

Journal of International Students

Volume 13, Issue 4 (2023), pp. 240-260

ISSN: 2162-3104 (Print), 2166-3750 (Online)

jistudents.org

“Doing College” Amidst COVID-19: A Comparative Study Exploring Differences in the Psychological Experiences of International and Domestic Students in the U.S.

Narmada Paul

University of Kentucky, USA

Jaeyun Han

University of Kentucky, USA

Ellen L. Usher

Mayo Clinic, USA

ABSTRACT

Mindset beliefs (beliefs about malleability of human attributes) likely influenced the psychological adjustment of undergraduate students during the pandemic. This study investigated the role of mindset beliefs about adaptability (the ability to adapt to change) in shaping the mental health and behavioral engagement of international and domestic students in the U.S. The psychological experiences of 98 international students and 98 domestic counterparts enrolled at a public U.S. institution during Fall 2020 were compared. Tests of mean differences showed that, relative to domestic students, international students reported a stronger belief that people could become more adaptable to changing circumstances. International students also reported better mental health. The two groups did not differ in their academic behavioral engagement. Path analysis showed that mental health mediated the relationship between international student status and behavioral engagement, whereas mindset beliefs about adaptability did not. The findings highlight the psychological strengths of international students.

Keywords: adaptability, COVID-19, engagement, international students, mental health, mindset

Students in higher education reported feeling stressed about their life during the pandemic (Hawley et al., 2021). The health risk of contracting COVID-19, change

in instruction modality, reduced campus services, and social isolation, made Fall 2020 a uniquely difficult time for students (Chronicle of Higher Education, 2020; Lederer et al., 2021). Undergraduate students reported experiencing more mental health challenges during the pandemic compared to before (Kim et al., 2022).

Poor mental health can lead students to doubt the value of college education, consider dropping out, and feel dissatisfied, whereas positive student mental health supports persistence and satisfaction (Lipson & Eisenberg, 2018). Thus, mental health influences students' academic engagement. Although a general decline was observed in undergraduate students' mental health and engagement in college at the start of the pandemic, different aspects of undergraduate students' identities had the potential to make the pandemic-related psychological experiences qualitatively distinct across groups of students (e.g., Molock & Parchem, 2021).

This study focused on undergraduate students' international status. Students with a F-1 category visa were defined as "international students" and students who were U.S. citizens as "domestic students" (United States Citizenship & Immigration Services, 2020). Evidence suggests that international students are particularly vulnerable to mental health challenges because of the presence of unique stressors in their lives (e.g., ability to work restricted by visa status; Alharbi & Smith, 2018; Brunsting et al., 2018), which were exacerbated during the pandemic (Coffey et al., 2020; Lai et al., 2020).

In early 2020, the U.S. government considered deporting international students (Treisman, 2020). Collective advocacy of multiple U.S. universities prevented deportation of international students (Svrulga & Anderson, 2020). This eased the situation somewhat for international students who were in the U.S., but it did not erase the uncertainty over global mobility (Rufo, 2020). International students who were in their home countries had to attend virtual classes from a different time zone (Bhattacharya, 2020). International students' decision to reside in the host country or in their home country was influenced by multiple factors (e.g., travel costs, travel restrictions; Cheng, 2022; Lakowski, 2020). International students who were attending college from their home countries reported more positive effects of interacting with other students on their learning and felt more comfortable in the academic context, compared with international students living in the host country (Wilczewski et al., 2021). Yet, international students on average reported better adjustment to instructional changes during the pandemic compared to domestic students (Chirikov & Soria, 2020). In this study, we examined psychological factors that could have influenced students' adaptation to the pandemic-related academic changes based on their international status.

LITERATURE REVIEW

Mindset Theory

In adverse situations, people with high psychological flexibility are better equipped to deal with stress than those with low psychological flexibility (Arslan & Allen, 2022; Pakenham et al., 2020). Beliefs about the malleability of human attributes can impact the degree of psychological flexibility during challenging times (Perkins et al., 2021). According to mindset theory, people hold implicit beliefs about the malleability of diverse human attributes, such as intelligence and personality (Dweck & Yeager, 2019). Those who view attributes as unchangeable are said to hold a fixed mindset; those who view attributes as changeable are said to hold a growth mindset. People with a growth mindset experience less psychological distress and use more active coping strategies in the face of difficulties than those with a fixed mindset (Burnette et al., 2020; Miu & Yeager, 2015). Most people, however, hold a view somewhere between these two extremes (Yeager & Dweck, 2020).

Some evidence showed that college students with high growth mindset about intelligence perceived the pandemic to be a less disruptive event in their lives, felt less stressed, and stayed more engaged in academic work, than students who reported low growth mindset (Zhao et al., 2021). In a study conducted on international college students in Britain, students with high growth mindset about intelligence experienced less academic stress during the pandemic compared to students who had low growth mindset (Mosanya, 2021). Growth mindset about intelligence in college students is associated with better life satisfaction, lower psychological distress, and persistence (Lam & Zhou, 2020).

To remain academically engaged during the pandemic required students to reject preconceived expectations of what their college experience would be like and adjust to new circumstances. The ability to react to uncertainty and novelty by responding in appropriate ways is called adaptability (Martin et al., 2012). A study conducted with college students during the pandemic showed that transitioning to online learning was generally perceived negatively compared with face-to-face learning; however, students with high adaptability reported fewer negative feelings and more positive feelings relative to students with low adaptability (Besser et al., 2020). In another study with undergraduate students in their first year of college, students high in adaptability were more likely to report behavioral engagement than those low in adaptability as they transitioned from high school to college (Collie et al., 2017).

Mindset beliefs shape students' adaptability in academic settings. Specifically, growth mindset beliefs about intelligence are positively correlated with adaptability, and fixed mindset beliefs about intelligence are negatively correlated with adaptability (Martin et al., 2012). Researchers examining the predictors and outcomes of adaptability in students similarly found that growth mindset beliefs about intelligence predicted adaptability, which in turn predicted a range of academic (e.g., behavioral engagement) and non-academic outcomes (e.g., life satisfaction; Martin et al., 2013). Although mindset beliefs about intelligence and personality have been extensively investigated, mindset beliefs

about adaptability have not. In this study, our focus was on undergraduate students' growth mindset about the ability to adapt to change (adaptability mindset). Given the unprecedented changes associated with the pandemic, holding a growth mindset about adaptability could have played a key role in promoting students' mental health and academic engagement.

Differences in Psychological Experiences Based on International Student Status

International students experience situations that set them apart from domestic students in multiple ways. Many international students must learn to navigate social interactions in a new language, adjust to new cultural norms, and accept visa-related employment restrictions (Gautam et al., 2016; Sherry et al., 2010). Given the extent of novelty and uncertainty characterizing the unique experiences of international students, it is possible that international student status can lead to differences in college students' mental health, adaptability mindset beliefs, and engagement in college.

The meaning and use of the term mental health varies considerably in the higher education literature (e.g., well-being, mental disorders, stress; Hernández-Torrano et al., 2020). Since the present sample included students from diverse cultural backgrounds, we adopted a global view of quality of mental health (i.e., overall mental health, not limited to presence or absence of symptoms; McAlpine et al., 2018), an approach that has worked well across multiple cultural contexts (Ahmad et al., 2014; Ng & Zhang, 2020). Studies comparing mental health outcomes of domestic students and international students in the U.S. indicate mixed findings. Some studies have shown worse outcomes (e.g., Acharya et al., 2018), some have found comparable outcomes (e.g., Karaman & Watson, 2017), and some have revealed better outcomes for international students (e.g., Liu et al., 2019) relative to domestic students. However, students choosing to study abroad show higher emotional resilience than students choosing to study in their home countries (Earnest et al., 2016), greater sociocultural adaptation over time (Wang et al., 2018), and remarkable agency in challenging situations (Heng, 2018; Wang et al., 2014). Therefore, it is possible that international students were psychologically better prepared to deal with uncertainty compared with domestic students, which could have influenced their mental health during COVID-19 (Rettie & Daniels, 2020).

A study across five U.S. universities showed that international students were more satisfied with their academic experience and institutional support relative to domestic students during the pandemic (Chirikov & Soria, 2020). However, among those studying in the U.S., Asia, and Europe, international students were more likely than domestic students to report feeling stressed about staying connected with family members and about travel-related challenges (Hawley et al., 2021). Compared to domestic students, international students in Australia reported feeling more anxious about the future and stressed about visa-related employability restrictions (Dodd et al., 2021). It should be noted that there is considerable diversity among international students attending U.S. universities

with respect to personal, familial, institutional, and national characteristics (Israel & Batalova, 2021; Jones, 2017), which could have produced variations in their psychological experiences (Rose-Redwood & Rose-Redwood, 2017).

Relationships Between Adaptability Mindset, Mental Health, and Behavioral Engagement

College students with high levels of adaptability showed better mental resilience amidst the pandemic than students with low level of adaptability, after controlling for socioeconomic status (Bono et al., 2020). Learning adaptability was associated with positive mental health in college students during the pandemic (Wang et al., 2020). Given the positive link between adaptability and mental health, it is possible that having an adaptability mindset can be helpful for students during uncertain times (Burnette et al., 2020; Mosanya, 2021).

Students' behavioral engagement is characterized by active involvement in academic and class activities (Fredricks et al., 2004; Wang et al., 2016). Pandemic-related instructional changes decreased students' behavioral engagement because online instruction was unable to meet their learning needs (Colclasure et al., 2021; Hensley et al., 2022). However, college students with higher adaptability were still more likely to show positive behavioral engagement compared with students with low adaptability (Collie et al., 2017). For example, Zhang et al. (2021) found that high adaptability led to positive emotions and high student engagement in online classes during the pandemic, whereas low adaptability was linked to negative emotions and low student engagement. Thus, it stands to reason that an adaptability mindset will be positively associated with behavioral engagement (Lam & Zhou, 2020; Zhao et al., 2021).

Mental health has also been shown to have a direct link with students' behavioral engagement in academic settings. College students experiencing greater psychological distress are less likely to be academically engaged (Liébana-Presa et al., 2014). Low psychological well-being predicts behavioral disengagement in college students (Fernández-Martínez et al., 2019). Also, college students who report high burnout are less likely to be academically engaged (Liébana-Presa et al., 2018). Thus, students' mental health can influence their behavioral engagement during turbulent times.

The major contribution of the present study lies in the examination of the interrelationships among adaptability mindset, mental health, and behavioral engagement, as a function of international student status. Considering that international students have been exposed to certain unique life situations characterized by a high level of uncertainty because they chose to study abroad, it is possible that as a group they were psychologically better prepared than domestic students to adapt to the sudden changes thrust upon them by the pandemic. Thus, this study explores the possibility that adaptability mindset and mental health served to promote academic behavioral engagement more for international students than domestic students.

The Present Study

This study compared international students and domestic students on self-reported adaptability mindset, quality of mental health, and behavioral engagement in college courses in Fall 2020. Then, the interrelationships between international student status, adaptability mindset, quality of mental health, and behavioral engagement were examined (Figure 1).

The research questions and hypotheses were as follows:

1. To what extent do international students and domestic students differ in adaptability mindset, quality of mental health, and behavioral engagement? International students were expected to have a significantly higher adaptability mindset due to their prior experience in dealing with novel situations associated with studying abroad (Heng, 2018; Wang et al., 2018). Given the positive association of growth mindset and adaptability with mental health and engagement (Burnette et al, 2020; Martin et al., 2013; Wang et al., 2020; Zhao et al., 2021), it was expected that international students would also report better quality of mental health and behavioral engagement than domestic students.
2. To what extent do adaptability mindset and quality of mental health mediate the relationship between international student status and behavioral engagement? It was expected that international student status would be positively related to adaptability mindset and mental health based on research evidence that points to greater resilience in international students than their domestic peers (Chirikov & Soria, 2020; Earnest et al., 2016). In turn, adaptability mindset was expected to be positively linked to mental health and behavioral engagement in college courses based on previous studies that demonstrate the benefits of growth mindset and adaptability in academic settings (Lam & Zhou, 2020; Miu & Yeager, 2015; Wang et al., 2020; Zhang et al., 2021). Mental health was expected to positively predict behavioral engagement as has been found in related studies (Fernández-Martínez et al., 2019; Liébana-Presa et al., 2018). Thus, it was expected that adaptability mindset and quality of mental health would show a positive indirect influence on the link between international student status and behavioral engagement.

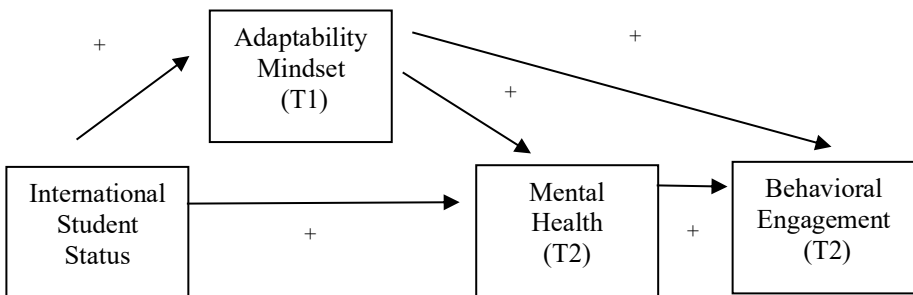


Figure 1: Hypothesized Path Model

METHOD

Sample

Participants were 196 undergraduate students (98 international, 98 domestic) from a public university in the U.S. International students in the sample represented the following global regions: 17.3% Africa, 60.2% Asia and Pacific Islands, 7.1% Europe, 8.2% Middle East, 2% North America, and 5.1% South/Latin America. The racial/ethnicity composition of the domestic students was as follows: 74.5% White, 8.2% Black, 7.1% Hispanic, 4.1% Asian, 3.1% Multi-Racial, and 3.1% race/ethnicity unknown. During Fall 2020, a total of 491 international students were enrolled at the university, seeking a Bachelor's degree. The global regions reflected in the sample closely mirrored the international undergraduate enrollment at the university in Fall 2020: 14.5% Africa, 58.0% Asia and Pacific Islands, 6.3% Europe, 13.2% Middle East, 1.6% North America, and 6.1% South/Latin America.

Study participants were selected from a larger sample of 4,685 students who completed two surveys in Fall 2020 (Time 1: September, Time 2: November). Propensity score matching was used to select domestic students comparable to the international students based on gender (coded as 0 = Female, 1 = Male), academic year (First Year, Sophomore, Junior, Senior), STEM or Health Sciences (STEM-H) major (0 = No, 1 = Yes), and the university courses in which students were enrolled. The selected domestic student sample consisted of 46% female students, 54% male students, 21% first years, 11% sophomores, 29% juniors, 39% seniors, and 24% STEM-H majors, which was proportionate to the international student sample (45% female students, 55% male students, 22% first years, 13% sophomores, 26% juniors, 39% seniors, and 24% STEM-H majors). International students and matched domestic students were enrolled in the same courses. Instruction modality was comparable across domestic and international students. Specifically, 86% of the students in each group were enrolled in online courses and 14% were enrolled in either in-person or hybrid courses. The propensity score matching method allowed making reasonable comparisons between international students and domestic students on outcomes of interest by controlling for demographic information.

Research Design and Procedure

A correlational research design with surveys as the primary method of data collection was used. Students' adaptability mindset beliefs were measured at Time 1. Students' mental health and behavioral engagement were measured at Time 2. Demographic information was obtained from university records. The study was approved by the Institutional Review Board at the institution where the research was conducted.

Measures

International student status was based on students' F1 (student visa) status (coded as, 1 = international, 0 = U.S. citizen). *Adaptability mindset* was assessed at Time 1 via a single item ("How much do you think people are able to change their ability to adapt to change?") to which students responded on a sliding scale from 0 (*not at all*) to 100 (*a lot*). Students' *perceived mental health quality* was assessed at Time 2 by the following item, "How would you rate your overall mental health this semester?" on a Likert scale from 1 (*terrible*) to 5 (*excellent*). Students rated their *behavioral engagement* at Time 2 by responding to 4 items adapted from Skinner et al. (2009; e.g., "I try hard to do well in this class"; $\alpha = .87$) on a Likert scale from 1 (*never*) to 5 (*always*).

Data Analyses Approach

MANOVA was conducted using SPSS 27 to test for differences in adaptability mindset, quality of mental health, and behavioral engagement between international students and domestic students (Research Question 1). Path analysis was performed using Mplus 8.7 to test whether adaptability mindset and quality of mental health are potential explanatory factors underlying the predictive relationship between international student status and behavioral engagement (Research Question 2). Parameters in the path analysis were estimated using maximum likelihood (ML) estimation. Model fit was evaluated by examining the chi-square and its associated p value, a root mean square error of approximation (RMSEA) less than or equal to .06, and a comparative fit index (CFI) greater than or equal to .95, and a standardized root mean squared residual (SRMR) less than or equal to .08 (Asparouhov & Muthén, 2018; Hu & Bentler, 1999). Indirect effects were computed using 5,000 bootstrapped samples. Statistical significance of the indirect effects was determined when zero was not included in the 95% confidence interval (CI) at the 2.5th and 97.5th percentiles (MacKinnon et al., 2007; Preacher & Hayes, 2008).

RESULTS

MANOVA: Group Comparisons Based on International Student Status

Descriptive statistics of study variables are presented in Table 1. One-way MANOVA was conducted to determine whether international and domestic students differed in their adaptability mindset, quality of mental health, and behavioral engagement (Table 2). Overall, students differed significantly with respect to these three psychological processes based on their international student status, $F(3, 191) = 10.44, p < .001, \Lambda = 0.86, \eta^2 = .14$. International students and domestic students differed significantly in their adaptability mindset, $F(1, 193) = 4.69, p = .032, \eta^2 = .02$. International students had a higher mean score on adaptability mindset compared to domestic students, which means that international students believed more strongly than domestic students that people

can change their ability to adapt to change. International students and domestic students differed significantly in their quality of mental health, $F(1,193) = 25.46, p < .001, \eta^2 = .12$. On average, international students reported better quality of mental health compared to domestic students. International students and domestic students did not differ significantly in their behavioral engagement, $F(1, 193) = 0.005, p = .945, \eta^2 < .001$.

Table 1: Descriptive Statistics and Bivariate Correlations

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1 T1 Adaptability Mindset	75.82	21.22	–			
2 T2 Mental Health	3.56	1.19	.13	–		
3 T2 Behavioral Engagement	17.10	2.99	.08	.26***	–	
4 International Student Status	0.50	–	.14*	.33***	-.01	–

Note. T1 = Time 1 and T2 = Time 2. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2: International vs. Domestic Students: Comparisons on Adaptability Mindset, Mental Health, and Behavioral Engagement

Variables	<i>M_{intl}</i>	<i>SD_{intl}</i>	<i>M_{dom}</i>	<i>SD_{dom}</i>	<i>F</i> (df1, df2), <i>p</i>	Partial η^2
T1 Adaptability Mindset	79.31	19.75	72.87	21.74	$F(1, 193) = 4.69, p = .032$.02
T2 Mental Health	3.98	1.08	3.17	1.15	$F(1, 193) = 25.46, p < .001$.12
T2 Behavioral Engagement	17.08	3.04	17.11	2.95	$F(1, 193) = 0.005, p = .945$	<.001

Note. T1 = Time 1 and T2 = Time 2. intl = international and dom = domestic.

Path Model: Mediating Influences of Adaptability Mindset and Mental Health

Path analysis results indicated a satisfactory model fit, $\chi^2(1) = 2.31, p = .129, RMSEA = .08, CFI = .97, SRMR = .03$. The R^2 for behavioral engagement was .07. That is, 7% of the variance in behavioral engagement was explained by the hypothesized model.

The fitted model with standardized path solutions is depicted in Figure 2. Five direct paths were tested. International student status was positively associated with adaptability mindset ($\beta = .28, p = .046$) and mental health ($\beta = .63, p < .001$). Mental health was positively related to behavioral engagement ($\beta = .26, p < .001$). However, adaptability mindset did not predict quality of mental health ($\beta = .08, p = .214$) and behavioral engagement ($\beta = .04, p = .550$).

Three indirect effects were also tested to identify potential explanatory factors that might link international student status and behavioral engagement. Adaptability mindset did not mediate the relationship between international student status and behavioral engagement, $\beta = .01, p = .567, 95\% \text{ CI } [-.04, .07]$. Also, adaptability mindset did not mediate the relationship between international student status and behavioral engagement via its link with quality of mental health, $\beta = .01, p = .311, 95\% \text{ CI } [-.01, .02]$. However, quality of mental health significantly mediated the relationship between international student status and behavioral engagement, $\beta = .16, p = .003, 95\% \text{ CI } [.06, .28]$.

DISCUSSION

The present study contributes to ongoing scholarship aiming to understand the strengths of international students owing to their unique life experiences. The first hypothesis was partially supported. The results indicated that relative to domestic students, international students held more strongly to the belief that adaptability is a quality that can change and reported better quality of mental health. International students and domestic students indicated similar levels of behavioral engagement in their classes. Our second hypothesis was also partly supported. Quality of mental health mediated the relationship between international student status and behavioral engagement, but adaptability mindset did not.

Group Differences in Psychological Processes

Previous studies comparing the psychological experiences of international and domestic students have resulted in mixed findings (Acharya et al., 2018; Karaman & Watson, 2017; Liu et al., 2019). The present findings suggest that international students were psychologically better positioned to deal with the stress of the pandemic compared to their domestic peers. Studies during the pandemic pointed to the benefits of growth mindset, adaptability, and mental health in students' ability to cope with sudden changes in their academic settings (Besser et al., 2021; Fernández-Martínez et al., 2019; Mosanya et al., 2021). The finding that international students had stronger adaptability mindset and better mental health compared with domestic students illustrates their potential for weathering challenges associated with the pandemic (Chirikov & Soria, 2020).

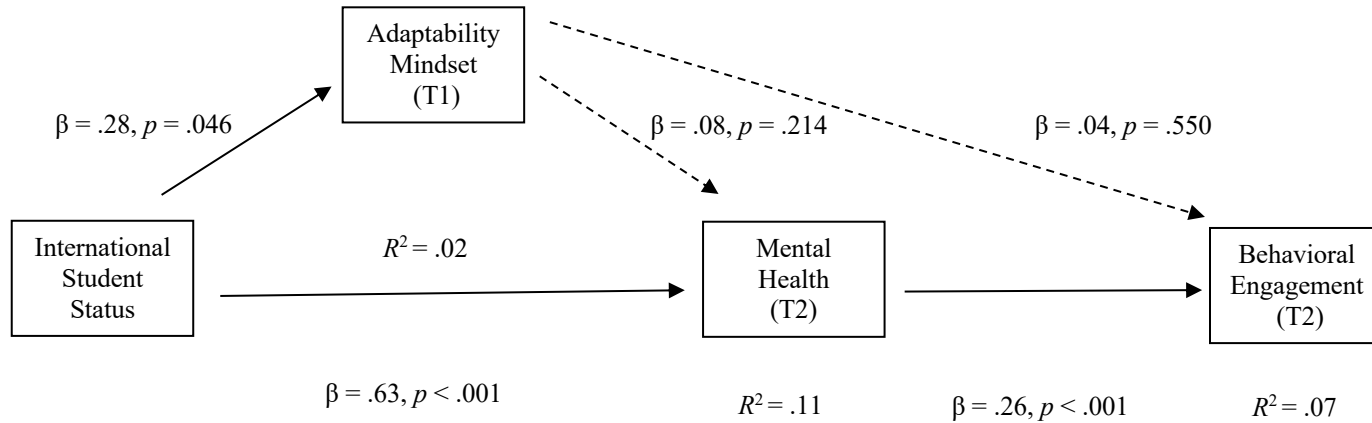


Figure 2: Tested Path Model

Note. International student status \rightarrow adaptability mindset \rightarrow behavioral engagement, $\beta = .01, p = .567, 95\% \text{ CI } [-.04, .07]$. International student status \rightarrow mental health \rightarrow behavioral engagement, $\beta = .16, p = .003, 95\% \text{ CI } [.06, .28]$. International student status \rightarrow adaptability mindset \rightarrow mental health \rightarrow behavioral engagement, $\beta = .01, p = .311, 95\% \text{ CI } [-.01, .02]$.

Studying abroad entails navigating many novel situations characterized by uncertainty (Alharbi & Smith, 2018; Brunsting et al., 2018). Acculturation experiences can bring about a psychological flexibility, which may prepare international students to show greater emotional resilience than their domestic peers in difficult times (Earnest et al., 2016; Pakenham et al., 2020; Wang et al., 2018). The findings related to adaptability mindset and mental health differences are noteworthy because international students faced challenges irrespective of their country of residence in the pandemic (Rufo, 2020; Treisman, 2020). However, we cannot rule out the possibility that international students who voluntarily choose to pursue higher education in a foreign country may have a stronger adaptability mindset to begin with, compared to domestic students.

We also found that international students reported similar levels of behavioral engagement as domestic students in their classes. Nevertheless, the vulnerability of international students in the U.S. may have been heightened by the lack of access to public resources due to their non-citizen status, lack of off-campus residences, and rising microaggressions on campus (Chen et al., 2020). For international students who were in their home countries, the geographic distance from the U.S. meant that they were attending courses at inconvenient times, often with low quality internet connections (Bhattacharya, 2020). Despite their susceptibility in either situation, international students' motivation to participate in academic life remained comparable with domestic students (Wilczewski et al., 2021).

Interrelationships Among Psychological Processes

International student status was positively linked with behavioral engagement when students' mental health was considered. Specifically, compared to their domestic counterparts, international students were more likely to report better quality of mental health, which in turn predicted higher behavioral engagement. Although international student status was positively related to adopting an adaptability mindset, this did not lead to better mental health or higher behavioral engagement.

Mental health is a critical prerequisite for college students' academic engagement (Lipson & Eisenberg, 2018). The mental health of college students was susceptible to deterioration in 2020 (Kim et al., 2022). The present findings show that students reporting positive mental health were better situated to withstand the transitions characterizing the pandemic, as indicated by their higher level of behavioral engagement. Although international student status was not predictive of higher behavioral engagement, when international students did report positive mental health, they tended to show higher behavioral engagement than domestic students. International students often move to the host country for better opportunities; thus, they may be more academically motivated than domestic students when they are psychologically healthy (Chue & Nie, 2016).

Research in the pandemic has shown positive effects of growth mindset beliefs and adaptability on mental health outcomes and academic engagement (Mosanya, 2021; Wang et al., 2020; Zhang et al., 2021). There are multiple reasons why adaptability mindset did not show similar patterns in this study. First, students' adaptability mindset was assessed with respect to their beliefs about people's general ability to adapt to change, which may be unrelated to their personal mental health. Assessing their personal ability mindsets may have yielded different results. Second, studies that have illustrated the benefit of growth mindset beliefs on academic engagement have focused on students' beliefs about their own intelligence, which may be more pertinent to behavioral engagement in academic contexts than their beliefs about adaptability (e.g., Zhao et al., 2021). Third, the potential for growth mindset beliefs to predict psychological well-being and academic outcomes may be contingent on the cultural norms that students grew up with (Lou & Li, 2022). Fourth, students' mental health during the pandemic could also have varied due to other factors, such as country-level differences in geopolitical situation, economic condition, and health policies (Ochnik et al., 2021).

Implications

Researchers should recognize the psychological strengths of international students instead of adopting a deficit perspective by default (Heng, 2018). However, growth mindset beliefs alone will not guarantee psychological well-being as the mental health of international students is vulnerable to external threats (e.g., racism; Maleku et al., 2022). Internationalization of higher education should not end with recruitment; it must include establishing explicit mechanisms to tackle incidents of discrimination, training the campus community to identify and address microaggressions, and internationalizing curriculum and instruction (Mittelmeier & Cockayne, 2022). Most U.S. universities offer counseling services, but the accessibility of these services can be enhanced for international students by hiring multilingual and culturally diverse staff psychologists (Keum et al., 2022; Kim et al., 2019).

Limitations

We acknowledge several limitations. Although our approach to assessing mindset beliefs about abilities of people in general is common (e.g., Zhao et al., 2021), the studies that have demonstrated the benefits of adaptability on mental health and engagement have assessed mindset beliefs on a personal level (e.g., Zhang et al., 2021). The single-item measures of adaptability mindset and mental health measures prevented calculation of psychometric properties. However, single-item measures of mental health and growth mindset are comparable to their multi-item counterparts with respect to reliability and validity (Ahmad et al., 2014; Rammstedt et al., 2022), and they were more likely to be completed by students than multi-item measures at a stressful time, like the pandemic (Allen et al., 2022). Lastly, our analysis did not include students' gender diversity,

socioeconomic status, and country-of-residency during the pandemic, limiting the scope of the present findings (Hunt et al., 2021; King & Trinidad, 2021; Lai et al., 2020).

Conclusions

Although the advantages of growth mindset beliefs about intelligence in educational settings have been extensively researched, there is limited research on malleability beliefs about adaptability. Given that adaptability can influence mental health and engagement in academic settings, it is worth investigating the antecedents and consequences of international students' beliefs about this human attribute. In future studies, adopting a mixed methods approach can shed light on why international students held a stronger belief about the malleability of the ability to adapt and reported better mental health than domestic students, especially during a time of extraordinary change. Additionally, cultural differences in mindset beliefs should be investigated among international students. Mental health can sustain behavioral engagement for all students, yet it seems especially potent for international students. Thus, investing in campus resources that support international students' psychological well-being should be prioritized in internationalization endeavors.

REFERENCES

- Acharya, L., Jin, L., & Collins, W. (2018). College life is stressful today – Emerging stressors and depressive symptoms in college students. *Journal of American College Health*, 66(7), 655–664. <https://doi.org/10.1080/07448481.2018.1451869>
- Ahmad, F., Jhaji, A. K., Stewart, D. E., Burghardt, M., & Bierman, A. S. (2014). Single item measures of self-rated mental health: A scoping review. *BMC Health Services Research*, 14(1), 398. <https://doi.org/10.1186/1472-6963-14-398>
- Alharbi, E. S., & Smith, A. P. (2018). Review of the literature on stress and wellbeing of international students in English-speaking countries. *International Education Studies*, 11(6), 22–44. <https://doi.org/10.5539/ies.v11n6p22>
- Allen, M. S., Iliescu, D., & Greiff, S. (2022). Single item measures in psychological science: A call to action. *European Journal of Psychological Assessment*, 38(1), 1–5. <https://doi.org/10.1027/1015-5759/a000699>
- Arslan, G., & Allen, K. A. (2022). Exploring the association between coronavirus stress, meaning in life, psychological flexibility, and subjective well-being. *Psychology, Health & Medicine*, 27(4), 803–814. <https://doi.org/10.1080/13548506.2021.1876892>
- Asparouhov, T., & Muthén, B. (2018, May 2). *SRMR in Mplus*. <http://www.statmodel.com/download/SRMR2.pdf>
- Besser, A., Flett, G. L., & Zeigler-Hill, V. (2020). Adaptability to a sudden transition to online learning during the COVID-19 pandemic: Understanding

- the challenges for students. *Scholarship of Teaching and Learning in Psychology*, 8(2), 85–105. Advanced online publication. <https://doi.org/10.1037/stl0000198>
- Bhattacharya, A. (2020, April 30). Covid-19: Indian students in American universities are faced with an uncertain future. *Scroll.in*. <https://scroll.in/article/960554/covid-19-indian-students-in-american-universities-are-faced-with-an-uncertain-future>
- Bono, G., Reil, K., & Hescocx, J. (2020). Stress and wellbeing in urban college students in the U.S. during the COVID-19 pandemic: Can grit and gratitude help? *International Journal of Wellbeing*, 10(3), 39–57. <https://doi.org/10.5502/ijw.v10i3.1331>
- Brunsting, N. C., Zachry, C., & Takeuchi, R. (2018). Predictors of undergraduate international student psychosocial adjustment to US universities: A systematic review from 2009-2018. *International Journal of Intercultural Relations*, 66, 22–33. <https://doi.org/10.1016/j.ijintrel.2018.06.002>
- Burnette, J. L., Knouse, L. E., Vavra, D. T., O’Boyle, E., & Brooks, M. A. (2020). Growth mindsets and psychological distress: A meta-analysis. *Clinical Psychology Review*, 77, 101816. <https://doi.org/10.1016/j.cpr.2020.101816>
- Chen, J. H., Li, Y., Wu, A. M. S., & Tong, K. K. (2020). The overlooked minority: Mental health of international students worldwide under the COVID-19 pandemic and beyond. *Asian Journal of Psychiatry*, 54, 102333. <https://doi.org/10.1016/j.ajp.2020.102333>
- Cheng, D. (2022, March 29). UW international students reflect on two years away from home. *Crosscut*. <https://crosscut.com/news/2022/03/uw-international-students-reflect-two-years-away-home>
- Chirikov, I., & Soria, K. M. (2020). *International students’ experiences and concerns during the pandemic*. SERU Consortium, University of California Berkeley and University of Minnesota. <https://escholarship.org/uc/item/43q5g2c9>
- Chue, K. L., & Nie, Y. (2016). International students’ motivation and learning approach: A comparison with local students. *Journal of International Students*, 6(3), 678–699. <https://doi.org/10.32674/jis.v6i3.349>
- Chronicle of Higher Education. (2020, October 1). *Here's our list of colleges' reopening models*. <https://www.chronicle.com/article/heres-a-list-of-colleges-plans-for-reopening-in-the-fall/>
- Coffey, J., Cook, J., Farrugia, D., Threadgold, S., & Burke, P. J. (2020). Intersecting marginalities: International students’ struggles for “survival” in COVID-19. *Gender, Work & Organization*, 28(4), 1337–1351. <https://doi.org/10.1111/gwao.12610>
- Colclasure, B. C., Marlier, A., Durham, M. F., Brooks, T. D., & Kerr, M. (2021). Identified challenges from faculty teaching at predominantly undergraduate institutions after abrupt transition to emergency remote teaching during the COVID-19 pandemic. *Education Sciences*, 11(9), 556. <https://doi.org/10.3390/educsci11090556>

- Collie, R. J., Holliman, A. J., & Martin, A. J. (2017). Adaptability, engagement and academic achievement at university. *Educational Psychology, 37*(5), 632–647. <https://doi.org/10.1080/01443410.2016.1231296>
- Dodd, R. H., Dadaczynski, K., Okan, O., McCaffery, K. J., & Pickles, K. (2021). Psychological well-being and academic experience of university students in Australia during COVID-19. *International Journal of Environmental Research and Public Health, 18*(3), 866. <https://doi.org/10.3390/ijerph18030866>
- Dweck, C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on Psychological Science, 14*(3), 481–496. <https://doi.org/10.1177/1745691618804166>
- Earnest, D. R., Rosenbusch, K., Wallace-Williams, D., & Keim, A. C. (2016). Study abroad in Psychology: Increasing cultural competencies through experiential learning. *Teaching of Psychology, 43*(1), 75–79. <https://doi.org/10.1177/0098628315620889>
- Fernández-Martínez, E., López-Alonso, A. I., Marqués-Sánchez, P., Martínez-Fernández, M. C., Sánchez-Valdeón, L., & Liébana-Presa, C. (2019). Emotional intelligence, sense of coherence, engagement and coping: A cross-sectional study of university students' health. *Sustainability, 11*(24), 6953. <https://doi.org/10.3390/su11246953>
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109. <https://doi.org/10.3102/00346543074001059>
- Gautam, C., Lowery, C. L., Mays, C., & Durant, D. (2016). Challenges for global learners: A qualitative study of the concerns and difficulties of international students. *Journal of International Students, 6*(2), 501–526. <https://doi.org/10.32674/jis.v6i2.368>
- Hawley, S. R., Thirivikraman, J. K., Noveck, N., St.Romain, T., Ludy, M. J., Barnhart, L., Chee, W. S. S., Cho, M. J., Chong, M. H. Z., Du, C., Fenton, J. I., Hsiao, P. Y., Hsiao, R., Keaver, L., Lee, H. S., Shen, W., Lai, C. C., Tseng, K. W., Tseng, W. C., & Tucker, R. M. (2021). Concerns of college students during the COVID-19 pandemic: Thematic perspectives from the United States, Asia, and Europe. *Journal of Applied Learning & Teaching, 4*(1), 11-20. <https://doi.org/10.37074/jalt.2021.4.1.10>
- Heng, T. T. (2018). Different is not deficient: Contradicting stereotypes of Chinese international students in US higher education. *Studies in Higher Education, 43*(1), 22–36. <https://doi.org/10.1080/03075079.2016.1152466>
- Hensley, L. C., Iaconelli, R., & Wolters, C. A. (2022). “This weird time we’re in”: How a sudden change to remote education impacted college students’ self-regulated learning. *Journal of Research on Technology in Education, 54*(sup1), S203–S218. <https://doi.org/10.1080/15391523.2021.1916414>
- Hernández-Torrano, D., Ibrayeva, L., Sparks, J., Lim, N., Clementi, A., Almukhambetova, A., Nurtayev, Y., & Muratkyzy, A. (2020). Mental health and well-being of university students: A bibliometric mapping of the literature. *Frontiers in Psychology, 11*, 1226. <https://doi.org/10.3389/fpsyg.2020.01226>

- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Hunt, C., Gibson, G. C., Vander Horst, A., Cleveland, K. A., Wawrosch, C., Granot, M., Kuhn, T., Woolverton, C. J., & Hughes, J. W. (2021). Gender diverse college students exhibit higher psychological distress than male and female peers during the novel coronavirus (COVID-19) pandemic. *Psychology of Sexual Orientation and Gender Diversity*, 8(2), 238–244. <https://doi.org/10.1037/sgd0000461>
- Israel, E., & Batalova, J. (2021, January 14). *International students in the United States*. Migration Policy Institute. <https://www.migrationpolicy.org/article/international-students-united-states-2020>
- Jones, E. (2017). Problematising and reimagining the notion of ‘international student experience.’ *Studies in Higher Education*, 42(5), 933–943. <https://doi.org/10.1080/03075079.2017.1293880>
- Karaman, M. A., & Watson, J. C. (2017). Examining associations among achievement motivation, locus of control, academic stress, and life satisfaction: A comparison of U.S. and international undergraduate students. *Personality and Individual Differences*, 111, 106–110. <https://doi.org/10.1016/j.paid.2017.02.006>
- Keum, B. T., Bartholomew, T. T., Robbins, K. A., Pérez-Rojas, A. E., Lockard, A. J., Kivlighan, D. M., Kang, E., Joy, E. E., & Maldonado Aguiñiga, S. (2022). Therapist and counseling center effects on international students’ counseling outcome: A mixed methods study. *Journal of Counseling Psychology*, 69(2), 172–187. <https://doi.org/10.1037/cou0000552>
- Kim, H., Rackoff, G. N., Fitzsimmons-Craft, E. E., Shin, K. E., Zainal, N. H., Schwob, J. T., Eisenberg, D., Wilfley, D. E., Taylor, C. B., & Newman, M. G. (2022). College mental health before and during the COVID-19 pandemic: Results from a nationwide survey. *Cognitive Therapy and Research*, 46(1), 1–10. <https://doi.org/10.1007/s10608-021-10241-5>
- Kim, N., Oh, S., & Mumbauer, J. (2019). Supporting international students: Enhancing college counselors’ multicultural counseling competence. *Journal of College Counseling*, 22(2), 179–192. <https://doi.org/10.1002/jocc.12129>
- King, R. B., & Trinidad, J. E. (2021). Growth mindset predicts achievement only among rich students: Examining the interplay between mindset and socioeconomic status. *Social Psychology of Education*, 24(3), 635–652. <https://doi.org/10.1007/s11218-021-09616-z>
- Lai, A. Y., Lee, L., Wang, M., Feng, Y., Lai, T. T., Ho, L., Lam, V. S., Ip, M. S., & Lam, T. (2020). Mental health impacts of the COVID-19 pandemic on international university students, related stressors, and coping strategies. *Frontiers in Psychiatry*, 11, 584240. <https://doi.org/10.3389/fpsy.2020.584240>

- Lakowski, A. (2020, December 16). Stay or go? International students weigh intersession options. *BU Today*. <https://www.bu.edu/articles/2020/stay-or-go-international-students-weigh-intersession-options/>
- Lam, K. K. L., & Zhou, M. (2020). A serial mediation model testing growth mindset, life satisfaction, and perceived distress as predictors of perseverance of effort. *Personality and Individual Differences*, 167, 110262. <https://doi.org/10.1016/j.paid.2020.110262>
- Lederer, A. M., Hoban, M. T., Lipson, S. K., Zhou, S., & Eisenberg, D. (2021). More than inconvenienced: The unique needs of U.S. college students during the COVID-19 pandemic. *Health Education & Behavior*, 48(1), 14–19. <https://doi.org/10.1177/1090198120969372>
- Liébana-Presa, C., Fernández-Martínez, M. E., Gándara, Á. R., Carmen, M., Vázquez-Casares, A. M., & Rodríguez-Borrego, M. A. (2014). Malestar psicológico en estudiantes universitarios de ciencias de la salud y su relación con engagement académico. [Psychological distress in health sciences college students and its relationship with academic engagement]. *Revista da Escola de Enfermagem da Universidade de São Paulo*, 48(4), 715-722. <https://doi.org/10.1590/S0080-623420140000400020>
- Liébana-Presa, C., Fernández-Martínez, M. E., Vázquez Casares, A. M., López-Alonso, A. I., & Rodríguez-Borrego, M. A. (2018). Burnout y engagement en estudiantes universitarios de enfermería [Burnout and engagement among university nursing students]. *Enfermería Global*, 17(2), 131–152. <https://doi.org/10.6018/eglobal.17.2.268831>
- Lipson, S. K., & Eisenberg, D. (2018). Mental health and academic attitudes and expectations in university populations: Results from the healthy minds study. *Journal of Mental Health*, 27(3), 205–213. <https://doi.org/10.1080/09638237.2017.1417567>
- Liu, C. H., Stevens, C., Wong, S. H. M., Yasui, M., & Chen, J. A. (2019). The prevalence and predictors of mental health diagnoses and suicide among U.S. college students: Implications for addressing disparities in service use. *Depression and Anxiety*, 36(1), 8–17. <https://doi.org/10.1002/da.22830>
- Lou, N. M., & Li, L. M. W. (2022). The mindsets × societal norm effect across 78 cultures: Growth mindsets are linked to performance weakly and well-being negatively in societies with fixed-mindset norms. *British Journal of Educational Psychology*, 93, 134-152. <https://doi.org/10.1111/bjep.12544>
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593-614. <http://doi.org/10.1146/annurev.psych.58.110405.085542>
- Maleku, A., Kim, Y. K., Kirsch, J., Um, M. Y., Haran, H., Yu, M., & Moon, S. S. (2022). The hidden minority: Discrimination and mental health among international students in the US during the COVID-19 pandemic. *Health & Social Care in the Community*, 30(5). <https://doi.org/10.1111/hsc.13683>
- Martin, A. J., Nejad, H., Colmar, S., & Liem, G. A. D. (2012). Adaptability: Conceptual and empirical perspectives on responses to change, novelty and uncertainty. *Australian Journal of Guidance and Counselling*, 22(1), 58–81. <https://doi.org/10.1017/jgc.2012.8>

- Martin, A. J., Nejad, H. G., Colmar, S., & Liem, G. A. D. (2013). Adaptability: How students' responses to uncertainty and novelty predict their academic and non-academic outcomes. *Journal of Educational Psychology, 105*(3), 728–746. <https://doi.org/10.1037/a0032794>
- McAlpine, D. D., McCreedy, E., & Alang, S. (2018). The meaning and predictive value of Self-Rated Mental Health among persons with a mental health problem. *Journal of Health and Social Behavior, 59*(2), 200–214. <https://doi.org/10.1177/0022146518755485>
- Mittelmeier, J., & Cockayne, H. (2022). Global representations of international students in a time of crisis: A qualitative analysis of Twitter data during COVID-19. *International Studies in Sociology of Education*. <https://doi.org/10.1080/09620214.2022.2042357>
- Miu, A. S., & Yeager, D. S. (2015). Preventing symptoms of depression by teaching adolescents that people can change: Effects of a brief incremental theory of personality intervention at 9-month follow-up. *Clinical Psychological Science, 3*(5), 726–743. <https://doi.org/10.1177/2167702614548317>
- Molock, S. D., & Parchem, B. (2021). The impact of COVID-19 on college students from communities of color. *Journal of American College Health, 1–7*. <https://doi.org/10.1080/07448481.2020.1865380>
- Mosanya, M. (2021). Buffering academic stress during the COVID-19 pandemic related social isolation: Grit and growth mindset as protective factors against the impact of loneliness. *International Journal of Applied Positive Psychology, 6*(2), 159–174. <https://doi.org/10.1007/s41042-020-00043-7>
- Ng, E., & Zhang, H. (2020). The mental health of immigrants and refugees: Canadian evidence from a nationally linked database. *Health Reports, 31*(8), 3-12. <https://km4s.ca/wp-content/uploads/The-mental-health-of-immigrants-and-refugees-Canadian-evidence-from-a-nationally-linked-database.pdf>
- Ochnik, D., Rogowska, A. M., Kuśnierz, C., Jakubiak, M., Schütz, A., Held, M. J., Arzenšek, A., Benatov, J., Berger, R., Korchagina, E. V., Pavlova, I., Blažková, I., Aslan, I., Çınar, O., & Cuero-Acosta, Y. A. (2021). Mental health prevalence and predictors among university students in nine countries during the COVID-19 pandemic: A cross-national study. *Scientific Reports, 11*(1), 18644. <https://doi.org/10.1038/s41598-021-97697-3>
- Pakenham, K. I., Landi, G., Bocolini, G., Furlani, A., Grandi, S., & Tossani, E. (2020). The moderating roles of psychological flexibility and inflexibility on the mental health impacts of COVID-19 pandemic and lockdown in Italy. *Journal of Contextual Behavioral Science, 17*, 109–118. <https://doi.org/10.1016/j.jcbs.2020.07.003>
- Perkins, A. M., Bowers, G., Cassidy, J., Meiser-Stedman, R., & Pass, L. (2021). An enhanced psychological mindset intervention to promote adolescent wellbeing within educational settings: A feasibility randomized controlled trial. *Journal of Clinical Psychology, 77*(4), 946–967. <https://doi.org/10.1002/jclp.23104>
- Preacher, & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models.

- Behavior Research Methods*, 40(3), 879–891.
<https://doi.org/10.3758/BRM.40.3.879>
- Rammstedt, B., Grüning, D. J., & Lechner, C. M. (2022). Measuring growth Mindset: Validation of a three-item and a single-item scale in adolescents and adults. *European Journal of Psychological Assessment*. Advance online publication. <http://dx.doi.org/10.1027/1015-5759/a000735>
- Rettie, H., & Daniels, J. (2020). Coping and tolerance of uncertainty: Predictors and mediators of mental health during the COVID-19 pandemic. *American Psychologist*, 76(3), 427–437. <https://doi.org/10.1037/amp0000710>
- Rose-Redwood, C., & Rose-Redwood, R. (2017). Rethinking the politics of the international student experience in the age of Trump. *Journal of International Students*, 7(3), I–IX. <https://doi.org/10.32674/jis.v7i3.201>
- Rufó, N. (2020, October 1). International students share their experiences of learning during the pandemic. *Penn State News*. <https://news.psu.edu/story/633592/2020/10/01/impact/international-students-share-their-experiences-learning-during>
- Sherry, M., Thomas, P., & Chui, W. H. (2010). International students: A vulnerable student population. *Higher Education*, 60(1), 33–46. <https://doi.org/10.1007/s10734-009-9284-z>
- Skinner, E. A., Kindermann, T. A., & Furrer, C. J. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children’s behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement*, 69(3), 493–525. <https://doi.org/10.1177/0013164408323233>
- Svrulga, S., & Anderson, N. (2020, July 8). Harvard, MIT sue Trump administration to protect student visas, escalating fight over online learning. *The Washington Post*. <https://www.washingtonpost.com/education/2020/07/08/harvard-mit-international-students-ice/>
- Treisman, R. (2020, July 6). ICE: Foreign students must leave the U.S. if their colleges go online-only this fall. *NPR*. <https://www.npr.org/sections/coronavirus-live-updates/2020/07/06/888026874/ice-foreign-students-must-leave-the-u-s-if-their-colleges-go-online-only-this-fa>
- United States Citizenship and Immigration Services. (2020, August). *Students and employment*. <https://www.uscis.gov/working-in-the-united-states/students-and-exchange-visitors/students-and-employment>
- Wang, H., Xu, J., Yang, L., & Wang, S. (2020). Study on the learning adaptability and mental health of Wuhan College students during the outbreak of COVID-19. *Science Journal of Education*, 8(2), 62–65. 10.11648/j.sjedu.20200802.15
- Wang, K. T., Heppner, P. P., Wang, L., & Zhu, F. (2014). Cultural intelligence trajectories in new international students: Implications for the development of cross-cultural competence. *International Perspectives in Psychology*, 4(1), 51–65. <https://doi.org/10.1037/ipp0000027>
- Wang, M. T., Fredricks, J. A., Ye, F., Hofkens, T. L., & Linn, J. S. (2016). The Math and Science Engagement Scales: Scale development, validation, and

- psychometric properties. *Learning and Instruction*, 43, 16–26. <https://doi.org/10.1016/j.learninstruc.2016.01.008>
- Wang, Y., Li, T., Noltemeyer, A., Wang, A., & Shaw, K. (2018). Cross-cultural adaptation of international college students in the United States. *Journal of International Students*, 8(2), 821–842. <https://doi.org/10.32674/jis.v8i2.116>
- Wilczewski, M., Gorbaniuk, O., & Giuri, P. (2021). The psychological and academic effects of studying from the home and host country during the COVID-19 pandemic. *Frontiers in Psychology*, 12, 644096. <https://doi.org/10.3389/fpsyg.2021.644096>
- Yeager, D. S., & Dweck, C. S. (2020). What can be learned from growth mindset controversies? *American Psychologist*, 75(9), 1269–1284. <https://doi.org/10.1037/amp0000794>
- Zhang, K., Wu, S., Xu, Y., Cao, W., Goetz, T., & Parks-Stamm, E. J. (2021). Adaptability promotes student engagement under COVID-19: The multiple mediating effects of academic emotion. *Frontiers in Psychology*, 11, 633265. <https://doi.org/10.3389/fpsyg.2020.633265>
- Zhao, H., Xiong, J., Zhang, Z., & Qi, C. (2021). Growth mindset and college students' learning engagement during the COVID-19 pandemic: A serial mediation model. *Frontiers in Psychology*, 12, 621094. <https://doi.org/10.3389/fpsyg.2021.621094>

Author bios

NARMADA PAUL, PhD, is a Clinical Assistant Professor in Educational Psychology in the Department of Educational, School, and Counseling Psychology at the University of Kentucky in the United States of America. Her major research interests lie in the areas of motivation, collaborative learning, and multiculturalism. Email: narmada.paul@uky.edu

JAHEYUN HAN, PhD, is a recent graduate from the Department of Educational, School, and Counseling Psychology at the University of Kentucky in the United States of America. Her major research interests lie in the areas of academic motivation, achievement, and higher education research. Email: jaeyun.han@uky.edu

ELLEN L. USHER, PhD, is a Career Education Scientist in the Office of Applied Research and Education Science at the Mayo Clinic in the United States of America. Her research interests focus on understanding the role of self-beliefs and motivation in academic and clinical settings. Email: Usher.Ellen@mayo.edu
