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# National trends of mental health and service utilisation among international students in the USA, 2015–2024

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## Abstract

**Background** International students contribute to the academic and economic vitality of US higher education while facing exacerbated mental health challenges. Little is known about national trends in anxiety, depression, suicidal ideation and mental health service utilisation in this population.

**Aims** This study examined national trends in the prevalence of clinically significant anxiety, depression, suicidal ideation and service utilisation among international students in US higher education from 2015 to 2024.

**Methods** This repeated cross-sectional study analysed annual data from the Healthy Minds Study, a national survey of collegiate mental health, including 44 560 international students. Weighted prevalence estimates were calculated, and multivariable logistic regression models were used to examine temporal trends, controlling for demographic characteristics.

**Results** The weighted annual prevalence of anxiety increased by 78.25% (from 20.46% in 2015–2016 to 36.47% in 2023–2024), depression increased by 73.04% (from 20.44% to 35.37%), suicidal ideation increased by 92.52% (from 5.35% to 10.30%) and service utilisation increased by 45.82% (from 5.26% to 7.67%). In logistic models controlling for demographic characteristics, the increasing trends in anxiety (adjusted odds ratio (aOR) 2.21; 95% CI 2.07 to 2.36;  $p<0.001$ ), depression (aOR 1.93; 95% CI 1.80 to 2.06;  $p<0.001$ ), suicidal ideation (aOR 1.57; 95% CI 1.41 to 1.74;  $p<0.001$ ) and service utilisation (aOR 2.01; 95% CI 1.79 to 2.26;  $p<0.001$ ) remained statistically significant over time.

**Conclusions** The prevalence of anxiety, depression and suicidal ideation nearly doubled among international students from 2015 to 2024, while counselling service utilisation increased at a slower rate, indicating persistent gaps in mental healthcare. These findings suggest the need for proactive interventions, culturally competent services and expanded outreach efforts to bridge the mental health service gap for international students.

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### What is already known on this topic

- International students grapple with mental health challenges in US higher education.
- The decline in international student enrolment resulted in a loss of US\$12.1 billion in economic impact between 2018 and 2021.
- There is limited understanding of national trends in anxiety, depression, suicidal ideation and mental health service utilisation in this population.

### What this study adds

- This study provides the first national longitudinal analysis of mental health trends among international students in US higher education.
- The prevalence of anxiety, depression and suicidal ideation nearly doubled from 2015 to 2024.
- The more modest increase in counselling service utilisation suggests persistent gaps in mental healthcare.

### How this study might affect research, practice or policy

- Findings underscore the need for culturally competent mental health interventions and expanded access to counselling services for international students.
- Institutions should implement targeted outreach efforts and policy changes to reduce mental health disparities in this population.
- Future research should assess the effectiveness of interventions designed to improve mental health outcomes and service utilisation among this population.

## Introduction

Over the past decade, the USA has recorded a steady rise in international student enrolment, with 1.13 million students contributing to the academic and economic vitality of higher education in the 2023–2024 academic year alone.<sup>1</sup> These students generate approximately US\$40 billion annually through tuition, living expenses and workforce participation, while also fostering cross-cultural exchange and innovation in critical fields such as science and technology.<sup>2</sup> Despite their indispensable role, international students face a growing mental health crisis that threatens their academic performance, social adaptation and long-term well-being.<sup>3–6</sup> Research has shown that this population experiences disproportionately high rates of anxiety, depression and suicidal ideation compared with domestic students, driven by academic pressures, financial insecurity, cultural adjustment struggles and social isolation.<sup>3,7</sup> These mental health disorders are highly debilitating and are frequently associated with severe outcomes, including reduced quality of life, cognitive and behavioural impairments, declines in executive functioning and memory, absenteeism, presenteeism, insomnia and even mortality.<sup>8–14</sup> The coronavirus disease 2019 pandemic further exacerbated these challenges, compounding pre-existing stressors with unprecedented disruptions such as travel bans, abrupt transitions to remote learning and heightened xenophobia linked to immigration policies.<sup>15–17</sup>

Despite growing mental health needs, international students are reluctant to seek professional help while their psychological distress escalates.<sup>3,18</sup> A recent report suggests that international students are less likely than domestic students to seek mental health treatment.<sup>19</sup> Barriers, including stigma, language difficulties and a lack of culturally responsive care, often deter international students from seeking mental health services, leaving many students to rely on informal support networks rather than professional services.<sup>20</sup> Although recent efforts to expand campus mental health resources have helped promote awareness, service gaps may have persisted over the years. Thus, a longitudinal view on the prevalence of mental health issues and service utilisation can provide additional insights into the unmet mental health needs among international students.

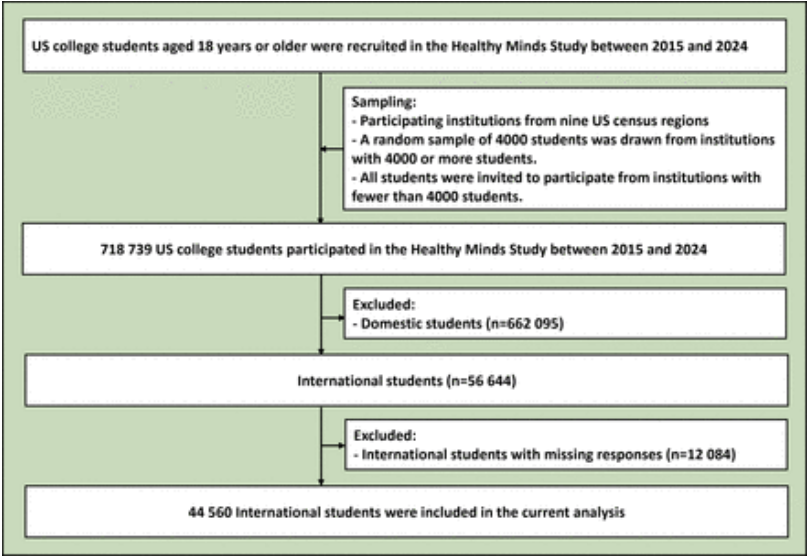
A considerable gap in the literature remains regarding these trends among international students. Much of the prior research relies on cross-sectional designs with data from single institutions or narrow samples, limiting the ability to capture national patterns or longitudinal trajectories.<sup>3</sup> Addressing this gap requires a longitudinal perspective on mental health issues and service utilisation among international students. Empirical evidence from such research can inform institutional policies, support systems and interventions to promote mental health in this population.

Taken together, we aimed to address this gap by analysing annual national data from 2015 to 2024 to examine trends in mental health and service utilisation among international students in US higher education. This study provides the first comprehensive evaluation of a longitudinal mental health perspective in this population by assessing temporal trends in the prevalence of clinically significant anxiety, depression, suicidal ideation and counselling utilisation over a critical decade characterised by pandemic disruptions, sociopolitical changes and evolving immigration policies. Findings of this study provide important implications for institutional policies, public health strategies and economic stability. As unaddressed mental health concerns may contribute to declines in international student enrolment, a sector that generates billions for the US economy, this study underscores the pressing need for targeted, culturally competent interventions to support student well-being and sustain the nation's global academic competitiveness.

# Methods

## Data source and study sample

A longitudinal analysis was conducted on annual cross-sectional data between 2015 and 2024 from the Healthy Minds Study (HMS), including 44 560 international students enrolled at higher education institutions in the USA ([figure 1](#)). The HMS has been implemented at over 600 colleges and universities, representing diverse institutional types such as Historically Black Colleges and Universities, community colleges and both private and public 2-year and 4-year colleges. These institutions vary in enrolment size and geographical location, encompassing all nine census regions. A random sample of 4000 individuals was drawn from larger institutions, while all students were invited to participate from smaller institutions with an enrolment size of less than 4000.



**Figure 1** [Request permissions](#)

Flowchart for the selection of the analytical sample from the Healthy Minds Study.

Participants were incentivised with the opportunity to win one of several gift cards (eg, 10 US\$100 prizes or 2 US\$500 prizes) on completing the survey. Details of the survey design and sampling methodology have been described in prior publications.<sup>21</sup> To mitigate non-response bias, sample weights were applied based on institutional demographics, including sex/gender, race/ethnicity, academic level and grade point average. The HMS was approved by a central institutional review board (IRB) as well as the IRBs of participating campuses, and all participants provided written informed consent. This present analysis was approved by the IRB of the corresponding author’s institution.

## Measures

### Anxiety

Anxiety was measured using the Generalised Anxiety Disorder-7 (GAD-7), a 7-item instrument designed to assess anxiety symptoms on a 4-point Likert scale ranging from 0 (not at all) to 3 (nearly every day). The GAD-7 has demonstrated strong psychometric properties across various populations and contexts, including both prepandemic and pandemic settings.<sup>22 23</sup> For this study, a cut-off score of 8 was used to identify clinically significant anxiety, aligning with recommendations by Plummer *et al* to achieve balanced sensitivity and specificity (both 0.88).<sup>24</sup> The validity of the GAD-7 is well-documented, including strong construct, factorial and procedural validity.<sup>23</sup> Research also showed good test–retest reliability over a 7-day interval ( $r=0.83$ ).<sup>23</sup> In this sample, the McDonald’s omega reliability score was 0.92.

## Depression

Depression was measured using the Patient Health Questionnaire-9 (PHQ-9), a 9-item tool designed to assess depressive symptoms on a 4-point Likert scale. A cut-off score of 10 was applied to identify clinically significant depression as this threshold achieves balanced sensitivity and specificity (both 0.88).<sup>25</sup> The PHQ-9 has been validated across diverse populations, demonstrating strong construct and factorial validity.<sup>25 26</sup> It also exhibits good test–retest reliability over a 14-day interval ( $r=0.94$ )<sup>27</sup> and high inter-rater reliability (Intraclass Correlation Coefficient=0.94).<sup>28</sup> In the current sample, the McDonald’s omega reliability score was 0.89.

## Suicidal ideation

Suicidal ideation was assessed through a single survey item asking participants, ‘In the past year, did you ever seriously think about attempting suicide?’ Responses were dichotomised, with ‘Yes’ indicating the presence of suicidal ideation.

## Mental health service utilisation

Counselling utilisation was measured by asking participants, ‘Are you currently receiving counselling or therapy?’ Responses were dichotomised, with ‘Yes’ indicating active engagement in mental health counselling services.

## Covariates

Because of mental health disparities across different international student populations,<sup>29</sup> several demographic variables were included as covariates in each model to account for potential confounding effects. Participants reported age in years at the time of the survey and biological sex in three categories: female, male or intersex. Years in school were measured as the duration of enrolment in the current academic programme.

## Statistical analysis

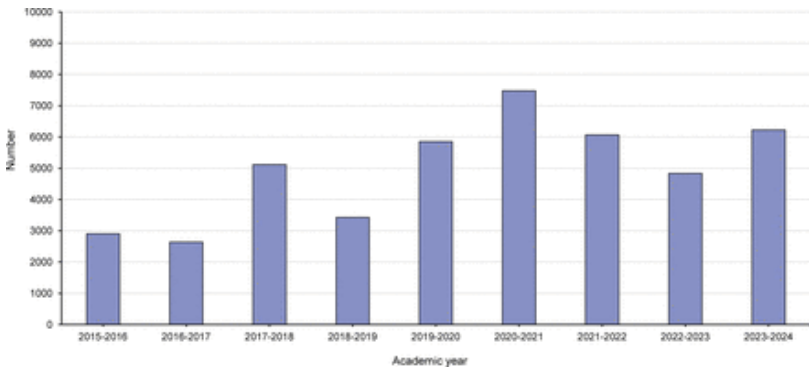
Descriptive analyses were performed to calculate the weighted annual prevalence of anxiety, depression, suicidal ideation and counselling service utilisation across the nine waves of the HMS data from 2015 to 2024. Sample-weighted multivariable logistic regression models estimated adjusted odds ratios (aORs) and 95% confidence intervals (CIs) for each outcome, controlling for demographic covariates. We included survey years as a continuous independent variable to reveal longitudinal trends by assessing the change in odds of the estimated annual prevalence of each outcome variable from 2015 to 2024.<sup>21 30</sup> We used complete case analysis to handle missing data. Statistical significance was set at a two-sided  $p<0.05$ . All analyses were conducted using SPSS V.28 (IBM).

## Sensitivity and subgroup analyses

We conducted sensitivity and subgroup analyses to evaluate the robustness of our findings and to explore differential trends among international student subgroups. First, we estimated the models after excluding demographic covariates. Next, we tested for an interaction between sex and survey year by adding a sex  $\times$  survey year term to each logistic regression model. Last, we fitted separate models stratified by sex and by age group to investigate potential subgroup-specific trends.

# Results

This large analytical sample of international students included 44 560 participants ([table 1](#) and [figure 2](#)), with a mean (standard deviation) age of 24.89 (5.64) years; 25 422 (45.94%, weighted) were female. Among them, 14 266 (33.68%, weighted) experienced clinically significant anxiety, 13 775 (32.55%, weighted) experienced clinically significant depression, 3840 (9.61%, weighted) reported suicidal ideation and 3954 (8.48%, weighted) were receiving mental health services between 2015 and 2024. [Online supplemental table S1](#) shows demographic information by academic year.



**Figure 2**

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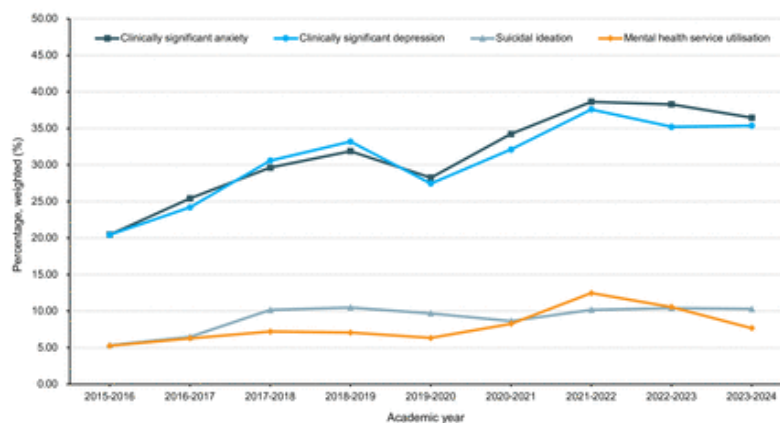
Participating international students in the USA from 2015 to 2024 by academic year.

**Table 1**

[View inline](#) • [Open as popup](#)

Demographic characteristics of participating international students in the USA, 2015–2024\*

During this study period ([figure 3](#)), the weighted annual prevalence of anxiety increased by 78.25% from 20.46% (2015–2016) to 36.47% (2023–2024), depression increased by 73.04% from 20.44 (2015–2016) to 35.37% (2023–2024), suicidal ideation increased by 92.52% from 5.35% (2015–2016) to 10.30% (2023–2024) and the use of mental health services increased by 45.82% from 5.26% (2015–2016) to 7.67% (2023–2024).



**Figure 3** [Request permissions](#)

National trends in the prevalence of clinically significant anxiety, depression, suicidal ideation and mental health service utilisation among international students, 2015–2024.

In our logistic models ([table 2](#)), the temporal trends of increasing prevalence of anxiety (aOR 2.21; 95% CI 2.07 to 2.36;  $p<0.001$ ), depression (aOR 1.93; 95% CI 1.80 to 2.06;  $p<0.001$ ), suicidal ideation (aOR 1.57; 95% CI 1.41 to 1.74;  $p<0.001$ ) and service utilisation (aOR 2.01; 95% CI 1.79 to 2.26;  $p<0.001$ ) remain statistically significant, even after adjusting for demographic characteristics.

**Table 2** [View inline](#) • [Open as popup](#)

Results of multivariable logistic regression analyses\*

## Results of sensitivity and subgroup analyses

Overall, the results of sensitivity and subgroup analyses were consistent with the findings from our main models. In the sample to weighted logistic regression excluding demographic covariates, the temporal trends of increasing prevalence of anxiety (OR 1.96; 95% CI 1.84 to 2.09;  $p<0.001$ ), depression (OR 1.76; 95% CI 1.65 to 1.88;  $p<0.001$ ), suicidal ideation (OR 1.42; 95% CI 1.28 to 1.57;  $p<0.001$ ) and service utilisation (OR 1.66; 95% CI 1.48 to 1.85;  $p<0.001$ ) were statistically significant across the study period. The magnitude and direction of these estimates were consistent with those obtained in the adjusted models, supporting the robustness of the primary findings. Further, the results of logistic models with the interaction between sex and survey year were consistent with the primary findings. The interaction term for male students was significant, indicating a flatter upward trend than that of female students in the prevalence of anxiety, depression and service utilisation. No interaction effect was, however, observed in the model of suicidal ideation.

### Sex to stratified models

Among female international students, the prevalence of anxiety (OR 2.69; 95% CI 2.45 to 2.95;  $p<0.001$ ), depression (OR 2.33; 95% CI 2.12 to 2.55;  $p<0.001$ ), suicidal ideation (OR 1.69; 95% CI 1.47 to 1.95;  $p<0.001$ ) and service utilisation (OR 2.78; 95% CI 2.40 to 3.22;  $p<0.001$ ) all increased significantly over time. Among male students, significant increases were also observed for the prevalence of

anxiety (OR 1.79; 95% CI 1.63 to 1.97;  $p<0.001$ ), depression (OR 1.59; 95% CI 1.45 to 1.75;  $p<0.001$ ) and suicidal ideation (OR 1.42; 95% CI 1.21 to 1.66;  $p<0.001$ ), whereas the trend for service utilisation was not significant (OR 1.14; 95% CI 0.94 to 1.37;  $p=0.175$ ).

## Age to stratified models

Among younger international students aged 22 years and under, the prevalence of anxiety (OR 2.06; 95% CI 1.87 to 2.26;  $p<0.001$ ), depression (OR 1.84; 95% CI 1.68 to 2.03;  $p<0.001$ ), suicidal ideation (OR 1.47; 95% CI 1.28 to 1.69;  $p<0.001$ ) and service utilisation (OR 2.05; 95% CI 1.75 to 2.42;  $p<0.001$ ) increased significantly across the study period. Similar trends emerged among international students aged over 22 years, with significant increases in prevalence of anxiety (OR 2.27; 95% CI 2.07 to 2.49;  $p<0.001$ ), depression (OR 1.93; 95% CI 1.76 to 2.12;  $p<0.001$ ), suicidal ideation (OR 1.62; 95% CI 1.38 to 1.91;  $p<0.001$ ) and service utilisation (OR 1.94; 95% CI 1.65 to 2.28;  $p<0.001$ ).

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# Discussion

## Main findings

In this longitudinal analysis of annual data between 2015 and 2024, we found a significant rise in the prevalence of anxiety, depression, suicidal ideation and mental health service utilisation among international students enrolled in US higher education institutions. Overall, the findings suggest a growing mental health burden and needs among this population, with the prevalence of clinically significant anxiety, depression and suicidal ideation almost doubling during the study period. Although the temporal trend in the use of mental health services appeared to change in parallel with the rise in mental health issues, the relative increase was more modest, indicating persistent gaps in mental health treatment.

Specifically, increases in anxiety, depression and suicidal ideation prevalence among international students are consistent with previous findings suggesting rising trends of these mental health issues in general college student populations.<sup>[21](#)[31–34](#)</sup> Both international and domestic students experience common mental health challenges, such as academic stress, financial strain and social transitions.<sup>[35–39](#)</sup> The repercussions of the COVID-19 pandemic also posed a threat to college students, worsening their mental health.<sup>[40](#)</sup> In addition to these shared stressors, international students face unique challenges, including intensified discrimination and visa/immigration policy coupled with unabashed xenophobia, which likely contributed to the increased prevalence of mental health issues over the years.<sup>[6](#)[15](#)[16](#)[41–43](#)</sup>

Nevertheless, we noticed a decline in the prevalence of anxiety and depression among international students between 2018–2019 and 2019–2020. This decline may be attributed to additional mental health resources and accommodations that universities provided to support international students during the COVID-19 outbreak.<sup>[15](#)</sup> During stay-at-home periods, students also received more support from families and friends, even at a distance.<sup>[6](#)</sup> These protective factors might have served as a buffer against anxiety and depression by alleviating negative emotions, such as stress, loneliness, sadness and frustration.<sup>[44](#)</sup> However, those institutional accommodations were temporary, and additional support from families and friends could wane down as people adapted to the pandemic. The diminished protective factors might explain the following increase in prevalence of anxiety and depression from the academic year of 2020–2021 onward.

Notably, the prevalence of suicidal ideation nearly doubled, exceeding the relative increase in anxiety and depression prevalence. This finding suggests a critical and severe manifestation of mental health distress among international students. Suicide is associated with psychiatric symptoms and remains one of the leading causes of death among college students.<sup>[45–48](#)</sup> During the 2023–2024 academic year, 10.30% of our participants reported suicidal ideation. Meanwhile, approximately 1.13 million international students were enrolled in US higher education institutions, suggesting that over 113 000 international students may be



at risk of suicide. This issue may have a ripple effect on the economy and public health concerns. According to NAFSA: Association of International Educators,<sup>49</sup> the economic contribution of international students in the USA peaked in the 2018–2019 academic year at US\$40.5 billion; however, this figure declined to US\$28.4 billion in the 2020–2021 academic year, which indicated a US\$12.1 billion loss in economic impact following a decline in international student enrolment between 2018 and 2021. If international student mental health remains unaddressed, concerns regarding safety and well-being may prompt parents to choose alternative study destinations, such as Europe and Australia, over the USA.

We observed a 45.82% increase in counselling service utilisation from 2015 to 2024, and the trend changed in parallel with the prevalence of anxiety and depression. These findings suggest that more international students have sought professional help over the past 9 years. Despite this increase, a noticeable service gap remains between students experiencing anxiety or depression and those accessing mental health services. In 2023–2024, only 7.67% of international students reported using counselling services, compared with 36.47% and 35.37% experiencing anxiety and depression, respectively. Although considerable efforts have been made to increase mental health awareness, reduce stigma and improve service accessibility, international students continue to encounter persistent obstacles to mental healthcare, including limited culturally competent services, language barriers and a preference for informal support from family and friends.<sup>4 18 50 51</sup> Such a service gap may exacerbate health disparities, underscoring the importance of targeted strategies to eliminate these obstacles.

The sensitivity and subgroup analyses confirmed a steady rise in mental health concerns among international students. Female international students showed steeper year-to-year increases than male international students in anxiety, depression and counselling service use. The significant sex-by-year interaction indicates that the corresponding trends for male international students were comparatively flatter. Suicidal ideation increased in both groups, and the non-significant interaction suggests a similar rate of growth across male and female groups. One explanation is that female students are more aware of their symptoms, willing to report them and likely to seek help while facing cumulative academic and social pressures when studying abroad.<sup>52</sup> Male students, by contrast, often endorse greater stigma toward mental health problems.<sup>52</sup> Cultural norms of masculinity, prevalent in many countries of origin, may also discourage the expression of emotions and seeking help even as symptoms worsen.<sup>52</sup> These issues may dampen increases in self-reported anxiety and depression and help explain the persistently low prevalence of counselling service use over the years. Both younger and older international students experience a steady rise in mental health issues, suggesting that stressors fuelling anxiety and depression (eg, acculturative strain, academic pressure and social isolation) cut across age groups and that institutional support efforts should be inclusive of these students at every stage of their studies.

## Limitations

This study has several limitations. First, the instruments used to assess mental health conditions, such as anxiety and depressive symptoms, were administered in English. International students whose first language is not English may interpret the questions differently from domestic students. Although these instruments show good internal reliability in this study and have been validated in college student populations in non-English-speaking countries, research validating the original English versions among international students remains scarce. Thus, future research may help bridge this gap by evaluating the psychometrics of these instruments in this population. Second, the use of self-reported, retrospective data might introduce recall and social desirability bias. Third, the generalisability of the findings is limited to international students who participated in this study. Although the sample includes a diverse range of US colleges and universities, the results may not be generalised to international students beyond the study population. Fourth, although we controlled for several covariates, potential unobserved confounding factors might bias the results. The absence of information regarding student nationality in the dataset prevented us from controlling for this variable.

Additionally, this study conducted a longitudinal analysis of cross-sectional data, and there is a small possibility that some students were surveyed more than once in different years. The survey does not include unique identifiers, which prevented us from examining potential duplicate respondents across different years. Further, we were not able to adopt a multilevel modelling

approach as campus participation in the HMS varied each year and was not random. Although potential clustering effects may exist, previous analyses using single-year HMS data indicate that campus-level variation is close to zero, suggesting that multilevel modelling was not warranted.<sup>21 53</sup> Despite these limitations, the HMS sampling methodology has demonstrated strong reliability and validity in prior research, supporting the validity of findings from this study.

## Implications

Implications for policy and practice emerged from the study findings. Targeted interventions are essential to addressing the rising mental health concerns among international students in the USA. The significant increases in the prevalence of anxiety, depression and suicidal ideation, coupled with the relatively modest growth in mental health service utilisation, suggest that current institutional support structures and initiatives remain insufficient in meeting the needs of this population.

First, universities and counselling providers should consider integrating culturally competent programmes and service models to enhance accessibility of culturally sensitive services. The persistent gap in mental health outcomes and service utilisation highlights systemic barriers, including a lack of multilingual support, cultural stigma and unfamiliarity with Western mental health paradigms among international students.<sup>54–56</sup> Universities could invest in recruiting more diverse mental health professionals with cross-cultural training and develop peer-support networks that align with international students' cultural values.<sup>57 58</sup> Culturally competent, multilingual mental health professionals can also better assist international students by communicating in their first languages.<sup>57–59</sup>

Previous studies indicate that language barriers can discourage individuals from seeking mental health services.<sup>60–62</sup> Discussing mental health concerns in a language other than their native language can be difficult, which may discourage international students from seeking help.<sup>63 64</sup> In the USA, although public school districts are legally obligated to provide interpretation and translation services, many still fall short in fully facilitating accessibility to individuals with limited English proficiency, often due to inadequate resources and systemic barriers.<sup>65</sup> This highlights a critical gap in the implementation of language access policies, which can hinder the effectiveness of mental health services aimed at diverse populations.

Second, the post-COVID-19 era has also given rise to the use of artificial intelligence (AI) in mental health and has helped increase accessibility and service use.<sup>66</sup> International students often encounter fragmented and confusing support systems within universities, which may deter them from seeking help when needed.<sup>67</sup> AI-assisted mental health applications can provide a more accessible and user-friendly interface for these students and offer immediate and tailored support to their specific needs.<sup>68–70</sup> For instance, AI tools can facilitate engagement by providing personalised recommendations and resources based on individual user profiles,<sup>71</sup> which could contribute to better mental health outcomes.<sup>72</sup>

Traditional mental healthcare systems often struggle to meet the increasing demand for services, leading to limited access to care, prolonged waiting times and inadequate support.<sup>73–75</sup> AI technologies can enhance the efficiency of mental health interventions by offering preliminary assessments and interventions, which helps mental health professionals to focus on more complex cases and tailor mental health services to students.<sup>73 76 77</sup> Therefore, mental health service providers may consider offering AI-assisted mental health support for international students to complement traditional services. Additionally, some AI-based mental health apps provide assistance for minor mental health issues such as anxiety and mild depression; for example, Wysa is an evidence-based AI chatbot that incorporates cognitive behavioural therapy approaches and has been shown to reduce depressive symptoms effectively.<sup>78</sup> Investment in such technologies may potentially increase mental health access, especially for international students who feel a sense of stigma about seeking mental health support.<sup>79–81</sup>

Third, more campus-wide mental health initiatives are needed to normalise help-seeking behaviours. Targeted outreach campaigns that employ culturally appropriate messaging and engagement strategies can reduce stigma and enhance awareness of mental

health and available resources for both male and female students.<sup>82 83</sup> Many international students come from cultures where seeking mental health support is not prioritised, and males may be especially discouraged from seeking help due to cultural and social norms.<sup>52</sup> Thus, many international students are unaware of the full range and nature of services available on campus, and this lack of familiarity may prevent them from accessing the mental health support they need.<sup>84 85</sup> Institutions should collaborate with international student organisations to facilitate these efforts and ensure that messaging is both inclusive and responsive to the unique stressors experienced by this population, such as experiences of discrimination and alienation.<sup>85–87</sup>

Further, policymakers should consider the broader implications of declining mental health among international students. Left untreated, mental health issues can negatively impact student retention.<sup>88 89</sup> The fluctuations in international student enrolment suggest that failing to address these challenges may lead to a decline in the USA’s appeal as a study abroad destination. Efforts to streamline access to mental healthcare through policy changes could provide early detection and intervention for mental health issues by integrating mental health screenings into regular health check-ups for international students.<sup>90 91</sup> Data-driven decision-making can also assist health officials and universities in proactively identifying mental health trends and addressing associated issues they escalate.<sup>92 93</sup>

Finally, future research should investigate the efficacy of intervention and examine the longitudinal trajectories of mental health among international students. Given the potential underutilisation of traditional mental health services, studies could also explore alternative models of care, including digital, culturally adapted mental health and community-based support networks.<sup>94</sup> Future research should investigate how external factors, such as immigration policy shifts<sup>95</sup> and economic instability,<sup>96</sup> exacerbate mental health disparities among international students.

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## Conclusion

This study reveals a significant increase in the prevalence of anxiety, depression, suicidal ideation and counselling service utilisation among international students in US higher education from 2015 to 2024. Findings suggest the need for expanded access to mental health services, culturally competent interventions and targeted outreach efforts to bridge the gap in mental health outcomes and care. By implementing proactive measures, mental health professionals and institutions can better promote international student mental health, which contributes to not merely student well-being but also the long-term growth of the US higher education system and economy.

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## References



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## Supplementary files



Footnotes

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