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Published online: 16 Aug 2024.

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REVIEW ARTICLE

Mental health and wellbeing of international students in Australia: a systematic review

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ABSTRACT

Background: Concerns have been raised that international students are at high risk of poor mental health and wellbeing.

Aims: The aim of this study was to systematically review the literature on the mental health and wellbeing of international students in Australia.

Methods: A literature search was conducted using CINAHL, MEDLINE, PsycINFO, and Academic Search Complete using EBSCOhost interface for articles published from 2000. A pre-determined set of eligibility criteria was used to screen articles and eligible articles were quality appraised using the Mixed Methods Appraisal Tool. Due to considerable heterogeneity, the data was narratively analysed, considering the statistical significance and the text narratives. Nineteen studies (N=19) met the inclusion criteria.

Results: Mental health issues experienced by international students included anxiety (2.4-43%, N=5), depression (3.6-38.3%, N=6), psychological stress/distress (31.6-54%, N=9) and gambling problems (3.3-50.7%, N=3). Factors affecting student wellbeing included loneliness/isolation (60-65%, N=4), work/financial difficulties (15.4-95%, N=4) and discrimination/safety concerns (9-50%, N=3). Other factors affecting students included cross-cultural transition experiences, language difficulties, social interaction, university belonging, technology difficulties, self-harm, use of counselling services and mental health literacy.

Conclusion: International students in Australia experience various issues affecting their mental health and wellbeing. More effort needs to be made to better support students.

Introduction

Since the late 1980s, international students have been globally sought after following the vigorous expansion of the international higher education market (Deumert et al., 2005), with recent figures indicating that as of 2020, there were over 6.3 million international students studying throughout the world (Oduwaye et al., 2023). Countries such as Australia, the United States, Britain, Canada, and New Zealand have been highly successful in recruiting international students (Khawaja & Stallman, 2011; Oduwaye et al., 2023), and have been dominating the international degree student market over the past decades, largely due to the strong reputation of higher education in these anglophone countries and the influence of English as the global language in education (Oduwaye et al., 2023). Other factors motivating international students to study abroad often stems from personal ambitions and the desire for better prospects (Fakunle, 2021), including access to high quality internationally recognized education, in addition to opportunities for work experience (Belford, 2017). This has resulted in students from around the world investing large amounts of money in the higher education sector in the hope

of graduating from internationally reputable universities and securing lucrative employment opportunities in an increasingly inter-linked global economy (Gribble, 2014). In Australia alone, the international education sector was reported to have contributed over $40 billion to the Australian national economy (Humphrey & Forbes-Mewett, 2021), and was identified as a key source of institutional revenue for many educational providers (Arkoudis et al., 2019). International students not only play a major role in significantly boosting the economy of their host countries, but they also add to the cultural diversity, and in strengthening global networks (Belford, 2017; Luo & Jamieson-Drake, 2013).

While commencing university has been identified as an exciting time of change for the development of new learning, and new social connections (Dingle et al., 2022), it is also known to be a challenging and stressful time for many students (Larcombe et al., 2022), and perhaps no different to the acculturation stress experienced by migrant populations. While migration is driven by a combination of factors that can include political turmoil and conflict (Castelli, 2018), other influencing factors attracting people to their

country of destination, often includes the search for better opportunities, and the perceived attractiveness of the destination country (Choy et al., 2021). Migration however does often come with consequences, and the impact on the mental health and wellbeing of migrant populations has been well documented (Nakash et al., 2012; Stillman et al., 2009; Virupaksha et al., 2014), with some forms of stress noted to be endemic in the acculturation process, as the result of communication problems, differences in cultural values, and discrimination (Sirin et al., 2019). Similarly, the choice to study overseas in Western countries presents many challenges for international students including the experience of acculturative stress and difficulties with adjustment to the environment of the host country (Sirin et al., 2019). While it is recognised that workload and assessment requirements are common stressors for students, for many international students, this is coupled with financial strain, language difficulties, minority group status (Khawaja & Stallman, 2011), culture shock, loneliness, homesickness, and prejudice (Arkoudis et al., 2019, Diehl et al., 2018). In addition, for many international students, making a transition from cultures that promote social cohesion and close relationships, to countries with individualistic social structures, (Dickins & Thomas, 2016; Moore et al., 2013), can potentially impact the overall experience of international students (Khawaja & Stallman, 2011; Sirin et al., 2019).

The prevalence of psychological distress is reported to be higher among tertiary students than the general population (Ryan et al., 2010; Stallman, 2010), with concerns that international students may be more vulnerable to psychological distress, given the challenges they encounter as part of their cross-cultural transition experiences, and in their attempts to adapt to a new social and learning environment (Khawaja & Dempsey, 2007).

Humphrey and Forbes-Mewett (2021) have identified that of the many difficulties and hardships international students experience, mental health presents a significant problem. In Australia, research findings suggest that the mental health of international students was declining prior to the COVID-19 pandemic taking hold (Forbes-Mewett & Sawyer, 2016; Norton & Brett, 2011; Orygen, 2017). The impact of the pandemic however, was noted to have exacerbated mental health issues after many international students who planned on studying in Australia, were unable to enrol (Ziguras & Tran, 2020), after COVID-19 rapidly became a global pandemic (Dingle et al., 2022). For those students who were able to enrol, social distancing restrictions prompted an immediate shift to online learning, which meant that students were unable to attend classes in person, resulting in fewer opportunities for relationship building and consequently leading to increased student loneliness (Werner et al., 2021). This may have resulted in higher levels of stress and mental health problems (Dodd et al., 2021; Huang et al., 2022).

Successful academic performance is reported to be related to the psychological well-being of students, and successful coping strategies have the potential of influencing positive adaptation, reducing psychological distress and contributing to improved academic performance (Grey, 2002; Rosenthal et al., 2008). However, the under-utilisation of student support services by international students, such as counselling support, has raised numerous concerns (Ang & Liamputtong, 2008; Arkoudis et al., 2019; Skromanis et al., 2018) and has presented a challenge to the broader education sector. Education providers have reported (Orygen, 2017) that some students have come to their attention at times when they presented with more serious and complex mental ill-health, noting the difficulties associated with meeting the needs of students under these circumstances, which often related to the referral of students to primary and tertiary mental health services. Factors such as long waitlists, high threshold of illness to gain access and a mixed understanding of international students' eligibility to pay for and access healthcare with education providers were noted to impact referrals (Orygen, 2017). This has raised further concern among education providers that the deaths of international students may be under-reported, due to the stigma associated with suicide in many cultures.

Within the international student market, Australia plays a major force (Nyland et al., 2009; Robertson, 2011), and is one of the most popular destinations for international students predominantly from the Indian Ocean, and the Asia Pacific regions (Belford, 2017). Given the significant role Australia plays in the education of international education, there is a pressing need to understand how international students cope with cross-cultural transitions. Only then can targeted interventions be recommended in the hope of better supporting international students through their social and learning experiences in this country.

Aim

The primary aim of this study was to systematically review the existing literature on the mental health and wellbeing of international students' studying in Australia.

Methods

This systematic review was reported in line with the updated guideline of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Page et al., 2021). The review protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO; Ref. CRD42023413359). RM conceptualized the study in consultation with MC and DN.

Search strategy

Four academic databases, namely CINAHL, MEDLINE, PsycINFO, and Academic Search Complete, were searched through EBSCOhost interface to identify eligible studies. We initially developed broad search terms (Appendix 1) to pilot the search on PubMed (title and abstract). Examination of the first 10 results identified various false positive results, e.g., studies about coping mechanisms/wellbeing interventions. We refined the search terms until no false positive was identified among the first 10 search results. The final search terms were combined using Boolean operators 'OR'

and 'AND' as follows; ("*mental health*" OR "*psychological wellbeing*" OR *wellbeing* OR *anxiety* OR *stress* OR *depression* OR *trauma*) AND (*student* OR "*international student**" OR "*overseas student**" OR "*foreign student**") AND (*Australia* OR "*New South Wales*" OR *Queensland* OR *Tasmania* OR *Victoria* OR "*Australian Capital Territory*" OR "*Western Australia*" OR "*South Australia*" OR "*Northern Territory*"). The search was supplemented with a google scholar search (first 10 pages) and a reference list search. MC conducted the main search from the primary databases. DN conducted the supplemental search on google scholar and a reference list of eligible studies from the primary databases.

Eligibility criteria

Primary research studies were included if they assessed any aspect of mental health and wellbeing with the international student participants. Studies were included if they were published from the year 2000 onwards. Studies from the year 2000 were included to coincide with the educational reform policies in Australia leading to high influx of international students (Koleth, 2010). In line with the PICO framework, we included studies conducted within the Australian higher education sector with international students as participants (P). Studies were also included if the data and analysis between international and domestic students was separated. Our interest (I) was mental health and wellbeing. Studies that assessed both physical and mental health factors were also included if the analysis was separated for mental health and/or wellbeing. Our comparison (C) were domestic students in studies that included both domestic and international students. Our outcomes (O) included mental health issues such as anxiety, depression, stress, and issues affecting wellbeing such as loneliness and isolation. Only research studies in the English language with the full text available, were included. Studies were excluded if they were secondary research or did not include at least one mental health issue and/or wellbeing, or conducted outside the higher education sector or had mixed analysis of both domestic and international students.

Article screening and selection

The three reviewers (RM, MC and DN) screened eligible studies for inclusion in line with inclusion and exclusion criteria. Differences were resolved through discussion among the three authors. First, EBSCOhost interface automatically screened and removed exact duplicate studies identified by the database. Thereafter, the year of publication (from 2000 onwards), human studies, and English language limiters were applied. Second, the search results were exported into EndNote Citation software (EndNote X9, Clarivate Analytics, Philadelphia, Pennsylvania, USA), and further duplicates were automatically detected, reviewed, and excluded accordingly. Third, the title, abstract, and authors' keywords of the articles were screened for eligibility. Fourth, articles that potentially met the criteria underwent full-text screening. Studies that met the inclusion criteria were then selected for inclusion in the review.

Data extraction

Two reviewers (MC and DN) extracted data from the included studies independently. A Microsoft Excel data extraction form was designed in line with the study's aim to extract relevant information. The pieces of information extracted included the study authors, year of publication, the study aims/objectives, study population, sample size, participants' key characteristics, data collection instrument, mental/wellbeing issue(s) assessed, details of findings, and the authors' conclusions. The extraction between the two reviewers was compared to identify the key difference. Discrepancies were resolved through discussion between the two reviewers.

Quality appraisal

Two reviewers (MC and DN) assessed studies that fully met the inclusion criteria for methodological quality. The quality appraisal was conducted using Mixed Methods Appraisal Tool version 2018 (Hong, 2018). The quality appraisal tool is made up of 5 sections, each to assess qualitative study, quantitative randomized controlled trial, quantitative non-randomized, quantitative descriptive, and mixed-method study respectively. Each item in the tool consists of four options including 'yes', 'no' 'can't tell', and 'comments'. Accordingly, the reviewers independently assessed the quality of each of the studies that met the eligibility criteria. Discrepancies were resolved through discussion between the two reviewers.

Data analysis

A meta-analysis was deemed inappropriate due to considerable heterogeneity in terms of design among the included studies. The extracted data from the studies were therefore analysed narratively and the textual and numeric data from the studies reporting aspects of mental health and well-being was considered. The findings were reported based on outcomes that emerged from the studies, including the outcome measures, the significance of the findings, any comparison made (e.g. with domestic students), and effect sizes for quantitative data. The primary outcomes include overall mental health (anxiety, depression and psychological distress) and wellbeing. Our secondary outcomes include factors associated with mental health (e.g. substance misuse) and wellbeing (e.g. loneliness) constructs.

Results

A total of 11598 studies resulted from the initial search hit from the primary databases (Academic Search Complete, CINAHL, MEDLINE, PsycINFO), which included studies published from 1967 to 2022. This was narrowed to studies from 2000 to 2023, in English language and on humans, in line with the eligibility criteria, resulting in 5204 eligible studies. After the removal of duplicates, the studies were narrowed down to students in Australia, of which 435 studies

were found and underwent title/abstract/keywords screening. From the 435 studies, 71 underwent the full-text screening, and 19 studies were found to meet the inclusion criteria. Full screening and selection are presented in Figure 1.

Characteristics of included studies

Table 1 summarise the characteristics of the included studies. A total of 7247 students participated in the 19 included studies, and the largest proportion of participants were female students (57.5%, n = 4173). Two studies (Arkoudis et al., 2019; Sawir et al., 2008) did not report the gender of participants. The overall age of participants ranged from 18 to 45 years. Age range was not specified in 3 studies (Arkoudis et al., 2019; Redfern, 2016; Sawir et al., 2008). The majority of international students were from Asia. A smaller number of international students were represented by other continents which included: Europe, North America, South America, and Africa. Five studies compared data between domestic and international students (Clough et al., 2018; Dingle et al., 2022; Moore et al., 2013; Redfern, 2016; Skromanis et al., 2018). Two studies focussed on the impact of COVID-19 on students studying in Australia (Dingle et al., 2022; Greenland et al., 2021). Of the 19 studies, four were conducted in the state of Victoria (Ang & Liamputtong, 2008; Belford, 2017; Gomes, 2020; Huang et al., 2022), two in Queensland (Khawaja & Dempsey, 2007; Khawaja & Stallman, 2011), one study in the Northern Territory (Greenland et al., 2021) and one study in Tasmania (Skromanis et al., 2018). Two studies were conducted across the states of Victoria, NSW and Queensland (Deumert et al., 2005; Sawir et al., 2008), and one study was conducted in Victoria and Queensland (Moore

et al., 2013). Eight studies did not specify the Australian state or territory where the study was conducted. The most commonly used tools were the Depression, Anxiety and Stress Scale (DASS) (n = 4), followed by the Kessler −10 (K-10) to measure psychological distress (n = 3). All the included studies met at least 3 out of the 5 quality criteria (Table 2), with most of the studies (18/19 studies, 95%) meeting criteria number three, which refers to the appropriateness of the study outcomes. Conversely, about half of the studies (9/19 studies, 47%) did not meet criteria number 4, which refers to accounting for confounding factors (quantitative) or addressing inconsistencies in the qualitative-quantitative results (mixed-method).

Study findings

Mental health issues

Psychological distress and stress

Psychological distress was assessed in five studies (Clough et al., 2018; Dingle et al., 2022; Khawaja & Dempsey, 2007; Lu et al., 2014; Skromanis et al., 2018), mainly using K-10 assessment tool (Table 2). Khawaja and Dempsey (2007) indicated a link between high levels of psychological distress and dysfunctional coping mechanisms, which underscores the relationship between coping strategies and mental health outcomes. For example, obsessive-compulsiveness was experienced twice as much as anxiety. Of the studies that compared international and domestic students (Clough et al., 2018; Dingle et al., 2022; Skromanis et al., 2018), Clough et al. (2018) found that both international and domestic students reported similar levels of psychological distress.
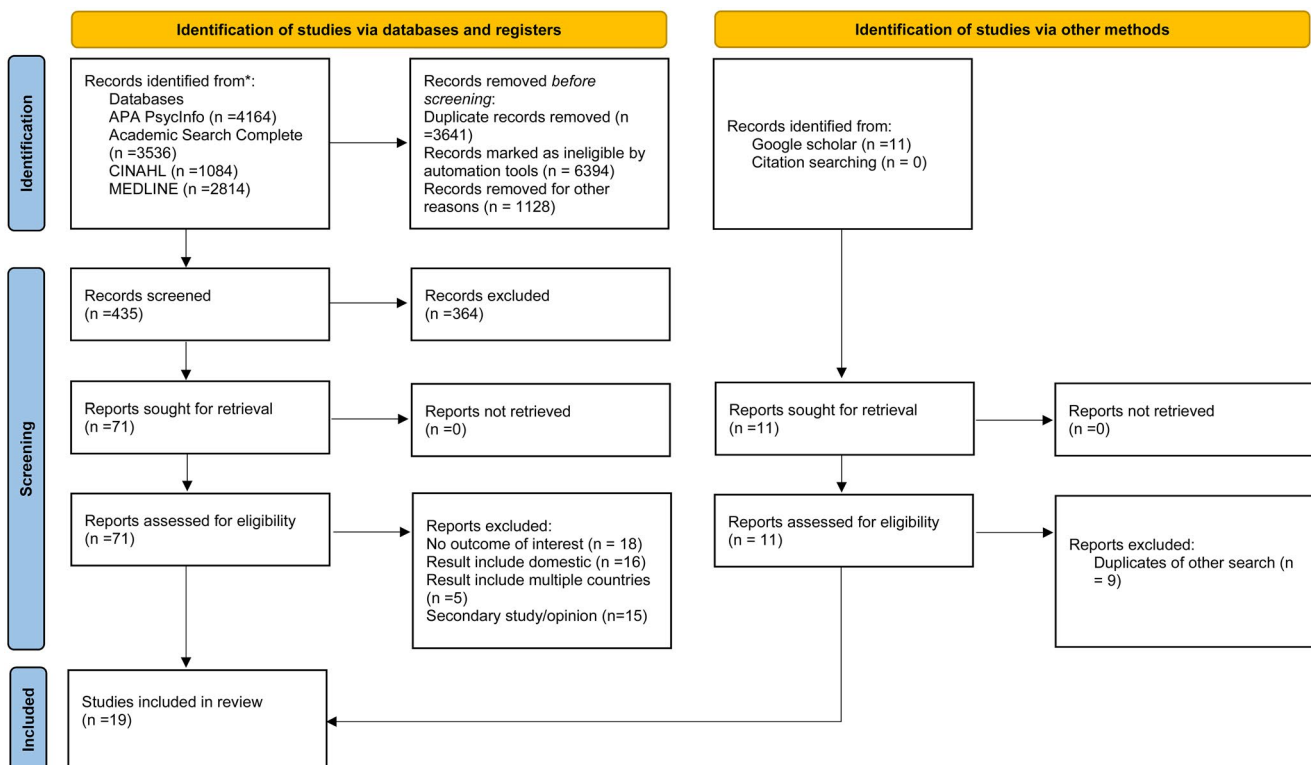

Figure 1. PRISMA 2020 flow diagram indicating screening process.

Table 1. Characteristics of included studies.

No	Author	Sample size	Gender	Age #range or mean age	Student Population	Outcome measures used/ Translated language	Variables assessed	Study location City/State
1	Ang & Liamputtong, 2008	N = 7	Males = 3 (43%) Females = 4 (57%)	Age range: 20 to 28 years	**International:** Chinese (7)	In-depth interviews	Use of counselling services	Melbourne/ Victoria
2	Arkoudis et al., 2019	N = 363	Not specified	Not specified	**International:** Chinese (172) Malaysians (63) Indonesians (35) Singaporeans (29)	Online Likert-scale questions Focus group interviews	Teaching & learning, social fragmentation, accommodation	Not specified
3	Belford, 2017	N = 8	Males = 3 (37.5%) Females = 5 (61.5%)	Age range: 20–40 years	**International:** Vietnamese (1), Indonesian (1), South Korean (1), Mexican (1) Columbian (1), Chinese (1) Indian (1) Italian (1)	Semi-structured interview questions	Cross-cultural transition experience	Melbourne/ Victoria
4	Clough et al., 2018	N = 357	**Domestic** Males = 26 (17.5%) Females = 122 (82.5%) **International** Males = 79 (38%) Females = 130 (62%)	**Domestic** Mean age: M = 25.5; SD = 9.46 **International** Mean age: M = 23.0; SD = 5.47	**Domestic** (148 students) **international** (209 students from unspecified countries)	K10; MHL Scale IAMHS GHSQ	Psychological distress, MHL Help seeking attitudes, help seeking intentions	Not specified
5	Deumert et al., 2005	N = 202	Males= 99 (49%) Females = 103 (51%)	Age range: 53% older than 25 years.	**International:** Indonesians (49) Chinese (28) Indians (21) Other South Asians (19) Malaysians (18) Singaporeans (12) Other East Asians (9) Middle Eastern (8) Africans (7) Europeans (8) Other South East Asians (6) Laotians, Cambodians and Vietnamese (6) Canadians and Americans (3) Hong Kongers (5) Latin Americans (3)	Semi structured in-depth interviews	Language skills, Loneliness & Isolation, Work & financial difficulties, Discrimination, racism, & abuse, Safety & Personal Security	Victoria, New South Wales, Queensland
6	Dingle et al., 2022	N = 1,239 2019 (n = 475) 2020 (n = 399) 2021 (n = 365)	**Females:** 2019: 329 (69.3%) 2020: 295 (73.9%) 2021: 278 (76.2%) **Males:** 2019: 140 (29.5%) 2020: 101 (25.3%) 2021: 84 (23.0%)	2019 (M = 19.9; SD = 3.54) 2020 (M=19.5; SD = 4.26 2021 (M=20.7; SD = 5.78)	**Domestic:** 294 (61.9%) 301 (75.4%) 266 (72.9%) **International:** 181 (38.1%) 98 (24.6%) 99 (27.1%)	Three-Item Loneliness Scale Social identity scale SWEMWBS The 20-item PsyCheck Screening measure	Impact of COVID-19 on: Loneliness, University belonging, Well-being, Psychological distress	Not specified
7	Gomes, 2020	N = 47	**International:** Males= 18 (38%) Females= 29 (62%)	Age range: 19 to 24 (28) 25 to 29 (15) 30+ (4)	**International:** Chinese (8), Singaporeans (8) Indians (6), Vietnamese (6) Indonesians (3) Pakistanis (3) Malaysians (5) South Koreans (4) Bangladeshis (2) Japanese (1) New Zealanders (1)	Individual and small group interviews	Proficiency in English	Melbourne/ Victoria

Table 1. Continued.

No	Author	Sample size	Gender	Age #range or mean age	Student Population	Outcome measures used/ Translated language	Variables assessed	Study location City/State
8	Greenland et al., 2021	N = 159	Males = 72 (45.3%) Females = 87 (54.7%)	Age range: 29 (104) 30–39 (47) 40 and above (8)	**International:** Asia pacific	Self-designed questionnaire	Impact of COVID-19 on: Work/financial difficulties, Technology difficulty, Social interaction, Depression	Northern Territory
9	Huang et al., 2022	N = 30	Males =10 (33.3%) Females =20 (66.7%)	Age range: 18-20 (2) 21-29 (26) 30-39 (2)	**International:** Chinese	Semi structured online interviews using WeChat	Experiences of wellbeing	Melbourne/ Victoria
10	Humphrey & Forbes-Mewett, 2021	N = 104	Males = 42 (40%) Females = 60 (58%) 2 (not specified) = (2%)	Age range: 18-30 Mean age: M = 22.66; SD 4.14	**International:** Chinese (24) Indians (24) Singaporeans (9) Indonesians (5) South Koreans (5) Japanese (5) Vietnamese (5) Others: Cambodians, Filipinos, Malaysians & Pakistanis (27 in total, specific numbers unclear)	DASS-21	Depression, Anxiety & Stress	Not specified
11	Khawaja & Dempsey, 2007	N = 86	Males = 24 (27.9%) females = 62 (72.1%)	Age range: 18 to 44 years Mean age: M = 24.6; SD = 5.26	**International:** Taiwanese (15) Malaysians (15) Singaporeans (12) Remainder: (Predominantly Asian students with specific numbers unclear)	Hopkins Symptom Checklist Scale	Psychological distress; Anxiety/depression/ Obsessive compulsive/ somatization,	Queensland
12	Khawaja & Stallman, 2011	N = 22	Males = 7 (32%) Females = 15 (68%)	Age range: 20–40 Mean age: M = 27.32; SD = 5.46	**International:** South Koreans (7) Chinese (4) Indians (2) Taiwanese (2) Vietnamese (1) East-Timorese (1) Iranian (1) Indonesian (1) Mauritian (1) Singaporean (1) Nigerian (1)	Focus groups	Challenges encountered	Queensland
13	Lu et al., 2014	N = 144	Males = 67 (47%) Females =77 (54%)	Age range: 18-45 Mean age: M = 24.27; SD = 5.07	**International:** Chinese (85) Taiwanese (20) Hong Kongers (19) Malaysians (10) Singaporeans (6) Macanese (3) Vietnamese (1)	K-10	Psychological distress	Not specified
14	John McKitterick et al., 2022	N = 104	Males =34 (41%) Females = 48 (57.8%) Not Specified =1 (1.2%)	Age range: 20-35 years Mean age: M = 25.10; SD = 3.32	**International:** Indians (25) Chinese (17) Nepalese (11) Sri Lankans (8) South Koreans (6) Filipinos (5) Indonesians (3) Others (7 with specific populations unclear)	Casey-Fink readiness for practice survey	Transition preparedness to practice	Not specified

(*Continued*)

Table 1. Continued.

No	Author	Sample size	Gender	Age #range or mean age	Student Population	Outcome measures used/ Translated language	Variables assessed	Study location City/State
15	Moore et al., 2013	N = 1,600	**Domestic:** Males= 286 (34.4%) Females= 546 (65.6%) **International:** Males = 369 (48.2%) Females= 396 (51.8%)	Mean age: M = 23.35; SD = 7.85 Mean age: M = 23.84; SD = 4.22	**Domestic:** N = 836 **International** N = 764: Chinese (200) Indians (111) Canadians and Americans (98) Other Asian countries (159) Western Europeans (75) Middle Eastern (14) South Americans (25) New Zealanders and Pacific Islanders (5) Eastern Europeans (10) Pakistanis and Sri Lankans (37) Africans (17) British (10)	Four-item subscale 11-item subscale DASS-21 PGSI	Financial difficulties, Relationship stressors, Depression, anxiety & stress Problem gambling	Victoria & Queensland
16	Redfern, 2016	N = 201	Males = 82 (40.8%) Females = 119 (59.2%).	Not specified	**Domestic:** N = 98 **International:** N = 103 (Chinese)	DASS-42	Depression, anxiety & stress	Not specified
17	Rosenthal et al., 2008	N = 979	Males = 352 (36%) Females= 627 (64%)	Age range: 20–24 (57%)	**International:** Chinese (225) Malaysians (225) Singaporeans (117) Indonesians (98) Hong Kongers (78) British, American and Canadians (39) Europeans (29)	DASS Health-related questionnaire Four-item scale Survey	Depression, anxiety & stress, Self-harm, Abuse, Drug Use, Alcohol, Gambling, Smoking	Not specified
18	Sawir et al., 2008	N = 200	Not specified	Not specified	**International**	Interviews	Loneliness	Victoria, New South Wales, Queensland
19	Skromanis et al., 2018	N = 1,395	**Domestic:** Males= 371 (36.6%) Females= 642 (63.4%) **International:** Males= 200 (52.4%) Females= 182 (47.6%)	**Domestic:** Mean age M = 27.0; SD = 10.9 **International:** Mean age: M = 25.3; SD = 5.0	**Domestic:** N = 1,013 (72.6%) **International:** N = 382 (27.4%) Chinese (125) Malaysians (81) Indians (26) Singaporeans (21)	K-10 Satisfaction with Life Scale 5-point Likert-type scale PGSI	Psychological distress, Well-Being, Smoking, alcohol, & illicit drug use, Gambling	Tasmania

#measures not specified; IAMHS: Inventory of Attitudes toward Mental Health Services; GHSQ: General Help-Seeking Questionnaire; MHL: Mental Health Literacy; K-10: 10-item Kessler Psychological Distress Scale; PGSI: Problem Gambling Severity Index; PHQ: Primary Care Evaluation of Mental Disorders Patient Health Questionnaire; DASS: Depression Anxiety Stress Scales; SWEMWBS: Short Warwick Edinburgh Mental Well-being Scale.

Stress, was assessed in four studies (Humphrey & Forbes-Mewett, 2021; Moore et al., 2013; Redfern, 2016; Rosenthal et al., 2008), with the Depression Anxiety Stress Scale (DASS) used as the measurement tool (Table 2). The findings reveal significant disparities in stress levels based on nationality and academic perceptions. For instance, Chinese international students exhibited higher stress levels compared to domestic students (Redfern, 2016), potentially reflecting cultural and educational adaptation challenges. Similarly, Rosenthal et al. (2008) found that international students who perceived their academic achievements to be below expectations, experienced heightened stress, which suggests that academic performance and expectations are critical stressors for these students.

Anxiety
Anxiety or anxiety symptoms were assessed in five studies (Humphrey & Forbes-Mewett, 2021; Khawaja & Dempsey, 2007; Moore et al., 2013; Redfern, 2016; Rosenthal et al., 2008), of which four studies used the DASS (Table 2). Compared to domestic students, international students were reported to experience significantly higher levels of anxiety (Moore et al., 2013; Redfern, 2016). Moore et al. (2013) further indicated that female students significantly experienced more anxiety than male students among both international and domestic students. Rosenthal et al. (2008) assessed a cohort of international students and found that single students were significantly more anxious than students with partners (t=2.85, P < .01).

Table 2. Quality appraisal of included studies.

Studies	Design	1	2	3	4	5
Ang & Liamputtong, 2008	Qualitative	Y	Y	Y	Y	Y
Arkoudis et al., 2019	Mixed	Y	Y	Y	U	N
Belford, 2017	Qualitative	Y	Y	U	Y	U
Clough et al., 2018	Quantitative descriptive	U	Y	Y	Y	Y
Deumert et al., 2005	Mixed	Y	Y	Y	N	U
Dingle et al., 2022	Quantitative descriptive	Y	U	Y	U	Y
Gomes, 2020	Qualitative	U	Y	Y	Y	U
Greenland et al., 2021	Mixed	Y	Y	Y	N	N
Huang et al., 2022	Qualitative	Y	U	Y	Y	Y
Humphrey & Forbes-Mewett, 2021	Mixed	Y	Y	Y	U	N
Khawaja & Dempsey, 2007	Quantitative descriptive	U	U	Y	Y	Y
Khawaja & Stallman, 2011	Qualitative	Y	Y	Y	Y	Y
Lu et al., 2014	Quantitative descriptive	Y	U	Y	U	Y
John McKitterick et al., 2022	Quantitative descriptive	Y	N	Y	N	Y
Moore et al., 2013	Quantitative descriptive	Y	U	Y	Y	Y
Redfern, 2016	Quantitative descriptive	Y	Y	Y	Y	Y
Rosenthal et al., 2008	Quantitative descriptive	Y	Y	Y	U	Y
Sawir et al., 2008	Qualitative	Y	Y	Y	N	N
Skromanis et al., 2018	Quantitative descriptive	Y	U	Y	U	Y

Key: Y = yes, N = no, U = unclear/can't tell. Description: Qualitative - 1. Is the qualitative approach appropriate to answer the research question? 2. Are the qualitative data collection methods adequate to address the research question? 3. Are the findings adequately derived from the data? 4. Is the interpretation of results sufficiently substantiated by data? 5. Is there coherence between qualitative data sources, collection, analysis and interpretation?. Mixed method - 1. Is there an adequate rationale for using a mixed methods design to address the research question? 2. Are the different components of the study effectively integrated to answer the research question? 3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? 4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? 5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?. Quantitative - 1. Is the sampling strategy relevant to address the research question? 2. Is the sample representative of the target population? 3. Are the measurements appropriate? 4. Is the risk of nonresponse bias low? 5. Is the statistical analysis appropriate to answer the research question?.

Depression

Six studies investigated depression/depressive symptoms amongst students (Greenland et al., 2021; Humphrey & Forbes-Mewett, 2021; Khawaja & Dempsey, 2007; Moore et al., 2013; Redfern, 2016; Rosenthal et al., 2008), of which 4 studies used the DASS (Table 2). The findings indicated complex and sometimes contradictory patterns in the experience of depression. Notably, while Redfern (2016) reported no significant differences in depression rates between domestic and international students, Moore et al. (2013) identified a significant disparity, with international students exhibiting higher levels of depression. This variation points to the potential influence of specific stressors experienced by international students, such as academic challenges and cultural adjustment difficulties. Moore et al. (2013) noted that factors differentiating students for depression were associated with maturity, and progress with their studies. Rosenthal et al. (2008) found a significant negative correlation with age among international students, noting that younger students, experienced higher rates of depression (q = −.15, P < .001). This study also found that international students who were single had significantly higher scores on depression than those students with partners, as did undergraduate students, when compared to coursework and research postgraduate students.

Factors associated with the mental health issues

Alcohol, illicit substance use, and smoking

Two studies each, assessed alcohol, illicit substance use, and smoking among international students (Table 2). Rosenthal et al. (2008) assessed the frequency of alcohol consumption, and the average amount of alcohol consumed by international students, and found that cultural differences differentiated students with high and low scores. Students from English-speaking and European backgrounds had higher scores than those students from countries with Islamic and Asian cultures, and this was significantly higher for students from non-Asian countries than students from Asian countries (t = 4.77, P < .001). Rosenthal et al. (2008) also found that students from non-Asian countries scored significantly higher on the Perceptions of Drug Use scale, than students from Asian countries (t = 3.41, P < .01). Rosenthal et al. (2008) noted that smoking amongst international students was uncommon (8%), but they found that gender differentiated significantly among scores on the smoking scale; with international male students having significantly higher scores than international female students (t = 3.24, P < .01). Skromanis et al. (2018) found that international students reported significantly higher levels of cigarette smoking and illicit substance use compared to domestic students.

Gambling and gambling problems

Three studies addressed problem gambling amongst students (Moore et al., 2013; Rosenthal et al., 2008; Skromanis et al., 2018). The PGSI (Problem Gambling Severity Index) was used in two studies to assess gambling severity (Table 2). Skromanis et al. (2018) found that international students were significantly more likely to be classified as problem gamblers compared to domestic students. They also found that male international students showed poorer outcomes, in that they had higher levels of problem gambling behaviours, than female international students. The study by Moore et al. (2013) also found that male students showed significantly more symptoms of problem gambling than female students. A survey by Rosenthal et al. (2008) found that a small number of international students (7.3%) who did not gamble in their home countries, reported gambling in Australia. Higher rates of problem gambling among the international students was noted to be associated with higher levels of relationship stress, and socio-cultural adaptation stress (Rosenthal et al., 2008).

Other mental health associated factors

From the 19 studies (Table 2), one study addressed self-harm (Rosenthal et al., 2008), and one study addressed obsessive-compulsiveness and somatization amongst students (Khawaja & Dempsey, 2007). Rosenthal et al. (2008) found that international students who engaged in self-harm had significantly higher scores on depression (t = 11.45), anxiety (t = 7.87), stress (t = 9.62), abuse and distress (t = 9.65) than the international students who had not self-harmed. Khawaja and Dempsey (2007) investigated the manner in which international students manifested psychological distress and found that students had significantly higher scores on the obsessive-compulsive subscale (14.2%), indicating that this was the most commonly experienced form of psychological distress among international students. This study also found that somatisation was low among international students (4.8%), and that it was not a contributing factor to the psychological distress of the students.

Well-being of students

Three studies explored the overall wellbeing of students (Table 3). Skromanis et al. (2018) found that domestic students were significantly more likely to rate their health as being fair or poor compared to international students (t = 8.0, p < 0.01). Huang et al. (2022) investigated the

Table 3. Mental health and wellbeing of International students in Australia.

| Outcomes | Measure | Reference | Impact of identified factors on International students studying in Australia | | | Reported effect size/comment |
| | | | Compared | | Overall/mixed result | |
			Significant	Not significant		
Psychological distress	K-10;	Clough et al., 2018		✓		Mean (SD); 19.33 (6.91), compared to domestic 20.71 (8.03), N=357
	Hopkins Symptom Checklist Scale	Khawaja & Dempsey, 2007			✓	F (4, 81) = 21.67, p < .001. significantly associated with dysfunctional coping.
	K-10	Lu et al., 2014			✓	54% (mean K-10 score = 23.96, SD = 9.03), N=144
	The 20-item PsyCheck Screening measure	Dingle et al., 2022	✓			Reported significantly lower psychological distress due to COVID-19 compared to domestic from a chart (figures not reported).
	K-10	Skromanis et al., 2018		✓		Mean (SD); 20.6 (8.7), compared to domestic, 20.9 (8.3), t=0.7, p=0.51, N=1,395
Anxiety/ anxiety symptoms	DASS-21	Humphrey & Forbes-Mewett, 2021		✓		M=2.07, SD = .66, α = .82, N=104
	DASS-21	Moore et al., 2013	✓			Mean (SD); 4.44 (4.23) for males, 4.53 (4.32) females compared to domestic, 3.13 (3.35) males, 3.58 (3.85) females, F statistic; 30.78, p<0.05, N=1,600
	DASS-42	Redfern, 2016	✓			Mean (SD), 14.17 (8.65), compared to domestic, 7.49 (4.74), t statistic = 6.83, p < .001, N=201
	DASS	Rosenthal et al., 2008			✓	43% compared to normal, 57%, N=979
	Hopkins Symptom Checklist Scale	Khawaja & Dempsey, 2007			✓	2.4%, N=86
Mental health literacy	MHL	Clough et al., 2018	✓			Mean (SD); 113.12 (15.54), compared to domestic 132.41 (13.12), N=357
Depression/ depressive symptoms	DASS-21	Humphrey & Forbes-Mewett, 2021		✓		M=2.16, SD = .74, α = .87, N=104
	DASS-21	Moore et al., 2013	✓			Mean (SD); 5.29 (4.63) males, 4.93 (4.60) females; compared to domestic; 4.34 (4.33) males, 4.36 (4.64) females. F statistic= 10.24, p<0.05, N=1,600
	DASS-42	Redfern, 2016		✓		Mean (SD); 8.54 (5.79), compared to domestic, 9.06 (8.73), t test 0.49, N=201
	DASS	Rosenthal et al., 2008			✓	38.3%, compared to normal, 61.7%, N=979
	Self-designed questionnaire	Greenland et al., 2021			✓	8.9% depression due to COVID-19, N=159
	Hopkins Symptom Checklist Scale	Khawaja & Dempsey, 2007			✓	3.6%, N=86

Table 3. Continued.

Outcomes	Measure	Reference	Impact of identified factors on International students studying in Australia			
			Compared		Overall/mixed result	Reported effect size/comment
			Significant	Not significant		
Cross-cultural transition experience	semi-structured interview questions	Belford, 2017			✓	Qualitative. Culture shock: encountering unfamiliar cultural norms both in their social and educational spheres. Social Interaction and Friendship Development: having selective motives and drives in choosing their friends and social groups. Cultural similarity: students more comfortable with their co-national peers. Intercultural communication competence, Intercultural friendship, Relational identity
Help-seeking attitudes and intentions	IAMHS, GHSQ	Clough et al., 2018	✓			Mean (SD); 57.90 (12.43) international student associated with poorer help-seeking attitudes compared to domestic 67.54 (15.53), N = 357 Highest help-seeking intentions for emotional problems; 5.25 (1.45), compared to domestic 5.74 (1.31) Highest help-seeking intentions for suicidal thoughts; 5.29 (1.70), compared to domestic 5.89 (1.38).
	Self-developed questionnaire	Skromanis et al., 2018			✓	Reasons for help-seeking in comparison to domestic students include; lower mental health ($t = 124.9$, $p<.01$), relationship ($t = 18.9$, $p<.01$), alcohol/substance use ($t = 10.7$, $p<.01$), higher financial ($t = 3.9$, $p<.05$) and gambling ($t = 0.4$, $p = 0.52$) problems. N = 1,395
Social fragmentation	Online Likert-scale questions focus group interviews	Arkoudis et al., 2019			✓	54% (176) of students agreeing or strongly agreeing that they preferred to socialise with people with the same first language. 35% (111) of students felt a part of the university community; N = 363.
Stress	DASS-21	Humphrey & Forbes-Mewett, 2021		✓		M = 2.28, SD = .66, α = .83, N = 104
	DASS	Rosenthal et al., 2008			✓	31.6%, compared to normal, 68.4%, N = 979
	DASS-42	Redfern, 2016	✓			Mean (SD); 21.94 (10.44), compared to domestic, 18.26 (7.83), $t = 2.84$, $p < .01$, N = 201
	DASS-21	Moore et al., 2013		✓		Mean (SD); 5.81 (4.46) male, 6.41 (4.72) females, compared to domestic; 5.42 (4.42) male, 6.96 (4.85) female. F statistic; 0.11, $p > 0.05$, N = 1,600

Table 3. Continued.

Outcomes	Measure	Reference	Impact of identified factors on International students studying in Australia			Reported effect size/comment
			Compared		Overall/mixed result	
			Significant	Not significant		
Use of counselling services	in-depth interviews	Ang & Liamputtong, 2008			✓	Qualitative. Three themes impacting use of counselling services: difficulty in speaking English; using family and close friends for support; and misconceptions about university counselling services to assist during difficult periods.
Self-harm	health-related questionnaire	Rosenthal et al., 2008			✓	2.9%, N = 979,
Teaching and learning	Online Likert-scale questions focus group interviews	Arkoudis et al., 2019			✓	18% disagreeing or strongly disagreeing that their lecturers and tutors understood the challenges they face and 11% (34) disagreeing or strongly disagreeing that their expectations had been met, N = 363
Technology difficulty	Self-designed questionnaire	Greenland et al., 2021			✓	12.4% switched to online classes due to COVID-19, N = 159
Loneliness and Isolation	Interviews	Sawir et al., 2008			✓	65%, N = 200
	face-to-face, semi structured in-depth interviews	Deumert et al., 2005			✓	Qualitative data, 60% students expressed feelings of loneliness and isolation, N = 202.
	The Three-Item Loneliness Scale	Dingle et al., 2022	✓			Loneliness (due to COVID-19) in the 2020 cohort (M = 6.25, SD = 1.78) was significantly higher than that in 2019 (M = 5.83, SD = 1.78, p = .001) and in 2021 (M = 4.77, SD = 1.63, p < .001), N = 1,239
	11-item subscale	Moore et al., 2013	✓			Mean (SD); 1.93 (0.59) male, 1.93 (0.62) female, compared to domestic; 1.66 (0.52) male, 1.66 (0.52) female. F statistic; 84.72, p < 0.001. Relationship stress, N = 1,600
Work/financial difficulties	face-to-face, semi structured in-depth interviews	Deumert et al., 2005			✓	35% experienced financial difficulties; 21% of those who had worked experienced problems at work, such as abuse or exploitation, N = 202.
	Self-designed questionnaire	Greenland et al., 2021			✓	29.6% (159) job loss; 15.4% financial difficulties, N = 159
	Online Likert-scale questions focus group interviews	Arkoudis et al., 2019			✓	95%, (338) relied on financial support; 82% (300) agreeing or strongly agreeing that they could afford basic necessities; 4% (10) strongly agreed it was easy to find paid work; 14%, (33) regularly missed study commitments to go to work; 38% (60) noted that they worked for less than the minimum wage, N = 363
	four-item subscale	Moore et al., 2013	✓			Mean (SD); 2.68 (1.04) male, 2.67 (1.01) female, compared to domestic; 2.44 (0.98) male, 2.69 (1.09) female. F statistic 4.40, p < 0.05. financial stressors, N = 1,600

Table 3. Continued.

Outcomes	Measure	Reference	Impact of identified factors on International students studying in Australia			Reported effect size/comment
			Compared		Overall/mixed result	
			Significant	Not significant		
Discrimination/racism, abuse and safety	face-to-face, semi structured in-depth interviews	Deumert et al., 2005			✓	50% students had experienced discrimination and racism, N = 202
	Four item scale	Rosenthal et al., 2008	✓			Females significantly higher abuse than males, t = 3.52, P < .001. Combine abuse (Physical, Verbal, Sexual harassment, Exclusion), N = 979
	face-to-face, semi structured in-depth interviews	Deumert et al., 2005			✓	9% students reported not feeling safe and secure in Australia, N = 202
Well-being	Semi structured online interviews using WeChat	Huang et al., 2022			✓	Qualitative data. Experiences of wellbeing included feeling of competence, and support from family/friends. Activities supporting wellbeing: intrapersonal related (i.e., competence, mental-oriented, autonomy, learning and growth, fulfilment & contentment, and physical-oriented) and interpersonal-related experiences (i.e., relationship support, giving, community support, and nature and environment). Reflection on others wellbeing: Three main themes were identified (negative, positive, and neutral/ personal) Activities to support others' wellbeing such as chatting or talking with others and being a good listener.
	Satisfaction with Life Scale	Skromanis et al., 2018	✓			5.7%, compared to domestic, 10.9, t = 8.0, p < 0.01. N = 1,395
	SWEMWBS	Dingle et al., 2022	✓			Reported significantly lower wellbeing due to COVID-19 compared to domestic from a chart (figures not reported).
Obsessive Compulsiveness	Hopkins Symptom Checklist Scale	Khawaja & Dempsey, 2007			✓	14.2%, N = 86. There was a significant difference between Obsessive–Compulsive subscale and the other subscales.
University belonging	single-item social identity scale	Dingle et al., 2022	✓			A post-hoc test confirmed 2020 cohort (M = 3.22, SD = 1.08) had a significantly lower sense of belonging to university than their 2019 (M = 3.47, SD = 0.96, p = .004) and 2021 counterparts (M = 3.39, SD = 0.93, p = .015). N = 1,239
Somatization	Hopkins Symptom Checklist Scale	Khawaja & Dempsey, 2007			✓	4.8%, N = 86
Language skills	individual and small group interviews	Gomes, 2020			✓	Qualitative data. Students resort to conventional and creative ways of improving their language skills, which they incorporate into everyday living in Australia.
	face-to-face, semi structured in-depth interviews	Deumert et al., 2005			✓	Qualitative data, one third of students (60) replied that English created difficulties in academic work, N = 202

Table 3. Continued.

Outcomes	Measure	Reference	Impact of identified factors on International students studying in Australia			Reported effect size/comment
			Compared		Overall/mixed result	
			Significant	Not significant		
Social interaction	Self-designed questionnaire	Greenland et al., 2021			✓	11.8% reported reduced social interaction; 11.8% lifestyle changes, N = 159
Challenges encountered	Focus groups	Khawaja & Stallman, 2011			✓	Qualitative data. Some of the challenges faced by students included: Studies (27%), social isolation (18%), culture shock (13%), adjustment (12%), psychological stress (9%), English language skills (8%), employment (7%), and unmet expectations (6%), N = 22
Transition preparedness to practice	Casey-Fink Readiness for Practice Survey	John McKitterick et al., 2022			✓	Of 92 responses: Feeling prepared for transition (69.5%), to work as registered nurses (72.9%), to apply for nursing jobs (75.8%). 67.4% did not feel prepared to find jobs as registered nurses in Australia, N = 104
Gambling and gambling problems	Survey	Rosenthal et al., 2008			✓	88.2% not been involved in gambling, 3.3% gambled in home country and Australia, 1.2% ceased gambling in Australia, 7.3% started gambling in Australia, N = 979.
	PGSI	Skromanis et al., 2018	✓			50.7%, compared to domestic, 33.8%, t = 16.3, p < 0.01, N = 1,395
	PGSI	Moore et al., 2013		✓		Mean (SD); 2.01 (3.81) male, 0.78 (2.49) female, compared to 1.94 (3.62) male, 0.68 (2.15) female. F statistic; 0.44, for severity of gambling, N = 1,600
Illicit substance use	Survey OR Perceptions of Drug Use scale	Rosenthal et al., 2008			✓	2.2% soft drugs, 1.3% hard drugs since coming to Australia, N = 979
	5-point Likert-type scale	Skromanis et al., 2018	✓			Mean (SD); 3.5 (1.7) compared to domestic, 3.3 (1.0), t=-2.1, p < 0.05
Alcohol/drinking problem	Survey	Rosenthal et al., 2008			✓	8.5% used alcohol, N = 979
	5-point Likert-type scale	Skromanis et al., 2018		✓		Mean (SD) 4.0 (2.1), compared to domestic, 4.3 (1.9), t = 1.8, p = 0.07
Smoking	Survey	Rosenthal et al., 2008			✓	8% smoke, N = 979
	5-point Likert-type scale	Skromanis et al., 2018	✓			Mean (SD); 4.1 (2.5), compared to domestic, 3.5 (1.9), t=-3.6, p < 0.01

#measures not specified; IAMHS: Inventory of Attitudes toward Mental Health Services; GHSQ: General Help-Seeking Questionnaire; MHL: Mental Health Literacy; K-10: 10-item Kessler Psychological Distress Scale; PGSI: Problem Gambling Severity Index; PHQ: Primary Care Evaluation of Mental Disorders Patient Health Questionnaire; DASS: Depression Anxiety Stress Scales; SWEMWBS: Short Warwick Edinburgh Mental Well-being Scale.

strategies used by Chinese international students to support their wellbeing, and found that wellbeing was experienced through competence, feeling supported by family and friends, having low levels of pressure, and giving to others. The authors of this study noted that the findings illustrated the mismatch between students' wellbeing experiences and pathways, and helped to shed light on understanding students' wellbeing in the higher education context, while identifying some of the contextual and cultural factors that contributed to wellbeing experiences and pathways.

Dingle et al. (2022) explored the wellbeing of students during COVID-19, and found that the wellbeing of international students was significantly lower due to COVID-19, compared to domestic students.

Factors associated with wellbeing

Loneliness and isolation

Four studies addressed the wellbeing of students by focussing on loneliness and isolation (Table 2). Of these, two

studies (Dingle et al., 2022; Moore et al., 2013) compared loneliness/isolation between the international and the domestic students. Moore et al. (2013) found that international students reported significantly higher levels of loneliness compared to domestic students. Dingle et al. (2022) explored loneliness amongst university students prior to, and during COVID-19, and found that students in the first year of COVID-19 (2020) experienced significantly higher levels of loneliness compared to students in the 2019 or 2021 cohorts. Contrary to the expectation of Dingle et al. (2022), domestic students reported feeling lonelier than international students across all cohorts. Sawir et al. (2008) and Deumert et al. (2005) found that more than half of the international students in their respective studies reported experiencing periods of loneliness or isolation.

Work and financial difficulties

Four studies explored work and financial difficulties amongst students (Table 2). Moore et al. (2013) found that financial stress was a contributing factor for significantly higher rates of problem gambling among the international students, compared to domestic students. Arkoudis et al. (2019) reported that international students often relied on financial support for family members, friends, or a partner while studying in Australia. In this study, 4% of students strongly agreed that it was easy to find paid work, and 14% of students reported that they had to regularly miss classes, tutorials, or other study commitments in favour of going to work (Arkoudis et al., 2019). Some students in this study (38%) also revealed that they worked for less than the minimum wage, reporting that they earned less than $18 dollars/hour, (Arkoudis et al., 2019). Deumert et al. (2005) found that 35% of international students reported experiencing work and financial difficulties, and 21% of those students reported experiencing problems such as exploitation at work.

Discrimination/racism, abuse and safety

Two studies reported on discrimination and safety factors (Table 2). Deumert et al. (2005) found that more than half of the international students in their study had experienced discrimination, racism and abuse, with 9% of students reporting that they did not feel safe and secure in Australia and that they feared for their safety and personal security.

The study by Rosenthal et al. (2008) found that female international students had significantly higher scores than the male international students (t = 3.52), in responses to questions about their experiences of physical and or verbal abuse, sexual harassment and exclusion while studying in Australia.

Language skills

Two studies assessed language skills among the international students (Table 2). Gomes (2020) interviewed 47 international students of Asian descent and found that students either used conventional ways of improving their language skills by enrolling in ELICOS courses, or creative yet informal ways, such as turning to English-language entertainment and news media to improve English proficiency. This study highlighted the concern that while international students saw the value and benefit of possessing a good command of the English language, the creative strategies employed by them to learn English, ultimately resulted in negative outcomes such as insulation and isolation. Deumert et al. (2005) reported that one third of their student sample had indicated that English created difficulties in academic work.

Help-seeking attitudes and intentions

Clough et al. (2018) found that international students were associated with poorer help-seeking attitudes compared to domestic students. Additionally, being younger in age and of male gender was significantly associated with poorer help-seeking attitudes, while the previous use of mental health services and students' age, were associated with more positive help-seeking intentions for emotional problems. Clough et al. (2018) also found that greater years of study at university were significantly associated with more positive help-seeking intentions for suicidal thoughts amongst international students. Skromanis et al. (2018) noted that international students were less likely than domestic students to seek help for mental health and relationship problems.

Other factors impacting student wellbeing

Of the 19 studies, one study each (Table 3) focused on each of the following factors impacting the wellbeing of students: social fragmentation (Arkoudis et al., 2019), social interaction (Greenland et al., 2021), university belonging (Dingle et al., 2022), teaching & learning (Arkoudis et al., 2019), transition preparedness to practice (John McKitterick et al., 2022), challenges encountered (Khawaja & Stallman, 2011), cross-cultural transition experience (Belford, 2017), technology difficulty (Greenland et al., 2021), use of counselling services (Ang & Liamputtong, 2008) and mental health literacy (Clough et al., 2018).

Social fragmentation

Arkoudis et al. (2019) found that more than half of international students in their study preferred to socialise with people speaking the same first language. This study reported that social fragmentation remained a threat to universities' ability to provide a cosmopolitan education, after results from the study indicated that only 35% of the international students felt as part of the university community.

Social interaction

Greenland et al. (2021) explored the social interaction of international students during COVID-19, and found that students had limited social interaction due to them spending more time at home.

University belonging

The study by Dingle et al. (2022) which examined the impact of COVID-19 on university students, found that students in the 2020 cohort, which marked the beginning of COVID-19, experienced a significantly lower sense of

belonging to university than their 2019 and 2021 counterparts. This finding by Dingle et al. (2022) was noted to be the case for both domestic and international students.

Teaching and learning

Arkoudis et al. (2019) found that not all international students were satisfied with their teaching and learning experiences, with 18% disagreeing or strongly disagreeing that their lecturers and tutors understood the challenges that they faced, and 11% disagreeing or strongly disagreeing that their learning expectations had been met.

Transition preparedness to practice

John McKitterick et al. (2022) study found that over 50% of third year international nursing students did not feel ready to find nursing employment in Australia. The major barriers identified for work transition included temporary visa status, financial challenges, the duration of their clinical placements, and their inability to comprehend local colloquialism and knowledge of the Australian healthcare system.

Challenges encountered

Khawaja and Stallman (2011) noted in their study that international students encountered many practical challenges in their attempts to settle in Australia. This included, adjustment, social isolation, language barriers, studies, unmet expectations, culture shock, seeking employment and psychological stress.

Cross-cultural transition experience

Belford's (2017) study, investigated the cross-cultural transition experience of international students studying in Australia and reported that factors such as culture shock, social interaction and friendship development, cultural similarity, intercultural friendship, and relational identity played a significant role in the adjustment process of international students.

Technology difficulty

Greenland et al. (2021) reported that one of the most significant impacts of COVID-19 on international students related to technology difficulties after students were required to switch to online classes due to COVID-19.

Use of counselling services

Ang and Liamputtong (2008) found that none of the international students in their study had used the university counselling services. This was largely due to them lacking knowledge about the availability of this service, despite the services being advertised via pamphlets, websites, orientation talks and handbooks. This study also noted that international students were of the opinion that counsellors would have no understanding about the cultural context of individuals, and as such, would not be able to help with their problems. This study also highlighted the negatively held view among international students that counselling services were for individuals experiencing a mental illness.

Mental health literacy

The study by Clough et al. (2018) noted that certain factors such as being an international student, having no previous contact with mental health services, being at university for less time, and being male, were significantly associated with poorer mental health literacy.

Discussion

This study systematically reviewed the available evidence on the mental health and wellbeing of international students in Australia. To our knowledge, this is the first systematic review to comprehensively report on the issues affecting the mental health and well-being of international students in Australia. Overall, the findings indicated that international students in Australia experience poorer mental health and wellbeing compared to domestic students. The most commonly reported mental health issues experienced by international students were anxiety, depression, psychological distress and stress (Clough et al., 2018; Dingle et al., 2022; Greenland et al., 2021; Humphrey & Forbes-Mewett, 2021; Khawaja & Dempsey, 2007; Lu et al., 2014; Moore et al., 2013; Redfern, 2016; Rosenthal et al., 2008; Skromanis et al., 2018). The most common factors impacting the wellbeing of international students were loneliness and isolation (Deumert et al., 2005; Dingle et al., 2022; Moore et al., 2013; Sawir et al., 2008) financial difficulties (Arkoudis et al., 2019; Deumert et al., 2005), and discrimination (Deumert et al., 2005; Rosenthal et al., 2008).

International students in this review were reported to experience higher levels of anxiety and depression compared to domestic students, with single and younger students noted to be more anxious than students with partners. These findings are consistent with the results from a survey of 170 international students studying in the USA, which found that single students were more likely to report moderate to severe levels of anxiety and moderate to severe levels of depression (Reena et al., 2023). For single and younger students, the levels of anxiety and depression could be exacerbated due to loneliness and isolation. Being alone, living in a foreign environment and not having regular close contact with family, friends and support networks (Forbes-Mewett & Sawyer, 2016), has the potential of increasing levels of anxiety and depression. Additionally, most international students come from collectivist cultures (Triandis, 1995) which places high value on close and supportive networks (Gudykunst et al., 1989; Sawir et al., 2008), and their sudden exposure to individualistic culture in countries such as Australia, can be confronting. While most of the studies included in this review were conducted in one Australian institution, the findings were consistent with previous studies which reported higher levels of anxiety, depression and stress among international students studying in the United States of America (USA), United Kingdom (UK) and New Zealand (Alharbi & Smith, 2018; Reena et al., 2023; Szabo et al., 2016) when compared to domestic students. Greater prevalence of mental health conditions such as depression and anxiety have also been reported in migrant populations, which often comes from the acculturation stress of moving

to countries with a social and cultural system that is different from their own (Close et al., 2016; Sirin et al., 2019).

Psychological distress was also found to be high among international students in this review, with reports that students who performed lower than expected, experienced higher levels of stress. For many international students, the obligation to enrol in a full-time study load to satisfy visa requirements, can result in significant stress as students struggle to become familiar with the education system in their host country. In addition, achieving a fail grade in units of study, or a course at university, can result in feelings of shame and embarrassment of letting their families down, including financially (Forbes-Mewett & Sawyer, 2016). For many international students, poor performance in assessments is often related to the challenges they experience with the English language, which has been identified as a contributing factor impacting their mental health (Hamamura & Laird, 2014; Li et al., 2014; Liu & Winder, 2014).

In this review, financial stress was identified as a factor impacting the wellbeing of international students, with findings that some students were neglecting their studies in favour of working, to mitigate financial difficulties. Financial stress was a contributing factor for significantly higher rates of problem gambling among the international students in this review, compared to domestic students. It is well recognised that the high costs associated with studying and living in Australia has resulted in finances becoming one of the biggest obstacles facing international students (Arkoudis et al., 2019; Wilson et al., 2022) and a core feature of disruptive precarity, contributing to a wide-range of social and psychological problems (Odle-Dusseau et al., 2018; Zheng et al., 2021). Notably, several studies (Moore et al., 2013; Rosenthal et al., 2008; Skromanis et al., 2018) have identified that some students experiencing mental health and related problems had engaged in health compromising behaviours. This included gambling as well as cigarette smoking, alcohol consumption and illicit substance use as a coping mechanism to escape from the reality of their problems. These findings serve to highlight the potential role of stressors in increasing international students' vulnerability to negative health consequences.

Loneliness and isolation were also factors found to be affecting the wellbeing of the international students in this review. While there is a desire among some students to immerse themselves in learning and understanding the local culture (Wang et al., 2018), the challenges in adjusting to new cultural norms both in their social and educational circles (Forbes-Mewett & Sawyer, 2016; Orygen, 2020), compounded by language barriers, can create difficulties when attempting to develop intercultural friendships, further fuelling feelings of loneliness and isolation. Due to language barriers, it is quite common for international students to associate with students speaking the same language, but the downside to this is that it leads to social fragmentation and feelings of isolation from university communities. In this review, international students were reported to have a lower sense of belonging to university than their domestic counterparts. Having a sense of belonging and the ability to connect with other students, are protective factors for student well-being (Knox et al., 2020) which can have a huge influence in student motivation and success in improving academic performance (Zumbrunn et al., 2014).

Findings from our review that international students faced social inequalities such as discrimination is consistent with other studies (Orygen, 2020; Tran & Hoang, 2019; Tran & Vu, 2016), that international students in Australia are exposed to discrimination, racism and abuse, with concerns that they fear for their safety and personal security.

Given the adverse impacts the above factors would have on students' mental and social well-being, findings from this review that international students were less likely to access the university counselling or support services, even when the services were well advertised were consistent with other studies (Alharbi & Smith, 2018; Forbes-Mewett & Sawyer, 2016; Gan & Forbes-Mewett, 2018; Koo et al., 2021). In this review reasons for not accessing counselling or support services, related to the misconception of students that counsellors would have no understanding of their problems from a cultural context, and therefore would not be able to help. Another reason included the negatively held view among some of the international students, that counselling services were primarily for individuals experiencing a mental illness. Findings from more recent studies indicate that even when students do make enquiries about counselling services, there is the tendency for them not to proceed with seeking help, based on the belief that these services would not be useful to them (Gan & Forbes-Mewett, 2018). These are issues of great concern in light of the finding by Orygen (2017), that unidentified and/or untreated mental ill-health amongst international students had resulted in tragic consequences between the period 2009-2015 in Victoria alone, after 27 international students were reported to have died by suicide. Investigations into the deaths of the students by the Victorian Coroner's Prevention Unit, noted low rates of health service utilisation by the students (Orygen, 2017).

Implications for future practice

Findings from this review are consistent with studies from New Zealand, UK and USA that international students are at a higher risk of mental health problems (Alharbi & Smith, 2018; Hamamura & Laird, 2014; Newton et al., 2021), which raises the concern that current interventions provided by Australian universities, including access to support and counselling services, are not impacting sufficiently on international students.

Australian universities can do better to support international students and one way of doing this is to ensure that policies are created that provide adequate support to international students to mitigate mental health risks (Marangell & Baik, 2022; Ryan et al., 2022). Australian universities need to develop strategies that encourage and facilitate the development of positive peer relationships so that international students can feel a greater sense of belonging (Baghoori et al., 2022). This would include expanding opportunities that bring both international and domestics students together (Baghoori et al., 2022; Ryan et al., 2022).

More research is also required to identify the challenges faced by international students and the appropriateness of counselling and support services on offer. University resources that focus on improving mental health and support services for students need to consider the language, life pressures and cultural obstacles faced by international students (Marangell & Baik, 2022; Ryan et al., 2022). The timing when providing information about support services, including counselling services is just as important. Students are often informed about such services during student orientation and this information should be reinforced by staff in the early weeks of study, and throughout the study period to help international students transition into their new university culture (Marangell & Baik, 2022).

Strengths and limitations

To our knowledge, this is the first systematic review to report on the mental health and well-being of international students in Australia. International student participants in this review were represented from a number of different countries. Additionally, the studies included in the review, were conducted in Australian universities across different states and territories. Therefore, findings could be applied across different cultural groups of international students in Australia. The review could have been strengthened if all the studies provided comparison data with domestic students. However, included studies in our review reported on both qualitative and quantitative data which serves to enhance our understanding of the scale of mental health and wellbeing issues affecting international students in Australia.

We advise caution however in interpreting our findings. There was lack of uniformity in the tools used to measure mental health and wellbeing in the studies included in this review. Most of the tools however have been validated, and the findings are consistent with other reviews conducted on international students living and studying in other countries such as the USA and UK. Additionally, about half of the studies did not account for confounding factors or address inconsistencies in the qualitative-quantitative results. These need to be taken into consideration when interpreting the findings. Finally, caution should be taking in interpreting our secondary outcomes (alcohol, illicit substance use, smoking, gambling, loneliness and isolation, work and financial difficulties, discrimination/racism, abuse and safety, language skills, help-seeking attitudes and intentions). This is because the specific keywords were not included in our search strategy, but rather, they existed alongside the overall mental health and wellbeing constructs in the primary outcomes.

Conclusion

In conclusion, this review presented findings on various issues affecting the mental health and wellbeing of international students in Australia. International students experience poorer mental health and wellbeing compared to domestic students. Findings from this review support the need for the development of interventions aimed at improving the mental health and wellbeing of international students studying in Australia.

Authors contributions

RM conceptualized the study in consultation with MC and DN. All three authors (RM, MC, DN) screened eligible studies for inclusion in line with inclusion and exclusion criteria. MC and DN conducted data extraction and quality appraisal of included studies. All authors researched the data, reviewed and edited the manuscript. All authors have read and approved the final version of this manuscript.

PRISMA/PROSPERO

Disclosure statement

Funding

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Appendix 1. Search terms before modification

Population (AND)	Mental health (AND)	Wellbeing (AND)	location
"students"	"mental health"	"wellbeing"	"Australia"
"international students"	"trauma"	"well-being"	"New South Wales"
"foreign students"	"psychological wellbeing"	"resilience"	"Victoria"
"overseas students"	"mental disorders"	"life satisfaction"	"Queensland"
"student mobility"	"psychiatric disorders"	"quality of life"	"Tasmania"
	"emotional distress"		"Australian Capital Territory"
	"anxiety"		"Western Australia"
	"depression"		"South Australia"
	"stress"		"Northern Territory"
			"Sydney"
			"Melbourne"
			"Brisbane"
			"Hobart"
			"Perth"
			"Adelaide"
			"Darwin"