



SELF-CARE AMONGST DOCTORAL STUDENTS: A PILOT STUDY OF DOMESTIC AND INTERNATIONAL STUDENTS IN A TEXAS PUBLIC UNIVERSITY

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ABSTRACT

Aim/Purpose	This study aims to understand and assess the self-care perceptions and habits of US domestic versus international graduate students in doctoral programs at an R1 university in Texas.
Background	The number of domestic and international students entering doctoral programs in US universities continues to increase each year. However, completion rates within the Ph.D. program remain low, especially for domestic students. Previous research has suggested that mental health and issues of well-being are equated with high-stress levels and depression rather than balance and success. One way to address the low completion rates is to understand how doctoral students balance academic progress and achievement in their prospective doctoral programs with self-care efforts. This study is designed to assess the self-care perceptions and habits of domestic and international graduate students in doctoral programs as well as to understand the differences in perceptions of self-care between domestic students and international students
Methodology	In the present study, researchers used an explanatory mixed methods research design to investigate the self-care practices and perceptions of domestic and international doctoral students enrolled in a public university in Texas. In the first phase, quantitative data were collected through a survey to examine the extent to which doctoral students utilize self-care practices (six self-care variables were examined in the survey: physical, cognitive, psychological/emotional, behavior, interpersonal, and existential). The descriptive statistics collected in this phase aided in the

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	purposeful sampling of participants for the second phase of the study. In phase 2, interviews were conducted to identify the nature of self-care and self-care choices practiced by doctoral students and how these characteristics were similar and/or different between international and domestic students.
Contribution	Few studies have investigated the self-care practices and perceptions of domestic and international students. The present study contributes to the body of knowledge on self-care perceptions and practices amongst domestic and international doctoral students in a Texas public university.
Findings	Through a survey of doctoral students, international students reported higher levels of self-care than their domestic counterparts. After interviews were conducted the researchers found that the students interviewed each understood the need for self-care to avoid stress and burnout, however only some were able to prioritize self-care in their day-to-day routines, citing workload from courses and faculty advisors as preventing self-care. Many attributed this to their family and cultural backgrounds.
Recommendations for Practitioners	In conducting this study, researchers concluded that self-care practices among doctoral students should become a priority in higher education programs. The participants in this study understood that they should practice self-care, but they had limited ability to engage in self-care regularly. Therefore, it is recommended that higher education institutions and faculty mentors recognize the importance of self-care for doctoral students and support their students in maintaining a work-life balance to avoid burnout and attrition.
Recommendations for Researchers	Additional studies that include a larger sample size and specific self-care routines to be studied would be beneficial for researchers to consider.
Impact on Society	Understanding and investing in doctoral students' well-being and self-care practices could lead to higher completion rates and more productive programs in higher education.
Future Research	Future research could be conducted to examine the differing needs of domestic and international students when considering self-care and doctoral students.
Keywords	self-care, domestic doctoral students, international doctoral students

INTRODUCTION

Growing concerns regarding the mental health and well-being of doctoral students have come to the forefront after recent research reveals the unexamined psychological issues many doctoral students face (Metcalf et al., 2018). Both domestically in the United States (US) and internationally in Europe and China, reports demonstrate increasing and undiagnosed psychological distress being experienced by doctoral students at some point during their academic journey (Jackman et al., 2022). As the number of domestic and international students entering doctoral programs in US universities continues to increase (National Center for Education Statistics, 2022), special attention needs to be paid to the varying and complex obstacles diverse graduate students face as mental health and well-being are essential to program completion and academic success.

With domestic enrollment in the US seeing increases in historically marginalized populations, such as Black, Latino, and Native students (Arnett, 2022), their mental health needs may vary considerably from those of students from dominant cultural backgrounds (i.e., White, middle-class) (Gay, 2004; Lemus et al., 2022). Additionally, international students are adjusting to cultural shifts in their host

countries and need support navigating language and cultural barriers (Cornwall et al., 2019). Lack of attention to the presence of societal, cultural, financial, and academic challenges, leads to the attrition rates for both domestic and international Ph.D. students in the US remaining high, with 40%-50% never completing their degree (Litalien, 2015; Vooren et al., 2022). Although pandemic-related issues have affected undergraduate enrollment rates since 2019 (June, 2021; June & O’Leary, 2021), graduate student enrollment continues to increase and necessitates that universities attend to the ways in which graduate students find success in their program as a means to minimize the high rates of attrition (June & O’Leary, 2021).

Research suggests that negative mental health and low well-being are equated with high-stress levels and depression rather than balance and success (Sverdlik et al., 2018; Waight & Giordano, 2018). Thus, one way to address the dismal completion rates is to understand how doctoral students balance academic progress and achievement in their prospective doctoral programs with self-care efforts (Jef-feries et al., 2017). In its essence, self-care can be described as the why and how humans care for themselves (Gligor & Domnariu, 2020). This study is designed to assess the self-care perceptions and habits of US domestic and international doctoral students at an R1 Texas university. Additionally, with consideration to the diversity of the racial, ethnic, linguistic, and overall cultural diversity of current graduate students (National Center for Education Statistics, 2022), this study seeks to understand the differences in perceptions of self-care between domestic students and international students.

The remainder of the article proceeds as follows. First, the literature review reports on the current state of well-being amongst graduate students, specifically citing research regarding the well-being of doctoral students and the importance of self-care practices amongst doctoral students. Next, we highlight the methods and data collected in our study, then the results and findings are discussed. Lastly, conclusions about the self-care practices among domestic and international students point to the systemic changes needed in higher education programs to better support proper self-care and promote greater mental well-being among doctoral students. Recommendations for higher education institutions and faculty are addressed.

LITERATURE REVIEW

DOCTORAL STUDENTS AND WELL-BEING

Doctoral students’ well-being shapes the well-being of academics, as they play an essential role in both research and teaching in higher education institutions (de Lourdes Machado et al., 2011). However, being at the intersection of transition from the student role to the professional academic role (Laudel & Gläser, 2008), doctoral students have been identified as experiencing the most volatile well-being among occupational groups in higher education institutions (Park et al., 2021; Schmidt & Hansson, 2018).

Scholars have identified some common stressors for doctoral students, including “constant peer pressure, frequent evaluations, low status, high workload, paper deadlines, financial difficulties, pressure to publish, active participation in the scholarly environment, lack of permanent employment, and an uncertain future” (Schmidt & Hansson, 2018, p. 2). Doctoral students are expected to take on numerous roles, e.g., as a student, employee, researcher, or parent, which further contributes to the challenge to maintain a work-life balance (Catalano & Radin, 2021; Golde, 2005) and often do not feel supported by the academic community (Roos et al., 2021; Tommasi et al., 2022). All of these factors produce a burden for doctoral students created by scholarly communities (Roos et al., 2021; Stubb et al., 2011; Tommasi et al., 2022) leading to feelings of an imposter syndrome or doubting one’s abilities (Nori et al., 2020; Sverdlik et al., 2020) and contributing to high levels of anxiety and stress as compared to the general population (I. M. Evans et al., 2018).

SELF-CARE FOR GRADUATE STUDENTS

Self-care is a pattern of determined and consistent behaviors that can be learned and used to cultivate and maintain well-being through self-exploration and is overwhelmingly beneficial to individuals' health (Bryan & Blackman, 2018; Taylor & Renpenning, 2011). Self-care has been emphasized in various fields, such as the medical system (Kirby & Luck, 2014), social work occupation (Greene & Cummings-Lilly, 2019), and higher education (Ayala & Almond, 2018). However, it becomes increasingly important to determine the level of self-care for doctoral students especially given the tendency of university faculty and staff to underestimate the stress levels of graduate students (Ménard et al., 2021).

Through surveys and interviews with 433 participants (including 85 faculty and 348 doctoral students), Driscoll et al. (2020) explored how self-care is practiced and perceived in higher education settings. Approximately 73% of school faculty reported self-care practices, while only 46% of doctoral students did. Participants generally reported practicing self-care in physiological health, personal life, and professional life. In addition, most participants identified their primary barriers to self-care as academic guilt, which is defined by the researchers as people feeling guilty about engaging in self-care activities. Additionally, the impostor syndrome, which is the belief that one is not good enough, along with burnout are contributing factors as well. Specifically, the theme of burnout had a significant impact on doctoral students. In addition, over 40% of faculty and 80% of students reported that self-care activities should be personal and hidden. Therefore, the authors called for the development of self-care as a professional practice in which faculty members demonstrate to doctoral students how to learn from their mistakes and eliminate academic guilt.

In a study by Varadarajan et al. (2021), the researchers administered a survey to Ph.D. students at Vanderbilt University. Respondents were asked to share their experiences after the university shifted to online learning due to the COVID pandemic. The responses indicated that students demonstrated high-stress levels surrounding their time management and overall psychological health; however, many students also experienced positive outcomes because they were able to participate in more self-care practices. Given opportunities to spend more time on self-selected tasks, with family and friends, and on writing allowed Ph.D. students at Vanderbilt to feel some positivity towards the shift to online learning. This study by Varadarajan et al. (2021) exposes the importance of self-care among doctoral students.

SELF-CARE FOR INTERNATIONAL STUDENTS

International students refer to “individuals studying in the United States on a non-immigrant, temporary visa that allows for academic study at the post-secondary level. Immigrants, permanent residents, citizens, resident aliens (“Green Card” holders), and refugees are excluded from this definition. These students include both degree and non-degree students” (Institute of International Education, 2022). International students enrolled in doctoral programs number almost 300,000 (National Center for Science and Engineering Statistics, 2021). Along with the stressors experienced by doctoral students in general, international students also suffer from loneliness and homesickness (C. Evans & Stevenson, 2011), high expectations from families (Malau-Aduli, 2011), burdens of relocating from abroad (Lee, 2021), and language barriers (Sherry et al., 2010). The current political environment for internationals living in the US also challenges their coping strategies for neo-racism and threats to safety (Lee, 2021).

Mahmood and Burke (2018) examined the correlation between levels of acculturative stress and social adaptation among international students in a US university. Surveys examining five subscales of sociocultural adaptation, including interpersonal communication, academic/work performance, personal interests, and community involvement, ecological adaptation, and language proficiency, were administered among 415 students. After quantitatively analyzing the obtained data, researchers noted

that an increased sociocultural adaptation competency contributes to a decreased level of acculturative stress. Therefore, they called for higher education professionals to recognize the importance of providing appropriate support for international students as they acclimate to higher education in the US.

Through the usage of the Acculturative Stress Scale of International Students (ASSIS) survey, followed by an interview and focused group discussion, Johnson et al. (2018) investigated 40 international students' expressed level of acculturative stress. These students, together with five key informants and eight international student leaders shared their insights on prevalent stressors for international students. They highlighted communication as the most important concern and proposed building a culturally responsive program to better meet international students' needs. Specifically, creating a warm and welcoming atmosphere and promoting cultural sharing between international students and domestic students are commonly suggested.

In another study, Altinyelken et al. (2020) examined the self-care practices of international undergraduate and master's students in the Netherlands. The researchers found that practices centered on mindfulness tended to promote self-care in these international students. However, more research is needed to fully understand the implications of self-care for international students in the US.

THEORETICAL FRAMEWORK

This research will be conducted using Orem et al.'s (1995) self-care deficit theory (SCDNT). Although Orem et al.'s SCDNT originated in the field of nursing, its implications for education are beneficial. SCDNT has three underlying or nesting theories: the theory of self-care, the deficit of self-care, and the nursing system (Gligor & Domnariu, 2020). The current research will rely on the first two components as the third component is centered on the nursing system and this study focuses on doctoral students within higher education. Self-care describes why and how people care for themselves and is defined as something that is done deliberately and with intention according to the needs of the individual (Orem et al., 1995). Self-care deficit theory accounts for the gap between an individual's self-care needs and their capacity to carry out the actions to achieve self-care. In general, Orem et al.'s self-care theory focuses on individuals' ability to assess their own needs and make decisions to successfully meet and accommodate those needs (Denyes et al., 2001; Orem et al., 1995).

METHODS

PRESENT STUDY

The demands required of doctoral students, both domestic and international, place them in a particular nexus of decision-making. The stressors that come along with fulfilling multiple roles in the academic environment create a dichotomy wherein students must navigate the requirements of their doctoral program and their own self-care needs. While Orem et al.'s SCDNT accounts for a self-care deficit that prevents individuals from balancing well-being and career, the idea of self-care promotes an action that is purposeful and meaningful. The current study utilizes an exploratory mixed methods research design (Creswell, 2003; Iyankova et al., 2006; Siwatu, 2011) to examine the ways in which international and domestic doctoral students use different methods of self-care to aid in balancing their academic and social success, and the reasons and experiences that have contributed to their methods of self-care. To address these goals, the following research questions will guide this study:

1. To what extent do doctoral students participate in self-care practices and how is this similar and different between domestic and international students?
2. How do domestic and international doctoral students describe their self-care practices and in what ways have their life experiences contributed to their self-care practices?
3. Do the self-care practices chosen and the reason for selecting these various self-care practices differ between domestic and international doctoral students?

RESEARCH DESIGN

In the present study, researchers used an explanatory mixed methods research design (Creswell, 2003; Iyankova et al., 2006; Siwatu, 2011). Quantitative and qualitative analysis complemented each other to provide a wider and deeper understanding of doctoral students' self-care (Creamer, 2017). The mixed methods approach is a good fit to answer our research questions. It not only can present the degree and similarities of domestic and international students' self-care but also can explain how they describe the self-care and factors that contribute to self-care.

In the first phase, quantitative data were collected through a survey to examine the extent to which doctoral students utilize self-care practices. The descriptive statistics collected in this phase aided in the purposeful sampling of participants for the second phase of the study. In phase 2, interviews were conducted to identify the nature of self-care and self-care choices practiced by doctoral students and how these characteristics were similar and/or different between international and domestic students.

PARTICIPANTS

Roughly 200 doctoral students in accredited universities across the US were approached to answer the self-care survey in the spring of 2022. They had three weeks to complete the survey. Forty-one students responded to the survey, and 38 valid responses were analyzed in the current study. The final participants are all currently enrolled in universities in Texas. Of this total, 19 (50%) participants indicated that they were international students or born and raised in a country other than the US, and 19 (50%) participants shared that they were domestic students, or born and raised in the US. Among these participants, 27 (71%) were female, 9 (23%) were male, and 2 (5%) identified as non-binary. Participants also indicated their racial identity and 18 (47%) identified as Asian, 4 (10%) African/Black, 1 (2%) Hispanic/Latino, 12 (31%) White, and 3 (7%) Bi-racial. Regarding their areas of study, 3 are in the STEM field (1 domestic student, 2 international students), and 35 (18 domestic students, 17 international students) are in the social sciences field. The mean age range of domestic students was 33. The mean age range of international students was 31. The profile of the respondents is presented in Table 1.

Table 1. Profile of participants

Variables	N	%
Race and Ethnicity		
African/Black	4	10
Asian	18	47
Bi-Racial	3	7
Hispanic/Latina/o	1	2
White	12	31
Gender Identity		
Female	27	71
Male	9	23
Non-Binary	2	5
Country of Origin		
Domestic	19	50
International	19	50

DATA COLLECTION

The institutional ethical review committee reviewed and approved all the research procedures and materials in this study. Researchers in this study utilized a sequential mixed-method sampling technique (Teddlie & Tashakkori, 2009). This technique included convenience sampling and purposeful

sampling. During the first phase of the study, the self-care Qualtrics survey was distributed after the pandemic in the Spring of 2022 via university graduate student email lists and social media, including Facebook and WeChat (a popular Chinese social media). Potential participants read consent forms and gave consent online before answering the self-care online Qualtrics survey. The self-care survey was adapted from Fisher's (2016) Resilience, Balance, and Meaning survey which was designed to elicit information about participants' self-care behaviors to support their work in "high-stress, trauma-exposed workplaces" (Fisher, 2016). This survey has been widely applied in studies related to stress and students in doctoral programs (C. Evans & Stevenson, 2011; Malau-Aduli, 2011; Schmidt & Hansson, 2018; Sherry et al., 2010). The Likert-type scale consisted of 30 items where participants were asked about a range of self-care practices and the frequency of their engagement in these practices. Doctoral students were asked to rate each practice on a scale of 1-4 with 1 being *never* and 4 representing *usually* (Table 2). Each participant's responses to the 30 items were summed and divided by 30 to generate an individual self-care mean score. Participants with higher scores on the self-care survey were more conscious about self-care and more involved in its practices compared to those with lower scores. The internal reliability of the administration of the 30-item measure was 0.77.

Table 2. Survey questions

Please rate each of the items, on a 1-4 scale, in terms of how often you use them in your workplace. Look at what you actually do, rather than what you think you should do.

1. Physical Self Care
 - Eat regularly and healthily
 - Get regular exercise and maintain fitness
 - Get enough sleep (an average of 8 or more hours per day)
 - Take time for yourself
 - Get regular medical and dental preventative care
 2. Cognitive Self Care
 - Take time for self-reflection
 - Recognize and value your strengths, capabilities, and accomplishments
 - Discuss and exchange thoughts and ideas with others
 - Encourage yourself to be actively curious and interested
 - Read books or material that have nothing to do with work
 3. Psychological/Emotional Self Care
 - Listen to your internal experience (e.g, feeling, thoughts, beliefs, judgments, etc...)
 - Allow yourself to experience distressing emotions
 - Make space for opportunities for laughter and fun
 - Actively work to reduce your stress levels
 - Make opportunities to safely connect with others and be yourself
 4. Behavioral Self Care
 - Ask for support and assistance when you need it
 - Do things where you are not an expert or not in charge
 - Say no to added responsibilities and stresses
 - Engage in hobbies or interests that are not work-related
 - Give yourself day trips, mini-vacations, or breaks from the routine
 5. Interpersonal Self Care
 - Make time for your intimate relationship
 - Spend quality time with children and family members
 - Spend time with friends who are important to you
 - Take risks in letting people know different aspects of you
 - Set limits to taking on responsibilities and burdens that are not yours
-

Please rate each of the items, on a 1-4 scale, in terms of how often you use them in your workplace. Look at what you actually do, rather than what you think you should do.

6. Existential Self Care

- Be aware of what is meaningful to you and notice its place in your life
 - Pray, meditate, or engage in other practices which give you grounding and a sense of peace
 - Hold awareness of the non-material aspects of your life
 - Find a spiritual connection or community that shares your beliefs and values
 - Take part, in some way, in causes that you believe in
-

The collection of data in the initial stage was designed to enable researchers to identify participants for the second phase. The individual self-care scores were used to select eight representative doctoral students, including four international and four domestic students, to participate in the second phase of the study. A median split method was adopted to identify individuals with self-care scores on the higher or lower end of the distribution. The goal of the purposeful sampling in this phase was to access different self-care practices and perspectives among international versus domestic doctoral students. Four domestic students (two highest self-care scores, two lowest self-care scores) and four international students (two highest self-care scores, two lowest self-care scores) were selected. Eight students were chosen to ensure a cover of participants from each dimension (international and domestic doctoral students, high and low self-care). Interviewing students with the highest and lowest self-care scores provided us with a comprehensive picture of doctoral students' self-care and allowed us to capture factors that hinder and benefit their self-care.

Interview invitation emails were sent to the eight identified students asking for their participation in a Zoom interview. Permission to interview was obtained from four participants: three international students and one domestic student. Interviews were semi-structured and guided by researcher-designed, open-ended questions. Each participant was granted full confidentiality in their responses. Zoom interviews were recorded, and transcribed. Notes were made during interviews, and transcripts were automatically generated via Zoom and checked by researchers. Participants' responses were transferred to a secure folder and only identifiable by an identification number.

DATA ANALYSIS

In the first phase, quantitative data were analyzed in the form of descriptive statistics (e.g., item-specific means). In the second phase, qualitative data were analyzed using the a priori thematic analysis method, which helps to identify factors that affect doctoral students' self-care practice (Swain, 2018). The researchers first created a priori codes based on the literature on doctoral students' self-care, research purposes, research questions, and interview questions. Zoom interviews were conducted, recorded, and transcribed. Notes were made during interviews, and transcripts were automatically generated via Zoom and checked by researchers. To ensure validity, once the a priori themes were identified, the researchers began to code the interview transcripts independently. Each researcher was responsible for one interview transcript, and then each researcher highlighted segments of data that appeared to fit one of the a priori themes and coded data accordingly. During the coding process, new themes were also identified if they could provide additional insights into the self-care practice of domestic and international doctoral students and influential factors. New themes were also identified during the reading. Then, each researcher would reread the transcripts multiple times until no more new themes could be identified to add insight into the research questions. After the initial coding, the researchers conducted a coding consistency check to establish interrater reliability. Specifically, each transcript was assigned to a different researcher in the research team. The researcher re-coded the transcript based on a priori themes and came out with new themes when necessary. Coding results from the two researchers were compared. If disagreement arose, a third researcher would review the transcript and the others' suggestions for coding and discuss with other researchers

until a consensus was reached. Such a combination of individual and collective coding allowed the researchers to strengthen the validity of the results.

Methodological Integrity

The researchers adopted mixed-method research as they focused on collecting, analyzing, and mixing qualitative and quantitative data (Creswell & Plano Clark, 2011). Mixed-methods research is the systematic usage of both quantitative research that addresses *what* and *why* questions and qualitative research that addresses *how* questions (Creamer, 2017). The combination of methods allows for a deeper understanding of the phenomenon being studied (Heyvaert et al., 2011). In this study, quantitative data were collected to examine doctoral students' self-care practices and whether they differ among international and domestic groups. In this phase, descriptive statistics were used to identify participants for the interviewing phase. In addition, a qualitative method was used to interpret domestic and international doctoral students' perceived self-care practices, and how they were influenced by their life experiences. By combining these two methods, the researchers attempted to offset the weaknesses inherent in any method, namely the difficulty of retrieving a deeper understanding through quantitative research, and the difficulty of analyzing interrelationships of data in a qualitative study (Creamer, 2017).

RESULTS

The findings of this study are discussed in the sections below. Each section is delineated by research questions to further explain the results of each analysis. The first section will provide a quantitative analysis of the self-care practices chosen and the differences in these choices between domestic and international students. The second section will include the thematic findings on self-care practices and the reasons for these particular choices. Finally, the third section will demonstrate the similarities and differences in self-care practices amongst doctoral students both quantitatively and qualitatively.

Research Question 1: *To what extent do doctoral students participate in self-care practices and how is this similar and different between domestic and international students?*

Participated Ph.D. students practice self-care relatively often ($M = 2.68$, $SD = .049$). International students practice self-care ($M = 2.8$, $SD = .062$) more often than domestic students ($M = 2.54$, $SD = .064$). The difference between the two groups is statistically significant ($F = 8.4$, $p < .05$, $\eta_p^2 = .203$).

Research Question 2: *How do domestic and international doctoral students describe their self-care practices and in what ways have their life experiences contributed to their self-care practices?*

To answer Research Question 2, an interview was conducted after selecting the students who rated themselves as high on self-care and as low on self-care. Four doctoral students were interviewed, including three international students and one domestic student. Two of the international students, Student A and Student C, were the highest in terms of self-care practices, and one international student, Student B, and one domestic student, Student D, were the lowest in terms of self-care practices. The profiles of the interviewees are presented in Table 3.

Table 3. Profiles of interviewees

Participant	Age	Country	Self-Care Mean
Student A	33	Mexico	3.14 / high
Student B	32	Indonesia	2.52 /low
Student C	36	China	3.10 /high
Student D	29	United States	1.97 /low

In each interview, participants were asked a series of questions that helped the researchers to better understand the types of self-care in which each participated and how they came to make these practices a part of their daily life. The results of the interviews demonstrated several things that contributed to a doctoral student's choice to engage in self-care. These themes included the student's *perceptions* of work and self-care, their *family background*, and their *cultural background*. Within each theme, the researchers also found several subthemes. These included a sense of *awareness*, their ability to *practice* self-care, and the *experiences* in their lives that led to engaging or disengaging in self-care. The themes and subthemes presented contribute to a deeper understanding of Orem et al.'s (1995) self-care theory. Individuals often have a gap between their *awareness* and *practice* and this research contributes to the understanding of what *experiences* may have contributed to that gap.

In regard to students' *perceptions*, each participant indicated a sense of awareness that self-care was important. Also, of note is that all four mentioned the heavy workload they endure as doctoral students. However, there were some major differences in how this translated to their ability to engage in self-care practices. The two students on the low end, Student B and Student D shared that their workload prevented them from pursuing self-care.

You know, I work pretty crazy hours. I mean, I'm working on weekends like just pushing time, not giving time to myself to be able to like, Hey, let's step back and maybe relax, maybe do something you enjoy. (Student D)

Umm, so I have to balance full time work and also being a doctoral student. So, so, so yeah, I do really need to cope; to learn on how to balance work life, school and everything else. Right? (Student B)

Despite recognizing that they should allow themselves time to engage in self-care, both low respondents indicated that they struggle to stop working. The participants rated as high, Student A and Student C, also recognized their workload, but their approach allowed them to have time for self-care.

For example, I have assignments, I have a paper due for a theory class, and I felt like very stressful. But I, but I realized that if I just spend 2 hours on average and just read the paper and know the guideline, think about it, then I can get it done ... I have this clear boundaries, very important thing. (Student C)

Sometimes I have a lot to do, but I tried to put the self-care as a priority in my schedule, like, OK, I usually run in the mornings and I train in the afternoons. And if I am really, really, really busy, I try to not like, I don't quit everything, I just stopped training. But I am, I'm still running in the mornings, I'm still sleeping early and everything, and I try to not like, kill myself over working. (Student A)

This shows that participants with a high self-care average score were able to adjust their schedules to meet their self-care needs despite having large workloads. They recognized that self-care was important, and they ensured that they gave themselves an opportunity to practice this self-care.

All interview participants also alluded to their *family background* having an influence on their self-care practices, specifically, parents as role models. Their childhood experiences contributed to their adult self-care practices. The two participants rated as low, Student B and Student D, both mentioned that their parents worked, and expected them to be constantly working, too. This idea transcended the fact that Student B is an international student and Student D is a domestic student.

My father definitely played a role in my pessimism ... my parents are engineers, so they only built things. They really suck up your life like, you know, like, remove all the fun away. (Student B)

Thinking back like when I was a kid and that kind of stuff I never really like, self-care was never really a thing ... I grew up on a farm ... so we worked a lot ... And I guess I mean, maybe that's where a work ethic comes from, but I don't, I don't really think that self-care was like an explicit thing in my childhood, for sure ... So, my parents are divorced and so that could have influenced it a little bit with the fact that I didn't; I kind of hurt my self-esteem, I think. And then that likely leads me to undervaluing myself a bit, and that's where that lack of self-compassion comes from that kind of stuff. (Student D)

For the high self-care respondents, their parents contributed to their current self-care practices. Student A attributed his mom and dad to his ability to live a balanced life.

My dad is also a psychologist. He has a Ph.D. in psychology. My mom, is social worker, so they are really into mental health and stuff like that ... it was my mom, the one that told me that if I don't put self-care like as something mandatory in my agenda

Student A also noted that his father had suffered two heart attacks. After these events, he explained that his family became even more serious about self-care. Even though self-care was always something important to his parents, it later became something his siblings also took more seriously.

So, after the first one, like me and my siblings, like everyone, started to take care of ourselves. And we saw that the heart attacks were because of the high blood pressure, but also because of the lack of self-care. So, we started when I was like 19 years old.

For the other high participant, Student C mentioned that her mother played a significant role in her self-care practice.

But my mom, she's very, very active. She has her own garden, like her own piece of the plot. And she likes to grow vegetable and do all the like. She can never tolerate land left untended. So, she has to grow something. And she's very proud of growing vegetable in her own garden. So, I think my mom is very good influence.

From these various examples, there is evidence that self-care can stem from parents as role models. Those who rated themselves as higher in self-care had parental influences that contributed to this practice becoming an important part of their lives. For the two that rated themselves as lower in self-care, their parents emphasized hard work over self-care. This difference demonstrates Student A's and Student C's ability to make self-care a regular part of their routine, which is missing for Student D and Student B. Orem et al. (1995) explain that self-care is done intentionally and with the purpose to accommodate social and emotional needs. For Student A and Student C, there was an understanding of their self-care needs and the ability to successfully meet these needs. However, for Student D and Student B, while the understanding of self-care was there, they did not have a system that allowed them to decisively choose self-care over work, and part of this seems to stem from childhood.

Lastly, participants were asked to share how *cultural background* contributes to their self-care practices. Of interest here is that there were not consistently stated differences between international and domestic students based on culture. The similarities and differences will be explored further with the mixing of data for research question three, but the researchers felt it was important to share the specific quotes of the interviewees as they mentioned that culture was not necessarily a factor in their minds for various reasons.

Student B, one of the lower self-care participants, explained that he knows other students that are of his same cultural background, and they have high self-care practices, unlike himself.

I don't think ... it's about culture, it's just about different individuals have different self-care things ... A friend of mine who is also Indonesian because I'm an Indonesian, they have way different personality, I guess. Yeah. So, I don't think it's cultural, it's just different people ... who care about different things, have different methods of self-caring.

Student A, a high respondent, pointed out that he has a friend that does not actively engage in self-care even though they are from the same cultural background.

So, yeah, but I have seen some of my classmates like I have another friend also from Mexico, who is in the class, and he's always really stressed because he can't do the homework. He's having a lot of issues.

Then Student C, a high international student, and Student D, a low domestic student did find some correlations between cultural background and self-care.

One thing about the culture in China is the value of family get-togethers. So, I think when families get together we spend a lot of time having meals, just chat and relax. (Student C)

I'm born and raised in America, and my family was very independent. And so, we really had a very individualistic approach to life, which on one hand, I would think maybe that helps myself care. But, on the other hand, says if I had a collectivist approach, I might be able to see the value in my relationships and things like that, whereas individualism, I'm just more like, let me just do it and get out of the way and get that kind of stuff so I could see. Yet the individualistic versus collectivist of my individualistic approach probably was a detriment, quite frankly, to myself. (Student D)

So, despite falling on the high end or the low end of self-care, or being international or domestic, the interviewees held differing ideas on how self-care was associated with cultural background.

The various aspects discussed above will be further examined and compared quantitatively and qualitatively as part of research question three.

Research Question 3: *Do the self-care practices chosen and the reason for selecting these various self-care practices differ between domestic and international doctoral students?*

To address Research Question 3, the researchers analyzed the data thematically and addressed each theme both quantitatively and qualitatively. Using the same themes from Research Question 2, *self-perceptions, family background, and cultural background*, the interpretation of the mixed method demonstrates that there are similarities and differences between the self-care practices chosen and the reason for selecting these practices. Table 4 shows the quantitative results of the survey, the qualitative interview findings, and the mixed methods interpretation of each theme.

Table 4. Mixed methods interpretation of quantitative and qualitative findings

Theme	Quantitative: Results of Survey	Qualitative: Interview Findings	Mixed Methods Interpretation
Self-Perceptions	Students who have a higher level of self-care use significantly more physical ($F = 7.33, p < .05$), cognitive ($F = 18.59, p < .001$), emotional ($F = 19.96, p < .001$), and interpersonal self-care ($F = 8.78, p < .05$) strategies. High self-care students perceive all these types of activities as self-care.	Student C: ...after 9:00, I don't want to touch my phone anymore. Like after 9:00, I want to listen to music. I want to be meditative. I want to just don't do too much. So, stay away from phone. Stay away from the distraction.	The main differences in self-care choices seemed to be how doctoral students perceived self-care. The low respondents mentioned self-care as being a social activity like going to parties or other social events on the weekends. However, the high respondents shared the small things they do daily for self-care like getting to bed early, staying off of technology, or exercising. This difference in perception may explain why those on the low end of self-care struggle to find time for self-care practices because they may be viewing it as an all day, or even all weekend endeavor rather than a daily part of their routine.
		Student A: So, it's better to just go to sleep at 10... I tried to put the self-care as a priority in my schedule, like, OK, I usually run in the mornings and I train in the afternoons.	
		Student B: I rarely go out like, you know, like I said, I spent a weekend to catch up on things, for example, but when I hear that a friend is having a graduation party recently, like last Saturday, I tried to fit that in with my schedule. Like, you know, let's stop working for a moment on	

Theme	Quantitative: Results of Survey	Qualitative: Interview Findings	Mixed Methods Interpretation
		homework and go to the graduation party to celebrate. Student D: I'm the president of the graduate society here in my apartment. So, I've been doing social things...	
Family Background	High self-care interviewees: Student A ($M = 3.14$) Student C ($M = 3.10$) Low self-care interviewees: Student B ($M = 2.52$) Student D ($M = 1.97$)	Student B: My father definitely played a role in my pessimism... my parents is engineer, so they only built things. They really suck up your life like, you know, like, remove all the fun away. Student D: Thinking back like when I was a kid and that kind of stuff I never really like, self-care was never really a thing... I grew up on a farm... so we worked a lot... Student A: My dad is also a psychologist. He has a Ph.D. in psychology. My mom, is social worker, so they are really into mental health and stuff like that... it was my mom, the one that told me that if I don't put self-care like as something mandatory in my agenda Student C: But my mom, she's very, very active. She has her own garden, like her own piece of the plot. And she likes to grow vegetable and do all the like. She can never tolerate land left untended. So, she has to grow something. And she's very proud of growing vegetable in her own garden. So, I think my mom is very good influence.	The quantitative differences between those respondents who rated themselves high in self-care practices and those who rated themselves low in self-care practices seemed to all be explained by family background. Each of the interviewees mentioned their upbringing parents as major factors in their ability to practice self-care as adults. This idea transcended cultural groups and was a similarity between international and domestic students.
Cultural Background	Domestic students from the Western US cultural background: N = 17 International students from Eastern cultural	Student D: I'm born and raised in America, and my family was very independent. And so, we really had a very individualistic approach to life... Student C: One thing about the culture in China is the value of family get-togethers. So, I think	International students had statistically significant higher levels of self-care ratings. Based on the interviews, this could be attributed to cultural background. Student D, a domestic student pointed to his individualism and independence, whereas Student C, an international student suggested

Theme	Quantitative: Results of Survey	Qualitative: Interview Findings	Mixed Methods Interpretation
	<p>background (including China, Indonesia, Taiwan, India, Bangladesh): N = 17</p> <p>International student from Mexico: N = 1</p> <p>International students practice self-care ($M = 2.8, SD = .062$) more often than domestic students ($M = 2.54, SD = .064$).</p> <p>The difference between the two groups is statistically significant ($F = 8.4, p < .05, \eta_p^2 = .203$)</p>	<p>when families get together, we spend a lot of time having meals, just chat and relax.</p>	<p>that familial centered practices were key to self-care success.</p>

DISCUSSION

The findings of this mixed methods study revealed new insights into the self-care practices of international and domestic doctoral students. There was the quantitative phase that described the extent to which doctoral students participated in self-care practices. Then the qualitative phase allowed domestic and international students to characterize their self-care practices and the life experiences that contributed to these practices. Finally, the quantitative and qualitative mixing of data allowed the researchers to draw conclusions about the similarities and differences in self-care practices chosen, and the reasons for these choices amongst international and domestic students. The findings align with Orem et al.'s (1995) self-care theory in that they support the theory's focus on an individual's ability to assess their own self-care needs and make the appropriate decisions to meet and accommodate those needs.

For the quantitative phase, the researchers examined the extent of self-care among all doctoral students. The results indicated that international students ranked higher in their self-care practices than domestic students. Such findings contribute to the current literature as researchers typically examine stressors that undermine international students' psychological well-being and believe that international students are under greater mental stress as compared with domestic students (Lee, 2021). The high levels of self-care amongst international students may serve to negate some of these stressors.

For the qualitative phase, selected participants were able to explain their self-care practices and provide some insights as to why they chose to engage or not engage in self-care. The discoveries in this phase allowed the researchers to understand the extent of self-care amongst international and domestic students as well as some of the differences between students who rated themselves as having high levels or low levels of self-care. Participants in the current study who rated themselves as high in self-care practices demonstrated their intense workloads, however, they also identified the steps they take to ensure they are practicing self-care like having a self-care routine and prioritizing self-care daily. For the two interviewees who rated themselves as low in self-care practices, they also mentioned workload as a barrier, but they did not have a system for prioritizing self-care, instead, they

continued to work to the point of burnout. The identification of heavy workload as one of the major stressors for doctoral students corroborates with the findings of Schmidt and Hansson (2018). For the low self-care individuals, the lack of awareness or practice of prioritizing tasks and balancing between academia and life confirms Golde's (2005) concerns regarding multiple roles and challenges taken by doctoral students, whether they are international or domestic. Ultimately the interviews aligned with the findings by Driscoll et al. (2020) who reported that the primary barriers to self-care were academic guilt and burnout. The two low respondents also mentioned a lack of guidance and support from their advisors. This aligns with the additional findings from Ménard et al. (2021) wherein university faculty and staff underestimated the stress levels of graduate students.

The mixed methods phase established some similarities and differences between international and domestic students. All four interviewees mentioned that their families played a role in their ability to prioritize or their tendency to neglect self-care. The two high respondents noted that their parents served as positive role models when considering their self-care needs. The two low respondents indicated that their parents overlooked self-care in favor of hard work. This relates to the study by Varadarajan et al. (2021) where doctoral students reported higher levels of stress surrounding their time management. However, as opposed to Varadarajan et al.'s (2021) viewpoint that relationships between doctoral students and their families and friends play positive roles in doctoral students' well-being, the current research reveals the negative influence that family can have on doctoral students' levels of self-care. The two lower respondents' interviews suggested that they perceived self-care as a replacement for hard work and that it was nearly impossible to have both at the same time. They lacked the ability to manage their time and workload in a way that would provide them with opportunities to complete their work while also engaging in self-care practices, while the high self-care interviewees noted that they made time in their schedules to complete work and practice self-care daily. These findings align with previous findings on academic/work pressure as a main source of stress for doctoral students, whether they are domestic (Golde, 2005; Kinman, 2008; Schmidt & Hansson, 2018) or international (Johnson et al., 2018; Mahmood & Burke, 2018).

IMPLICATIONS

The findings from the current study and prior research have strong implications for graduate programs. As proposed by Ménard et al. (2021), university faculty sometimes underestimate the difficulties that graduate students go through as they endeavor to make the transition from students to professionals and researchers. It is essential for university faculty to recognize these challenges and support graduate students' development. For international doctoral students specifically, programs targeting their sociocultural adaptation were highly recommended (Mahmood & Burke, 2018). Also, opportunities where international students can share their cultures and experiences with other international students, as well as domestic students should be encouraged (Johnson et al., 2018).

In conducting this study, researchers conclude that self-care practices among doctoral students should become a priority in higher education programs. Due to the shared strain from workloads and other academic stressors, faculty may need to provide more opportunities for doctoral students to interact with each other in ways that encourage and promote self-care practices. Driscoll et al. (2020) explored how self-care is practiced and perceived in higher education settings and found that approximately 73% of school faculty reported self-care practices, while only 46% of doctoral students did. Therefore, self-care is not foreign to university faculty on a personal level, so the transfer of that knowledge to university students would be beneficial. The present study demonstrated that while doctoral students understand the importance of self-care, they may or may not be aware of strategies to engage in more effective self-care practices. To this end, faculty and advisors could be more aware of different kinds of self-care practices and how student backgrounds can contribute to their stress levels and differential self-care needs. Greater focus on self-care from faculty would reverse the tendency of university faculty and staff to underestimate the stress levels of graduate students (Ménard et al., 2021).

LIMITATIONS

One limitation of this study pertains to the small number of semi-structured interview participants. Researchers received an uneven response rate from domestic students and international students responded more positively to the Zoom interview portion. Therefore, due to this uneven exchange, researchers cannot generalize the qualitative results as there were not enough domestic participants.

Another limitation is that due to the usage of convenience sampling, participants of the current study were of similar age. They may not represent all doctoral students. Therefore, this study is being referenced as a pilot study. Future research may include more doctoral students with more diverse backgrounds to better understand the levels of self-care for doctoral students.

CONCLUSION

Self-care among doctoral students remains an under-emphasized component of graduate school life despite the academic, financial, social, and emotional pressures that many doctoral students experience. Although this pilot study was limited to doctoral students in Texas public universities, it found potential differences between domestic and international students, the main difference seemed to come from students' self-perceptions of what constituted self-care, family background in self-care practices, and cultural background. Both groups understood the importance of self-care to their general well-being, but the manifestation of such practices varied amongst participants. This contributes to the need for higher education institutions and faculty mentors to attend to the self-care practices of their students to support their well-being along with aiding in program completion.

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