Navigating Through Uncertainty in the Era of COVID-19: Experiences of International Graduate Students in the United States

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ABSTRACT

With the spread of COVID-19 around the world, the lives of international students became affected by a sudden shift to online learning, sheltering in place, and travel restrictions. Drawing upon the stress and coping framework, this study explores the experiences and coping of international graduate students at a large Western research university in the United States. We employed a phenomenological inquiry of in-depth interviews with 20 participants. Findings reveal increased levels of stress and anxiety among participants as they faced academic challenges, personal challenges, and immigration-related uncertainties. Over time, students developed emotion-focused and problem-focused coping strategies to minimize the impact of the pandemic on their lives. Participants' concerns about the host country's treatment of international students raise important questions about the future of international student mobility. Finally, this study demonstrates the need for host institutions to develop emergency responding mechanisms.

Keywords: COVID-19, graduate students, higher education, international student mobility, international students, stress coping

The United States remains the top host destination for international students around the world. In 2019–2020, there were 1.1 million international students in the United States, of which 374,435 pursued graduate degrees (Institute of

International Education [IIE], 2020). While bringing significant economic, cultural, and social benefits to host institutions and communities (Chavajay & Skowronek, 2008; Smith & Khawaja, 2011), international students face unique challenges regarding the cultural, political, and financial barriers that they encounter abroad. International graduate students, who are more mature in age and professionally oriented compared with undergraduate students, often face a high-stakes competition for financial resources at universities and rely heavily on a host institution for academic support (Anderson, 2017; Shu et al., 2020). Unlike domestic students, international students are ineligible for financial aid and, per student visa, cannot freely work off-campus. Moreover, due to heavy academic workload, graduate students are at greater risk for mental health issues than those in the general population (American College Health Association [ACHA], 2018).

The World Health Organization's (WHO, 2020) declaration of COVID-19 as a global pandemic in March 2020 prompted unprecedented challenges in society. The pandemic has influenced the ways people connect globally and locally like no other event in recent history. To mitigate the spread of the virus, governments have resorted to strict public health measures, such as lockdowns, quarantines, social distancing, and prohibition of gatherings, which have forced people to change their daily routines. The pandemic has affected international graduate students' lives as they experienced a sudden shift to online learning, sheltering in place, and travel restrictions. Moreover, the U.S. Immigration and Customs Enforcement (U.S. ICE, 2020) made a proclamation for international students to enroll in at least one in-person or hybrid class in the Fall 2020 semester, or else leave the country.

Due to the unique stressors that international graduate students face, it is imperative to understand this population's experiences and coping strategies during a worldwide pandemic. Drawing upon the stress and coping model (Lazarus & Folkman, 1984), this study explores the experiences and coping of international graduate students at a large Western research university in the United States. This study also draws implications for institutional support for this population. Findings reveal that international graduate students encountered increased levels in stress and anxiety due to sudden changes in life, including academic and immigration policies. Although students utilized various coping strategies to adjust to the situation, students questioned whether the host country, the United States, is a safe and welcoming place for the pursuit of graduate education. Furthermore, students' experiences demonstrated the need for host institutions to develop emergency response mechanisms to support the well-being of international students.

LITERATURE REVIEW

A review of the literature revealed that while stress seems to have similar impacts on both domestic students and international students, compared with domestic students, international students are more susceptible to stress, especially in times of crisis.

Stress, Coping, and Academic Performance

The inherent stressors of college life put lots of pressure on graduate students. Stress, especially when it interacts with one's well-being, can negatively impact students' academic performance (Akgun & Ciarrochi, 2003). Per empirical studies, an excess of stress has a substantial impact on an individual's physical and mental health (Deckro et al., 2002; Schneiderman et al., 2005; Thoits, 2010). Symptoms include an increased level of anxiety, lack of appetite, disrupted sleep patterns, headache, and depression (Elo et al., 2003). Although the difficulties international students experience are not peculiar to them, they "are more likely to feel the cumulative nature of the potential difficulties to which they are exposing themselves by studying abroad" (Sovic, 2008, p. 145).

Among all students whose learning and life got affected during the pandemic, international students have faced additional stressors. Unlike domestic students, international students who come to the United States to earn a graduate degree face unique challenges adjusting to a new environment, culture, and daily life. Some challenges stem from unfamiliarity with the overall system of the host country. One study showed that students unfamiliar with the health system referred to online health information, which could be inaccurate and unreliable, to solve health problems (Yoon & Kim, 2014). Other research found that international students experience stress associated with culture shock (Sovic, 2008), language barriers (Andrade, 2006), and even discrimination (Wei et al., 2008). These issues, distinct to international students, commonly lead to social isolation and loneliness (Andrade, 2006).

The review of literature revealed both similarities and differences in stress coping between domestic and international students. To respond to the impacts of stress, an individual develops stress coping strategies that depend on the length and intensity of the stressor. The most common examples of coping include problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984). More recently, scholars have come up with other terms to describe coping, such as "behavioral activation, acceptance-based coping, mindfulness practice, loving-kindness practices" (Polizzi et al., 2020, p. 59). Among the many coping methods, some can positively impact an individual's stress level, while the effects of others seem unsatisfactory. Research among college students by Struthers and colleagues (2000) found that greater academic stress negatively impacted student performance; yet students who utilized problem-focused coping could successfully improve their learning outcomes compared with those who resorted to emotion-focused coping. While some studies argue that international students use more emotion-focused coping, such as denial and behavioral disengagement, compared with domestic students (Chai, 2009), other research has found problem-oriented coping as the most used strategy, followed by social support and behavioral disengagement (Amponsah, 2010).

Despite the similarities in stress coping between international and domestic students, studies have found various coping strategies utilized among international students. Comparative research between Western and Asian countries showed that people from collectivist societies tend to resort to

emotion-focused coping strategies that are seen as a sign of maturity (B. S. K. Kim et al., 2005) as opposed to problem-focused coping strategies in the Western context (Yeh et al., 2006). Moreover, H.S. Kim and colleagues (2006) found that people from Asian cultures tend to be reluctant to seek support from others. Notably, most research on stress coping comes from Western samples, yet the effectiveness of different coping strategies is often context-dependent (Lazarus & Folkman, 1984).

Research Gaps

Recent studies in response to the COVID-19 pandemic have mainly focused on college students' mental health. As opposed to domestic students who may have an option to return home when classes switch online, many international students remain in a host country due to flight cancellations and travel bans that impede their mobility. A student dorm may suddenly turn into an unsafe place, presenting a higher risk of the virus outbreak and a significant stress source for international students who are unable to return home (Chew et al., 2020).

Thus far, only a few studies have paid attention to international students' well-being (Chirikov & Soria, 2020; Younis et al., 2020) and stress coping during the COVID-19 pandemic (Cao et al., 2020; Rogowska et al., 2020; Son et al., 2020). Although most of these studies suggest that there is a need for universities to provide more support and interventions to prevent mental health issues among students, only a few of them offer explicit suggestions on how the university can meet the novel needs of international students. Thus, exploring international students' experiences during a time of crisis is warranted to better understand their challenges, and to support their overall well-being and academic success.

The Stress Coping Framework

This study finds the transactional model of stress and coping (Lazarus & Folkman, 1984) vital to enhance our understanding of how international students cope with stress during a worldwide pandemic. Scholars have stressed the importance of cognitive appraisal and behavioral responses that individuals resort to in stressful situations (Folkman & Moskowitz, 2004). Coping refers to "the thoughts and behaviors used to manage the internal and external demands of situations that are appraised as stressful" (Folkman & Moskowitz, 2004, p. 745).

Recognizing that coping is a complex process, Lazarus and Folkman (1984) developed a transactional model of stress and coping, shown in Figure 1. This model refers to coping as a process of cognitive appraisal over time. An individual first evaluates a potentially stressful situation before determining whether they have the resources to respond effectively to the stressor. Coping assumes two major functions: problem-focused or active coping and emotion-focused or passive/avoidant coping. If an individual does not have the capacity to respond to the stressor, they are likely to turn to an emotion-focused coping such as distancing, denial, or substance use. When the individual possesses resources to manage or reduce the stressor, they are likely to develop a problem-focused

strategy, such as problem-solving or planning (Folkman & Lazarus, 1988). High levels of passive coping have been associated with greater psychological distress and depressive symptoms, whereas high levels of active coping have been correlated with lower psychological distress (Compas et al., 2001). Recently, scholars have focused more attention on positive emotion coping (Folkman & Moskowitz, 2004) and on stress-related personal growth (Park et al., 1996).
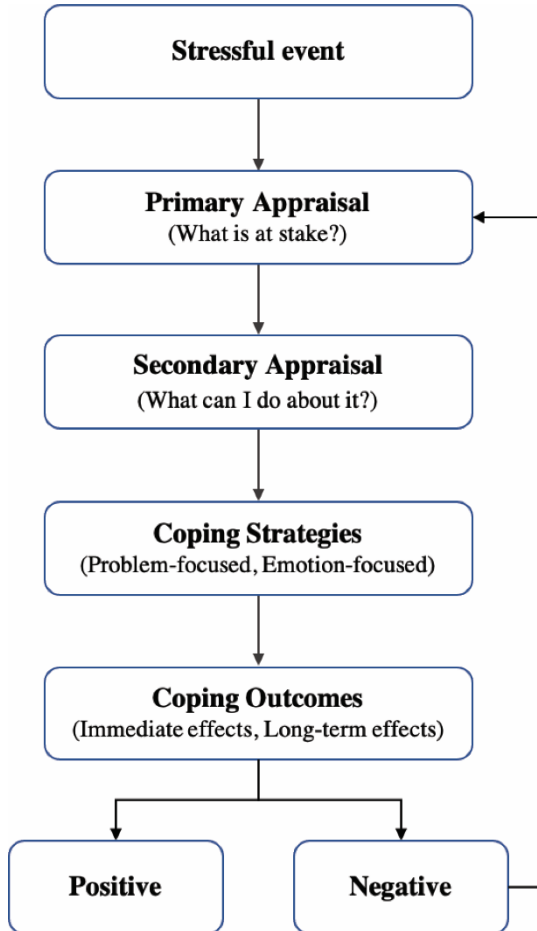

Figure 1: Transactional Stress and Coping Model.

Note: Adapted from *Stress, appraisal, and coping*, by R. S. Lazarus and S. Folkman, 1984, Springer. Copyright 1984 by Springer.

While this model widely employs quantitative tools to measure stress among various populations and contexts, narrative approaches present an important alternative to understand how people experience and cope with stressful events (Folkman & Moskowitz, 2004). The stress and coping model, thus, serves as a lens to examine the different coping strategies that a diverse group of international graduate students employed during a global pandemic.

METHOD

Using a phenomenological design, this study explored the lived experiences of international graduate students in the United States during the COVID-19 pandemic. Phenomenology allows researchers to address two kinds of questions: what individuals have experienced and how they experienced it (Moustakas, 1994) by utilizing qualitative tools, such as interviews, to gather narrative data through informal conversations (van Manen, 2016). In phenomenology, the research questions emerge through the researcher's curiosity about a phenomenon (van Manen, 2014).

With the purpose to unpack the experiences of international graduate students during the global pandemic, we asked participants to reflect on the Spring 2020 semester when the university switched to an online system of learning, and the present Fall 2020 semester. More specifically, this study addressed the following research questions:

1. What are international graduate students' experiences during the COVID-19 pandemic?

2. How do international graduate students cope with stressors associated with the COVID-19 pandemic?

Research Site

The present study took place at a large research university in the western United States. We picked this university because of its remote geographic location, international flight suspensions, strict COVID-19 restrictions, and a large number of international graduate students. In addition, due to the university's location in a high-cost urban area, many international students reside in on-campus dormitories. In Fall 2020, of over 1,000 international students, nearly 60% were graduate students, making up 11% of the university's graduate student population.

Data Collection and Analysis

This research took place in October 2020 when we entered the seventh month of the global COVID-19 pandemic. The recruitment of participants began in the Fall 2020 semester when we sent a recruitment announcement to student clubs and associations and student dormitories where many international graduate students reside. We used criterion and maximum variation sampling (Patton,

2002) under the purposeful sampling method to identify participants (Creswell, 2013) who had to be continuing graduate students pursuing their master's or doctoral degrees while being physically present in the United States when the pandemic started.

Following the university's Institutional Review Board guidelines, we collected consent forms from participants who participated on a voluntary basis. To respect the COVID-19 guidelines, we utilized online video call platforms as an alternative approach to interview participants (Sturges & Hanrahan, 2004). The open-ended interview questions asked about students' experiences and coping related to their academic and personal lives. In regard to academics, we asked participants to reflect on the shift to online learning, including any challenges and stress experienced during this time. In a similar vein, we asked interviewees how the pandemic had affected their personal lives. We asked follow-up questions such as "How did you cope with this situation?" and "Can you tell me more about it?" to garner insights on participants' experiences and coping strategies.

We audiorecorded each interview, and each took 60 mins on average. Video call interviews allowed us to observe participants' body language and facial expressions, which can help with building rapport between the interviewer and the interviewee (Salmons, 2012). We made efforts to maintain an objective tone during the interviews, and both authors met regularly during the interviewing process to share notes. Since we are international graduate students, we acknowledge that our personal biases may have influenced data collection and analysis.

We established trustworthiness through member checking (Creswell, 2013) by asking participants to confirm the accuracy and clarity of the interview data (Merriam, 1998). We then coded the data to identify patterns and emerging themes both individually and across the interviews (Saldaña, 2016). We used thematic analysis, a technique for identifying, analyzing, and reporting themes, to interpret the data. Besides identifying common themes, we also looked for discrepancies to highlight perspectives that differ among participants (Creswell, 2013).

Participants

As shown in Table 1, the participants included 20 international graduate students, 12 females and 8 males, who varied in age, home country, degree level, and academic major, which allowed for a diversity of perspectives. We noticed repetitive patterns after 20 interviews, which indicated that data saturation was reached. The participants' ages ranged between 23 and 37 years, with a mean of 30 years old. Geographically, most participants came from Asia, followed by two students from the Middle East, and one from Africa. Asian students comprise 69% of the university's international student body, with China as the top sending country. Sixteen participants were doctoral students while four participants pursued their master's degrees. In regard to students' academic majors, 12 students pursued degrees in the science fields, while others majored in social sciences and humanities. All but four students reported studying abroad for the first time. The average length of study at this university was 2.5 years. To protect participants' privacy, we assigned them pseudonyms.

Table 1: Participant Characteristics

Name	Gender	Degree level	Years at university	Home country	Major
Jiaqi	F	Doctoral	1.5	China	Atmospheric science
Sara	F	Doctoral	2	Iran	Civil engineering
Han	F	Doctoral	2	Taiwan	English
Chau	F	Doctoral	2	Vietnam	Mechanical engineering
Jing	F	Doctoral	2.5	China	Communication and information science
Shuang	F	Masters	2.5	China	Educational psychology
Tika	F	Masters	2.5	Nepal	Tropical plant and soil sciences
Mary	F	Doctoral	2.5	Philippines	Tropical plant and soil sciences
Sopa	F	Doctoral	2.5	Thailand	Linguistics
Mia	F	Doctoral	3	Japan	Educational Foundations
Min	F	Doctoral	3	Taiwan	Chinese linguistics
Thu	F	Doctoral	3	Vietnam	Second language studies
Tshering	M	Masters	1	Bhutan	Business administration
Xuan	M	Doctoral	1	China	Electrical engineering
Sejun	M	Masters	2.5	Nepal	Tropical plant and soil sciences
Aresh	M	Doctoral	3	Iran	Electrical engineering
Daniel	M	Doctoral	3	Kenya	Chemistry
Mark	M	Doctoral	3	Philippines	Oceanography
Lei	M	Doctoral	4	China	Physics
Gabriel	M	Doctoral	5	Philippines	Linguistics

RESULTS

We identified three themes that pertain to the most common stressors experienced by participants: academic challenges, personal challenges, and immigration-related uncertainties. For each of these stressors, we follow with findings on coping strategies utilized by international students.

Academic Challenges

The academic work of graduate students differs significantly from that of undergraduate students. Besides completing the required coursework, research and professional development constitute a great part of a graduate student's academic journey. As a result of the sudden shift to online learning in Spring 2020, participants encountered compromised academic progress, funding uncertainties, and limited professional development opportunities.

Compromised Academic Progress

While most interviewees shared that the switch to an online system of learning added stress to their academic pursuits, this was especially pronounced among first-year and science students. For first-year students who were still adapting to a new education system, online learning interrupted both the cross-cultural adjustment and learning curve. Xuan stated:

> The Fall 2019 semester was my first semester in the United States. I had a hard time understanding the course materials at that time. In the second semester, I felt that my overall learning experience just got better than the first semester … Suddenly, the teaching and learning format changed.

Another first-year student who failed a class in Spring recounted: "I am from another country; the culture is different here. I had a hard time communicating with my classmates. I was not participating very well." With learning already impacted by cultural adjustment before the pandemic, international students' successful adjustment to American education system became worrisome during the pandemic.

Students in science fields expressed that the limitations of online teaching impaired their understanding of the course material as professors could not provide formulas impromptu, which could assist learning. Sopa, who studied linguistics, explained: "It is challenging for the professor to do PowerPoint because we have to show the [linguistic] tree." Moreover, most science students' research was either postponed or canceled due to the temporary closure of the university's labs, which interrupted their experiments. Research disruptions also pushed back interviewees' graduation plans, as explained by Han: "I had to defer graduation for 6 months already." Finally, most students worked all summer to catch up without being able to take a break, which resulted in additional distress.

Limited Professional Development

Graduate students typically engage in professional development activities, such as academic conferences and summer internships, to build their resume with employability skills and to network with people in the field. These opportunities are of utmost importance to international graduate students' future employment. Sara commented on the loss of summer internship due to the pandemic: "It has changed the way I could be in touch and get to meet people in my field. It is really important to get to know people in the industry."

Students nearing graduating felt uncertain about employment opportunities for international graduates in the United States. Lei shared his concern:

> I am now paying more attention how this pandemic affects international students after they graduate, and how they find jobs. I heard a lot of people, even U.S. citizens, lose jobs. Some companies and organizations try to hire U.S. people first before internationals. I am more concerned about that.

Facing uncertain job prospects presented another hurdle on the way of international graduate students' professional pursuits.

Financial Uncertainties

Since international students' ability to work off-campus is regulated by nonimmigrant visas, many rely on university funding, scholarships, and family support. All but one interviewee supported their studies by working as part-time graduate assistants ($n = 16$), or by receiving a fully funded scholarship ($n = 3$). Considering the university's budget cuts due to the pandemic, students felt anxious whether their hiring departments would be able to secure funding for another year. Students like Daniel were affected immediately, as explained: "In summer, I had this GA-ship but not so many students signed up for the class. So, there was no additional pay."

Due to high cost of living, many interviewees relied on additional financial assistance from their families even before the pandemic. Tshering worried that his relatives would no longer support him: "I used to get some monthly monetary help from my cousins from mainland [U.S.]. But I stopped getting that because they were suffering because they lost their job." In most colleges and universities, tuition fees for international students are 3–4 times that of local students. Several participants feared that if the pandemic continued, they would be unable to cover the high cost of living or tuition to complete their studies in this country.

Academic Coping

Some participants admittedly lowered academic expectations as they began to slack, skip classes, or postpone their work. Lei discussed the asynchronous lectures: "If you miss a very important part in the beginning, this really destroys

the whole lecture. Sometimes I cannot understand what is going on. I would just quit and watch the video later."

The pandemic was also perceived as a chance to learn new skills. Some interviewees studied how to use online technology on their own; however, this was challenging for students who moved their research online, such as Gabriel: "I had to make extra preparations where I had to study how to program an experiment online." To keep up with academic work, several participants stressed the importance of time-management skills and self-discipline with some of them becoming more productive. Aresh said: "I started to learn some skills in my field [engineering] to learn more coding tricks." For the lack of professional development opportunities, these students thought that learning new skills on their own was a way to improve their career prospects.

Personal Challenges

The increased health concerns and COVID-19 guidelines pushed students to increased experiences of isolation and confinement, as well as health concerns.

Isolation and Confinement

The biggest challenge that the interviewees faced in their personal lives related to limited social interaction and mobility. Students avoided in-person interaction with friends, which is essential for international students who live far away from their families, because of the health risk concerns. Mia from Japan explained the cultural implications:

> I am very conscious about [whether it is] appropriate to ask someone to meet. If we get COVID, that is my fault. If someone from my family or some of my friends get COVID after I meet that person—that is my fault, too.

Not only those who lived alone off-campus but also students residing in dorms ($n = 14$) felt lonely and socially isolated. Sara shared:

> It was really hard for me to deal with it, especially when you are just abandoned from being with people. It is truly hard even in a dorm … I felt isolated. When you do not see anyone in real life, it affects you badly.

It is noteworthy that two students moved out of a dorm in Spring because they feared contracting the virus; however, those who stayed could not afford double the rent for off-campus housing.

In Spring, many students considered returning home for shelter. Yet, traveling came with health risks for themselves and their families. Some of them also worried whether they could return to the United States in the fall, considering the uncertainty that came with travel bans, flight cancellations, and immigration rules. In addition, students from developing countries like Sopa shared concerns about studying remotely:

If they do not allow me to come back to study, I think it will affect my studies, to get resources, books… The Internet is a big decision to study here. Because sometimes in my area where I live [in Thailand], even if you pay for the Internet, the Internet is not so good.

Thus, students' confinement to the more developed host country, the United States, that provides stable access to technology became even more pronounced during the pandemic.

Health Concerns

Abiding by strict dorm guidelines, some students changed their daily eating routines, which often resulted in unhealthy practices. Tshering explained: "We share a kitchen in the dorm. So, I was just trying to avoid the crowd. I had to change my timing. I now take dinner after 9:30 p.m." Most participants from collectivist cultures used to share groceries and cook with co-nationals. Sejun from Nepal shared: "We used to eat together. It was like family. But because of this new rule, we were not allowed to get into the same place."

Confinement to indoor spaces affected participants' physical and mental health. Some developed unhealthy sleeping habits, as shared by Shuang: "When we moved to online classes I did not have a very healthy life routine because I usually slept around 3 or 4 a.m and got up in the afternoon. This is still going on." Students also noticed that limited exercise negatively affected other areas of their lives such as academic performance.

Since most interviewees did not own a car, they had to use public transportation for grocery shopping. Feeling unsafe to travel by bus, many limited their grocery shopping trips, which led to increased food insecurity. Sopa said: "I did not eat well because I worried about my food that could be shortened. So, I ate little by little to keep food."

Coping in Students' Personal Lives

Most interviewees intentionally distanced themselves from friends and dormmates to reduce the risk of contracting the virus. Seeking emotional support from friends and family back home was a common way of coping that helped students share their sentiments. For most, interaction with families increased during the pandemic. Aresh said that his family tried to give him "positive energy to stay calm" and to focus on his studies.

Experiencing mental health issues was a new experience for a vast majority of participants who stem from countries where mental health issues are stigmatized. Only one participant utilized the university's counseling services. While most intentionally suppressed negative feelings, a couple of interviewees resorted to alcohol and sleeping pills. One of these student's family members contracted the virus. Being unable to be with them at home pushed this student into depression and drug abuse, explaining: "Sometimes the more anxious we are, the more we want to get rid of this anxiety and depression."

Participants sought solutions to adapt to the changes in their lives by picking up new hobbies to keep their physical and mental health in check. Some of them resorted to meditation and yoga or spent more time in nature. Jing argued that nature helped her deal with stress: "I established a bond with nature. This is how I help myself. I do not have that much motivation to deal with humans." As opposed to domestic students, international students were ineligible for federal financial aid. Thus, most participants resorted to university and dorm resources that were scarcely available to international students, such as food donations.

Immigration-Related Uncertainty

While the ICE proclamation for international students' enrollment in an in-person or hybrid class was annulled on July 14, 2020, sudden changes to immigration policies put more strain on participants who experienced stress and anxiety, describing this policy as "cruel," "frustrating," "inhumane," "unreasonable," and "unfair." Given the public health crisis, students first and foremost felt unsafe to enroll in an in-person or hybrid class, which would expose them to a higher risk of contracting the virus. This situation uncovered the vulnerability of international students, a sentiment commonly shared among participants. Gabriel stated: "International students are in this kind of community that are already facing a lot of challenges, and they are being exposed to a greater risk by that policy… And there was definitely bias towards a disadvantaged community."

Most students saw this policy in light of a tense political climate in the United States. Some of them felt the burden of political tensions between America and their home countries. If they were to leave, they may have run a risk of not being able to return due to anticipated visa processing delays. Sara said: "It was severely stressful, especially for us as Iranian students. If we could not stay here and had to go back, we could not go to the embassy." Another student felt that immigration policies like this could negatively impact international student mobility:

> Before I felt that international students are welcomed to come here, to stay here and study. But if this is not the case, if I do not feel that I am welcomed, I do not feel that I want to stay here.

Besides causing severe stress, the recent immigration policies had participants question whether America is still a safe and welcoming country for international students.

Immigration-Related Coping

In response to the ICE proclamation, seeking advice from academic or international student advisors was the most common coping strategy. Most of them found talking with advisors helpful, which reduced the level of stress and anxiety. Sara's advisor said that "he will do whatever he can to have us stay here, because we work in the lab." Indeed, working remotely was not a viable option

for most science students. Doing so would terminate their research, and potentially, endanger completion of their studies.

> Some participants counted on the university's support, as expressed by one student: I was waiting for the university and our department to reach out to us international students that day or within a few days. Even though we heard from our dean's office, but after that, we did not hear back from anyone about that or any follow up information.

The university addressed the issue in an email a few days later. Mark commented: "They expressed support to international students, and that they are not willing to put students at risk." Most interviewees shared the feeling of helplessness, with some explicitly blaming the U.S. government's anti-immigrant rhetoric, or questioning who should take responsibility for international students' well-being in times of crisis. Tshering argued: "I think it is the responsibility of the government to look after the international student."

Students sought solutions either by searching for in-person or hybrid classes or for flights home. However, due to flight cancellations and travel bans, all but one participant remained in the United States. Jing was torn between staying in the United States and the fear of contracting the virus if abiding by the ICE policy: "It forced me to make a choice. What should I prioritize? My studies or my life?" On the other hand, Min launched a petition on the university's student page "to get people to be aware of the situation." She explained: "I think it is important for me to raise my voice and to let them know that I care about the situation, to push them to do something." While participants felt relieved with the ICE policy withdrawal, there remained a shared concern about the future treatment and status of international students in the United States.

DISCUSSION

This study exposed the increased vulnerability of the international graduate student population during a global pandemic. According to participants' experiences, all of them encountered increased levels of stress that impacted various aspects of their academic and personal lives, which aligns with research that has found correlation between stress and individuals' physical and mental health (e.g., Schneiderman et al., 2005; Thoits, 2010). Due to isolation that restricted personal and social contact with family and peers, the most crucial support groups among international students (Shu et al., 2020), participants relied extensively on institutional support. Findings also revealed international graduate students' dependence on university's financial resources such as graduate assistantships and scholarships—for which the university budget cuts would threaten completion of their research and studies. According to de Wit and Altbach (2021), "talented doctoral students and scholars are the international human capital on which research and development and innovation build" (p. 43). The loss of these highly educated and skilled graduate students that the universities invest in, especially in the science fields, would not only mean a loss

to the U.S. higher education institutions but may also impact the U.S. economy and innovation in the future.

It was clear from the interviews that some participants became more self-reliant as they coped with the stressors on their own, serving as an opportunity for personal growth (Park et al., 1996) and professional development. This was pertinent to students from collectivist cultures—a majority in this study—who developed individualist coping strategies. Notably, most participants did not resort to the university's counseling services due to mental health stigmas stemming from their home cultures. This finding adds to the extant literature reporting low utilization rate of counseling services among international students despite the increased international student enrollment over the past decades (Hwang et al., 2014). This phenomenon raises concerns and suggests a further look at the counseling service efforts among international students.

As stated by Lazarus and Folkman (1984), emotional coping occurs among individuals lacking capacities to minimize the stressors. The ICE's proclamation added a layer of uncertainty about the status of international students in the United States. While this policy was short-lived, the anti-immigrant rhetoric negatively affected international students' perceptions of the U.S. government. International students, as nonresident aliens per U.S. immigration law, do not have rights that belong to citizens and permanent residents, such as public welfare benefits and political rights. In addition, nonresident aliens' movement and lawful activities such as employment are determined by immigration policies. These limitations to the international student visas became further pronounced during the pandemic. With the ICE proclamation that could put international students' health at risk, participants felt discriminated against and unwelcomed. Utilizing emotional coping, some of them began to contemplate their stay in America. With various countries competing to attract international students, negative perceptions about the U.S. government's treatment of international students during a state of emergency are concerning. These kinds of anti-immigrant narratives may not only lead to destructive short-term effects on the international students' well-being but may also impact the future of U.S. higher education, the national economy, and global knowledge exchange (Andrade, 2006; Sakamoto & Chapman, 2012).

As one participant put it, "A lot of international students are really talented. They can study anywhere." Nowadays, international students can pick among various study abroad destinations that are both financially affordable and immigration-friendly. Even the biggest international student sending country, China, now has joined the world-class universities in competing for international students (Ma, 2017). According to the push–pull theory (Mazzarol & Soutar, 2002), job opportunities, safe environment (i.e., low crime rate), and low racial discrimination remain key pull factors for international students' study abroad choices. Given the change of environment that came with the ICE proclamation under the Trump administration in the time of a worldwide pandemic, the question that remains is to what extent may such discriminatory rhetoric impact future international student enrollment and retention in U.S. higher education institutions, and furthermore, how will this change the global landscape of international student mobility around the world. According to de Wit and Altbach

(2021), current global trends such as the COVID-19 pandemic "require stronger attention and international cooperation than ever" (p. 44). Thus, the U.S. government and higher education institutions should focus more attention and resources on retaining the international human capital of the highly skilled group of international graduate students, which would not only benefit the American knowledge economy but also global cooperation.

CONCLUSION

This study unpacked the challenges and needs of international students in regard to the academic, personal, financial, and political barriers during a global pandemic. It was clear that interviewees depended heavily on institutional support. Thus, we propose several implications for higher education institutions. After assessing the needs of international students, universities should develop emergency response mechanisms to support the well-being of this population. Besides food donations, financial assistance, and counseling, this study's participants benefited from mindful activities. Research shows that preventive measures can reduce psychological distress (Haggerty & Mrazek, 1994), which can interfere with students' academic performance. Universities should collaborate with various service offices, departments, and student organizations to develop problem-focused coping strategies to promote inclusion, psychological well-being, and academic success of international students. Special attention should be given to first-year international students as they adjust culturally and academically to a new country and a different system of learning. Furthermore, the anticipated increase in financial hardship is likely to affect international students' ability to complete their studies in the United States. This may present a dilemma for universities that are subject to budget cuts, which may directly affect international graduate students' future enrollment, research contributions, and graduation rates.

We acknowledge several limitations that warrant consideration for future research. The first one is its small sample of international graduate students affiliated with one Western research university in the United States, which limits this study's generalization and transferability to other populations and contexts. Future research should draw on a larger sample among various student profiles across different geographical areas. Second, most of our participants came from Asian countries with collectivist cultures. Thus, our findings did not allow for a comparison between students from collectivist and individualist cultures. Third, all participants participated in the study voluntarily, which may imply a self-selection bias as it is likely that these participants were keen on sharing their experiences.

Finally, this study shed light on the experiences and coping of international graduate students, a vulnerable group, during a global pandemic. The participants relied heavily upon institutional support and resources as they struggled to manage their academic, personal, and immigration-related challenges. Higher education institutions should develop emergency response mechanisms with preventive measures to support international students' psychological well-being

during prolonged high stressor events. On a macro-level, the anti-immigrant narratives that emerged during the pandemic exposed potentially destructive effects that governmental rhetoric and policies can have on the future international student mobility. Instead, the U.S. government and educational institutions should focus more attention on reasserting their global leadership in international education by developing a more inclusive internationalization of American campuses. Positive rhetoric and policies would not only retain the talented international human capital that benefits U.S. local and national economies but, most importantly, it would support international graduate students' academic success in the United States.

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