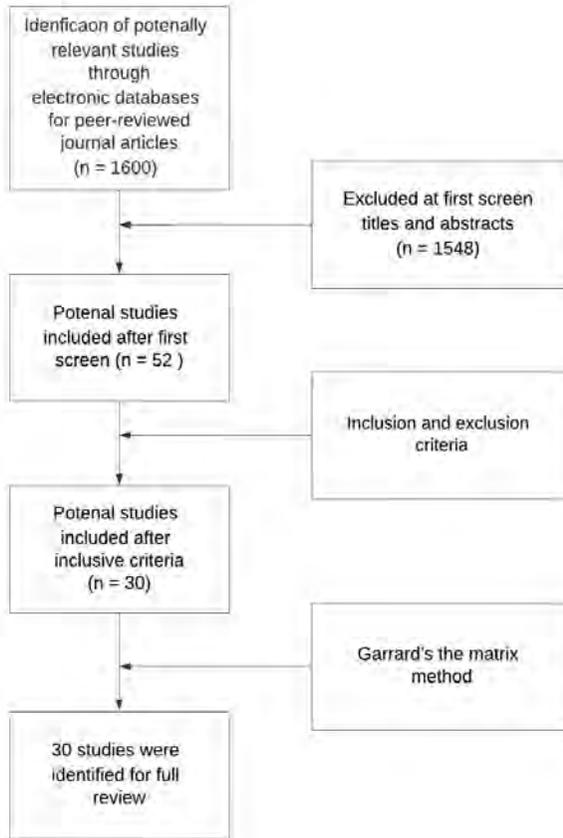
The last step is to test inter-rater reliability. Cohen's kappa coefficient (κ) was utilized to evaluate inter-rater reliability, which could measure levels of agreement between two independent raters on all selective articles. The results show that $K = .96 > 0.80$, which means it has high inter-rater reliability (Krippendorff, 1980), and reduces the human bias. A flow diagram of qualified studies is presented in Figure 1.

RESULTS

All 30 studies that met the inclusion criteria included a total of 9233 CIS, of which 4247 students were from mainland China, 38 students were from Hong Kong, 1028 students were from Taiwan, and the rest of the participants were not reported. The sample size per study ranged from 55 to 751 participants ($M = 279.79$, $SD = 324.82$). All participants reported their ages (only articles 2-10 reported participant ages) ranging from 22 to 28 ($M = 24.6$, $SD = 1.972$). Of all the reviewed studies, there were 4158 males and 4519 females reported, and 3284 of the participants were

undergraduate students while 4677 of them were graduate students. In the 30 studies reviewed, the study reported the length of participants stayed in the U.S., ranging from 6 to 60 months.

Figure 1. *Chinese International Student Systematic Review PRISMA Flow Diagram*



Methodological Quality of the Studies

Methodological quality signifies the extent to which the design and conduct of a trial are likely to have prevented systematic errors (Higgins & Green, 2011). The methodological quality scores of the 30 studies ranged from 6 to 9 and the mean methodological score was 7.20 (SD = 1.27). The mode and median of the scores were similar, meaning it prevented bias. Table 2 presents the authors, sample sizes, the language used in the research, and the design of each study. A total of 6 studies (Table 2) scored above the mean (studies 4, 5, 7-10, 14, 16, 17, 19, 22, 23, 29, and 30), and studies 4, 5, 9, and 29 had the highest score. According to the review, 96.67% of studies defined the dependent variable (DV), 40% tested their dependent variable data

validity, and 86.67% study tested the independent variable (IV) data’s validity or reliability. In addition, more than 50% of the studies used Asian languages to interview participants (53.33%). Surveys that provided both English and Chinese versions were categorized as “interviews conducted in Asian languages.” In all studies, 83.33% used advanced analysis methods (e.g., multiple/logistic regression). A majority of studies failed to meet several criteria like reporting size effect or using a longitudinal design; For instance, only 36.67% of studies reported effect size. For method design, 33.33% used a longitudinal design, and 66.67% used a cross-sectional design. All the studies met the other criteria, including using random sampling and presenting theoretical linkages to connect IV and DV.

Table 2

Authors, Sample Sizes, Language Used in The Interview, and Designs

| No | Study | Participants (Chinese international students) | Design | Language used in the instrument |
|----|---|---|--------------------------|---------------------------------------|
| 1 | Li, J. Q., Liu, X., Wei, T., & Lan, W. (2013) | N=170 Mainland Chinese international students | Cross-sectional study | English |
| 2 | Wang, K. T., Wei, M., & Chen, H. H. (2015) | N=411 Mainland Chinese, Hongkong and Taiwanese international students | Longitudinal study | English |
| 3 | Li, J., Marbley, A. F., Bradley, L. J., & Lan, W. (2016) | N=109 Mainland Chinese international students | Cross-sectional study | English |
| 4 | Tsai, P.-C., & Wei, M. (2018). | N=258 Mainland Chinese, Hongkong and Taiwanese international students | Cross-sectional study | Chinese |
| 5 | Du, Y., & Wei, M. (2015). | N=213 | Cross-sectional study | Chinese or English |
| 6 | Liao, K. Y.-H., & Wei, M. (2014). | N=370 Mainland Chinese, Hongkong and Taiwanese international students | Longitudinal study | English |
| 7 | Wang, K. T., Heppner, P. P., Fu, C.-C., Zhao, R., Li, F., & Chuang, C.-C. (2012). | N=507 Mainland Chinese and Taiwanese international students | Longitudinal study | Chinese |

| No | Study | Participants (Chinese international students) | Design | Language used in the instrument |
|----|---|---|------------------------------|--|
| 8 | Wang, K. T., Heppner, P. P., Wang, L., & Zhu, F. (2015). | N=221 Mainland Chinese, Hongkong and Taiwanese international students | Longitudinal study | Traditional Chinese and simplified Chinese |
| 9 | Wei, M., Liao, K. Y.-H., Heppner, P. P., Chao, R. C.-L., & Ku, T.-Y. (2012) | N=188 Mainland Chinese, Hongkong and Taiwanese international students | Cross- sectional study | Traditional Chinese and simplified Chinese |
| 10 | Wei, M., Wang, K. T., Heppner, P. P., & Du, Y. (2012) | N=383 Mainland Chinese, Hongkong and Taiwanese international students | Cross- sectional study | English |
| 11 | Han, X., Han, X., Luo, Q., Jacobs, S., & Jean-Baptiste, M. (2013) | N=130 Mainland Chinese international students | Cross- sectional study | Chinese |
| 12 | Chen, H., Akpanudo, U., & Hasler, E. (2020) | N=110 | Cross- sectional study | English and Chinese |
| 13 | Liu, S., & Wei, M. (2020) | N=199 Mainland Chinese international students | Cross- sectional study | Simplified Chinese |
| 14 | Law, W., & Liu, S. (2021) | N=55 Mainland Chinese international students | Cross- sectional study | Chinese |
| 15 | Ma, S., Zhu, Y. & Bresnahan, M. (2022) | N=433 | Cross- sectional study | Chinese |
| 16 | Sun, X., Hall, G. C. N., DeGarmo, D. S., Chain, J., & Fong, M. C. (2021) | N=210 | Longitudinal study | Chinese |
| 17 | Lian, Z., & Wallace, B.C. (2020) | N=222 Mainland Chinese international students | Cross- sectional study | English |
| 18 | Chen, H., Akpanudo, U., & Hasler, E. (2020) | N=110 | Cross- sectional study | Chinese and English |
| 19 | Lin, C., Tong, Y., Bai, Y., Zhao, Z., Quan, W., Liu, Z., et al. (2022) | N=1881 | Cross- sectional study | English |

| No | Study | Participants (Chinese international students) | Design | Language used in the instrument |
|----|---|---|------------------------------|--|
| 20 | Wang, K. T., Wei, M., & Chen H. (2015) | N=411 Mainland Chinese, Hongkong and Taiwanese international students | Longitudinal study | English |
| 21 | Fong, M. (2019) | N=39 Mainland Chinese, Hongkong and Taiwanese international students | Qualitative study | English |
| 22 | William Tsai, W., Lee, C. S., & Monte, V. (2021) | N=127 Mainland Chinese and Taiwanese international students | Longitudinal study | English, Traditional Chinese and simplified Chinese |
| 23 | Wang, K. T., Tian, L., Fujiki, M., & Bordon, J. J. (2017) | N=227 Mainland Chinese and Taiwanese international students | Longitudinal study | Traditional Chinese and simplified Chinese |
| 24 | Lowinger, R. J., He, Z., Lin, M., & Chang, M. (2014) | N=264 Mainland Chinese and Taiwanese international students | Cross- sectional study | Chinese |
| 25 | Tsai, W., & Kimel, S. (2021) | N=178 Mainland Chinese, Hongkong and Taiwanese international students | Longitudinal study | English |
| 26 | Lian, Z., Wallace, B. C., & Fullilove, R. E. (2020) | N=222 Mainland Chinese international students | Cross- sectional study | English |
| 27 | Liu, S., He, L., Wei, M., Du, Y., & Cheng, D. (2022) | N=167 Mainland Chinese and Taiwanese international students | Cross- sectional study | English |

| No | Study | Participants (Chinese international students) | Design | Language used in the instrument |
|----|---|--|--------------------------|---------------------------------------|
| 28 | Wei, M., Liang, Y., Du, Y., Botello, R., & Li, C. (2015) | N=201 Mainland Chinese and Taiwanese international students | Cross-sectional study | Chinese and English |
| 29 | Qi, W., Wang, K. T., Pincus, A. L., & Wu, L. Z. (2018) | N=177 Mainland Chinese and Taiwanese international students | Longitudinal study | Chinese |
| 30 | Su, Z., McDonnell, D., Shi, F., Liang, B., Li, X., Wen, J., Cai, Y., Xiang, Y., & Yang, L. (2021) | N=751 | Cross-sectional study | English |

Outcome Variables that Were Associated with Psychological Well-being

This study summarized 19 outcome variables associated with CIS's psychological well-being into 5 categories based on Li et al. (2014) study related to the East Asian population (Table 3). Li et al. (2014) divided the variables into five categories, which consist of demographics (I), multicultural competence (II), help-seeking attitudes (III), sociocultural factors (IV), and psychological factors (V).

In the first category, the author summarizes the variables including gender, length in the U.S., and degree they would have in the U.S. In the second category, the outcomes included are English proficiency and cultural intelligence (CQ). When it comes to the third category, the author draws the detailed variable into attitudes toward seeking professional help as the primary outcome. In addition, acculturation, assimilation, discrimination (racial), social support, satisfaction in life, internet usage, and ethnic identity fall under the fourth category. Finally, in the last category, the outcomes are depression, anxiety, acculturative adjustment, psychological distress (including academic stress), distress disclosure level, and self-worth.

To help understand how these factors would interact with each other to improve or reduce Chinese international student's mental health issues, the author viewed horizontal and vertical factors. Table 3 shows significant positive and negative correlations symbolized by "+" and "-" respectively. When looking at frequency, gender is the most frequently studied variable in this research, which was mentioned in 13 studies (No. 4, 12, 15, 16, 17, 18, 19, 23, 24, 26, 28, 29, 30). The results show that gender and discrimination have a negative relationship with mental health and well-being (Table 3).

Results showed that three variables would both improve and decrease mental health well-being. First, the length of stay in the U.S. combined with acculturation would positively improve mental health well-being, while combined with depression will negatively influence mental health well-being. Second, combining English proficiency and satisfaction in life will help improve mental health, while academic

stress and English proficiency will negatively influence well-being. Third, internet usage shows a positive relationship with assimilation, while it negatively correlates with anxiety when related to a Chinese international student's psychological well-being. This indicates that the more a person uses the internet with high assimilation, the more likely this person would feel less anxious. On the other hand, if a person with high anxiety spends a long time on the internet, the person would have less healthy psychological well-being.

These 6 factors are negatively impacting mental health when integrated with other factors. These are gender, level of degrees, depression, anxiety, psychological distress (including academic stress), and self-worth level. On the other hand, 10 factors positively influence well-being: cultural intelligence (CQ), attitudes toward seeking professional help, acculturation, assimilation, social support, satisfaction of life, ethnic identity, acculturative adjustment, and distress disclosure level.

DISCUSSION

In general, this study identified 30 studies published from January 2012 to December 2022 to systematically review the psychological well-being among CIS in college in the United States. It is worth discussing the relationships revealed by the results and demonstrating some treatment care to help increase CIS's well-being.

There are abundant published studies that have studied factors about positive coping strategies among CIS, but many of them are conducted with a small sample or purely qualitative. Moreover, more than half of these studies focused on only one or two variables, such as acculturation (Wang et al., 2012), well-being (Wang et al., 2015), acculturation, and psychological well-being (Du & Wei, 2015; Li, Liu, Wei & Lan, 2013), help-seeking counseling (Li et al., 2016), racial discrimination (Tsai & Wei, 2018; Wei et al., 2012), academic stress and self-worth (Liao & Wei, 2014), cultural intelligence (Wang et al., 2015), depression (Han et al., 2013). This study explores more specific areas to analyze which would influence Chinese international students' mental health while studying in the U.S., and how to combine different factors to understand what kind of intervention could be provided in the future to help CIS improve mental health well-being.

One of the most important findings of the systematic review suggests that CIS's mental health is correlated with acculturative adjustment. Based on Berry and colleagues' (Berry, 1997; Berry et al., 1987) acculturation framework, among acculturation, assimilation, integration, and maintenance, assimilation means giving up one's own cultural identity to become absorbed in the new or host culture (Sue et al., 2019). According to Berry (1995), acculturative stress is a kind of stress resulting from acculturation, including lowered mental health status, feelings of marginality and alienation, heightened psychosomatic symptoms, and identity confusion. In the former research, we found that international students who consider maintaining their own cultural identity and characteristics and relationships with the host culture of value report statistically significantly lower levels of acculturative stress (Sullivan & Kashubeck-West, 2015). Moreover, higher levels of social support from host nationals were also associated with lower levels of acculturative stress (Sullivan & Kashubeck-West, 2015).

Similarly, according to a study conducted among Korean international students, the presence of new friends in the US was significantly and negatively associated with acculturative stress (Ra, 2016). The finding may partly explain that second-language social networks can protect against communicative acculturative stress by fostering migrants' communicative competence (Doucerain et al., 2015). Accordingly, schools could help create a friendly environment to increase the likelihood of international students making friends in the host country, strengthening their social networks. Another critical finding is that social support is positively associated with CIS's well-being and is correlated with acculturative adjustment for improving psychological well-being, which has been emphasized multiple times in the research. Previous researchers showed that social support is associated with more excellent academic and psychological adjustment among international students (Lashari et al., 2018). In addition, Boruah (2016) indicated that international students' psychological distress and socio-cultural adaptation are significantly correlated. Specifically, international students, including CIS, with sufficient social support are emotionally and physically healthier (Boruah, 2016). As a result, the authors call for helping CIS to build more social support to increase their psychological well-being. According to a study conducted in Belgium, CIS's primary social support resources are co-national students, international students of multi-nationalities, tutors/the host university, and host-national students (Cao et al., 2018). Research also indicates that among CIS in the U.S., perceived support from online ethnic social groups was negatively associated with social difficulties while perceived support from long-distance networks was negatively associated with mood disturbance, and new arrivals reported higher perceived support from online ethnic social groups compared to those who stayed longer in U.S. (Ye, 2006), which demonstrated the positive influence of online support. Therefore, we suggest that schools, especially counseling centers, may establish programs or activities as a kind of treatment care to help CIS build communities to increase social support and may refer to online resources, especially for newcomers.

In addition, the results showed that regarding attitudes toward seeking professional help among CIS, issues related to ethnic identity have been a significant factor in seeking help. English proficiency and acculturation issues have not been shown as significant factors in help-seeking. We want to emphasize that the primary social support sources often do not include seeking professional psychological help due to social stigma and other factors (Lian et al., 2020). As a result, more information about on-campus counseling and psychoeducation availability may encourage more CIS to seek mental health services when necessary. According to Chen et al. (2020), awareness of on-campus counseling was considered a mediating factor in the relationship between CIS's mental health help-seeking attitudes and gender, as male students who were unaware of on-campus facilities were more reluctant to seek professional help than female students. As is shown in the current study, gender can have a negative impact on mental health and well-being and research indicates that female students are more likely to be exposed to patriarchal stereotyping and extra family pressure, resulting in suffering from more emotional stress than male students (Ge et al., 2019). Therefore, different approaches to helping students acquire mental health services regarding gender differences may need to be taken into account for

better outcomes. Schools may also deliver lectures addressing gender-related issues like sexism towards international students to help increase awareness.

In addition, it is also important for therapists to work in a more culturally informed way when working with international students. A study found that international students reported significantly higher distress at the end of their therapy compared to domestic students, suggesting that traditional clinical frameworks may not be as effective when it comes to clients with an international cultural background (Keum et al., 2021; 2022). In this research, study 2 also showed that distress disclosure level was positively related to satisfaction of life when influencing well-being. This is consistent with the findings that self-disclosure could predict received social support among CIS, contributing positively to life satisfaction (Gao & Takai, 2024). However, it is also suggested that the difference between East Asia culture and Western culture would lead to different impacts of distress disclosure on depressive symptoms and life satisfaction while the level of mindfulness could play a part in improving mental health well-being as well (Kahn et al., 2017). Thus, cultural contexts should be taken into account when planning activities to improve CIS's well-being. As a result, it is suggested that the university could help Chinese international students establish more ways to find space to disclose their distress and organize more school events, such as allowing Chinese students to organize Chinese festival events to increase students' life satisfaction.

Limitations and Future Directions

The limitations of the present studies include the smaller number of the studies being fully reviewed. It is suggested that more research is required for CIS, especially for longitudinal studies, since we found few longitudinal studies for the full review. CIS's mental health requires closer attention since they do not want to disclose their mental health issues to experts in this field. We call for more research to help CIS's psychological well-being. Another reason for limited studies is that we limited this systematic review to two databases. In the future study, other significant research databases, such as ScienceDirect or Web of Knowledge, could be used for the review. It is also suggested to conduct a meta-analytic study to see which factors are more significant and need to be more aware of by the professionals in the mental health field. Moreover, the majority of participants in all studies were graduate students. Further research concerning more undergraduate students or adolescents is needed since some CIS come to the U.S. when they are young. This population's mental health is also a big concern.

It is important to note that combining English proficiency and psychological distress (including academic stress) has a negative influence on CIS mental health. At the same time, discrimination and psychological distress (including academic stress) have a negative influence on CIS mental health. Further research is encouraged to conduct a systematic review of discrimination and English proficiency for international students in general and advocate for CIS to reduce language bias to promote mental health among CIS. In addition, combining degrees and depression will negatively influence mental health well-being, which shows that graduate CIS

and understand CIS may face different stress while studying in the U.S. More research and clinical implications need to be aware in these populations separately.

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Table 3

Outcome Variables that were Associated with Psychological Well-being

| Outcome Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Studies reporting the factor |
|-------------------------------------|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|---|
| I. Demographics | | | | | | | | | | | | | | | | | | | | |
| 1 | Gender | | | | | | | | - | | | | | | | | | | | 4, 12, 15, 16, 17, 18, 19, 23, 24, 26, 28, 29, 30 |
| 2 | length in staying in the U.S. | | | | | | + | | | | | | | - | | | | | | 1,4,9, 12, 15, 16, 18, 28, 30 |
| 3 | degree | | | | | | | | | | | | | - | | | | | | 4, 15, 16, 17, 19, 21, 24, 26, 27, 29, 30 |
| II. Multicultural Competence | | | | | | | | | | | | | | | | | | | | |
| 4 | English proficiency | | | | | | | | | | + | | | | | | - | | | 2, 9, 15, 17, 20, 24, 28 |
| 5 | Cultural intelligence (CQ) | | | | | | | | | | + | | | | | | | | | 8 |
| III. Help-seeking Attitudes | | | | | | | | | | | | | | | | | | | | |
| 6 | Attitudes toward seeking professional help | | | | | | | | | | | | | + | | | | | | 3, 12, 15, 18, 26 |

