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ORIGINAL REPORT

"It's Been a Long and Terrible Day": Doctoral Students' Experience of Stress and Coping

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ABSTRACT

Research has shown that graduate students experience a host of stressors as they navigate higher education. This study was a participant-generated visual method (PGVM) project with 14 doctoral students from one research university in the northeastern United States. The purpose of this study was to illuminate doctoral students' experiences as the world was progressing toward a post-pandemic reality. Data sources included visual image solicitation, a focus group interview, and individual memoing over one semester. Several themes emerged, including stressors related to working while in graduate school, finances, and social challenges. This study offers insights to graduate programs seeking to reduce student stress and support student success. It also offers support for the use of PGVMs to illustrate complex experiences and to connect participants in ways that could support graduate students coping with stress.

Keywords

Visual Methods, Stress, Doctoral Students, Coping, COVID-19, PGVM

INTRODUCTION

Graduate students experience pressure in numerous aspects of their lives, including academically, professionally, and in their families (Bekkouche et al., 2022). Thus, graduate students are at an elevated risk for mental health challenges compared to adults who are not in graduate school (Evans et al., 2018; Garcia-Williams et al., 2014). Yet, there are limited studies that delve deeply into the complex sources of stress and related coping strategies used by graduate students (Bekkouche et al., 2022; Garcia-Williams et al., 2014; Hazell et al., 2021; Lynch et al. 2020; Satinsky et al., 2021) and even fewer studies that have invited graduate students to use arts-based methods, such as storytelling, film making, photo elicitation, etc. (Nathan et al., 2023), to convey their experiences (Lynch et al., 2020). Using images or art is an important and scholarly way to honor participant meaning-making about stressors in educational environments (Lynch & Glass, 2020; Lynch et al., 2020; Suárez et al., 2021). This paper offers findings from one participant-generated visual methods (PGVM) project that invited 14 doctoral students the opportunity to share their stressors and coping strategies.

LITERATURE REVIEW

Graduate students are at an elevated risk for stressful educational experiences and related mental health challenges (Evans et al., 2018; Garcia-Williams et al., 2014). One meta-analysis found that almost 25% of graduate students reported

clinically significant depressive symptoms, and 17% reported clinically significant anxiety symptoms (Satinsky et al., 2021). Moreover, recent increases in deaths by suicide warrant special attention to graduate students' mental health as they are at higher risk of suicidality than the general population (Garcia-Williams et al., 2014; Hazell et al., 2021; Satinsky et al., 2021).

Bekkouche et al. (2022) identified four main systems that can lead to stress for graduate students. The first system, academic, creates stress from fear of disappointment, such as feeling trapped, isolated, and for international students, culture shock. The second, organizational, can increase or decrease the chronic stress of academic work depending on the availability of resources for students. The third system, lab and cohort, can generate stress when students feel out of place and have difficulty connecting with their peers. Lastly, the socioeconomic system can create stress through financial instability or the lack of employment post-graduation. Furthermore, many graduate students have multiple roles (e.g., parent, employee, caregiver) in addition to being a student (Alsandor & Trout, 2020; Bal et al., 2020) which can lead to time management challenges and sacrifice of other priorities for doctoral work or vice versa (Bal et al., 2020).

Numerous scholars (Chirikov et al., 2020; Hyun et al., 2006; Mallinckrodt & Leong, 1992) have also examined an array of specific topics and/or sub-populations related to graduate student stress, coping, and mental health. For instance, Hyun et al. (2006) observed that graduate students' self-reported mental health needs were significantly and negatively related to confidence about one's financial status, positive relationship with one's advisor, regular contact with one's friends, and being married. Hyun et al. (2006) also documented a positive association between symptoms of depression, the number of semesters in school, identifying as female, and using counseling services. Additionally, Mallinckrodt and Leong (1992) noted that female graduate students reported higher levels and more symptoms of stress than their male peers. Further, among graduate and professional students, mental health challenges are more prevalent among low-income and working-class students, Latinx students, American Indian or Alaska Native students, international students, and LGBTQ students (Chirikov et al., 2020). These four scholars draw attention to the nuances of stress, coping, and mental health among diverse subpopulations of students.

The COVID-19 pandemic exacerbated mental health challenges among the graduate student population (Chirikov et al., 2020). For instance, the prevalence of major depressive disorder among graduate and professional students was two times higher in 2020 compared to 2019 (Chirikov et al., 2020). During and after the COVID-19 pandemic, researchers have found that a multitude of negative feelings (e.g., fear, isolation, guilt, sadness, loss, exhaustion, stress) affected students' academic and social lives (Alsandor & Trout, 2020; LaRosa et al., 2022; Loza et al., 2021; Lynch et al., 2020; Sanderson et al., 2021). Finally, Zahneis (2020) found graduate students also expressed concerns about finishing their degrees on time during the pandemic.

Graduate students find ways to cope when they experience stress. For instance, they use a variety of coping strategies, such as changing plans, setting priorities, and seeking support from family and friends (Bal et al., 2020). These and other coping strategies, such as seeking support from advisors and cohort members, can reduce stress and its deleterious effects on students (Bekkouche et al., 2022; Charles et al., 2021; Posselt, 2021; Rigg et al., 2013). Effective coping strategies can counteract limited support at the institutional level (Bekkouche et al., 2022; Kiebler & Stewart, 2022; Loza et al., 2021), including, but not limited to, insufficient resources for academic success (Zahneis, 2020).

METHODOLOGY

This study used PGVM (Harper, 2002; Richard & Lahman, 2015) to document doctoral student experiences as the world was progressing toward a post-pandemic reality. PGVM is a qualitative methodology that allows researchers to partner with participants who collect, share and describe rich, arts-based visual data, not easily obtained by other methodologies. The inclusion of photographs or other images generates richness in participants' responses compared to words-only interviews, given that "the parts of the brain that process visual information are evolutionarily older than the parts that process verbal information" (Harper, 2002, p. 60). Visual methodologies can be subdivided into two categories depending on the source of the images: researcher-generated or participant-generated. The latter has gained momentum since researchers began questioning whether their selection of images matched what participants would choose. By taking photos or selecting images themselves, some researchers believe participants gain insight and empowerment through the research process (Richard & Lahman, 2015). Scholars have also shown how photos and other arts-based methods are especially powerful when used by participants to express intense, emotional experiences (Lynch & Glass, 2020; Lynch et al., 2020; Suárez, et al., 2021).

PGVM generally, and photo-elicitation in particular, possess many advantages (Pain, 2012; Richard & Lahman, 2015; Roger & Blomgren, 2019; Shaw, 2013; Van Auken et al.,2010). Photos can provide tangible stimuli that more effectively access informants' tacit and often unconscious representations, images, and metaphors. Photos produce different and richer information than other techniques, as participants may be able to articulate their feelings and experiences more easily, especially in studies where researchers and participants do not share similar cultures or languages (Shaw, 2013; Van Auken et al., 2010). Finally, images may help reduce power, class, and knowledge differences between researchers and participants since participants are placed in the leading role in the selection and sharing of images (Pain, 2012; Richard & Lahman, 2015;

Roger & Blomgren, 2019; Shaw, 2013; Van Auken et al., 2010).

Participants

Data were collected during a 13-week doctoral course on advanced qualitative research methods at one research university in the northeastern United States. As part of the course, the fourteen enrolled students were invited to participate in a variety of activities to learn about qualitative data collection, analysis, and writing. The instructor of the course valued hands-on learning, practiced scholarly mentoring of emerging scholars, and believed that research participants are co-constructors of knowledge (Jones et al., 2022). Therefore, the instructor invited students to be co-researchers in a PGVM project to be conducted during and after the course. All students chose to be co-researchers. Students also had the opportunity to decide what role, if any, they wanted to play after the course ended. All but one student (who was graduating) opted to continue with the project after the end of the academic semester. Data analysis and writing extended for 10 months beyond the academic term. To protect the identities of participant co-researchers, each student selected their own pseudonym for this manuscript. Table 1 depicts socio-demographic and academic characteristics of participants.

Procedure

For this PGVM project, data were collected from three sources: visual image solicitation, a focus group, and individual memos. The first method for gathering data was a photo/image solicitation. Doctoral students were given the following directions for the image solicitation.

> The purpose of the research project is to invite Ph.D. students to take photos (or share pre-existing images) that represent their lived realities of being doctoral students in 2022. Add your name to a Google Slide. Then paste 2-5 images on your slide that best capture your lived realities of being a graduate student. Please do not take photos of others (without consent) and/or blur their faces so that they remain anonymous. During class, each student will have time to describe their photos and tell us why they chose that particular image.

Each student followed the directions, inserting photos, memes, words, and other images into their slide. During class the following week, each student spent 5-7 minutes sharing their slide, discussing the rationale behind the selection of each image, and explaining how those choices illuminated their lived realities as doctoral students. This activity was recorded and transcribed for analysis.

The second source of data came from a 1.5 hr focus group in which participants discussed the following: patterns in the images and sharing activity, the PGVM process, and their experiences as participants. During the conversation, the participants and instructor sought to identify commonalities in participants' experiences. They also reflected on how they felt sharing with, and listening to peers who belonged to similar (or different) demographic groups, disciplines, and statuses (e.g., parents, full-time employees).

The third source of data was participant memos. Memos are a common form of data used by qualitative researchers to reflect on the research process and emerging analyses (Jones et al., 2014; Jones et al., 2022). Over the 13-week semester, participants used memos to reflect on all aspects of the PGVM project, including the collection process, data, meaning making, analysis, and general methodology. For this study, "memos" took the form of free-writing in individual Google Documents in response to prompts intended to guide this reflection process. Some prompts included: "Free write about your general reflections on the content and process of this learning activity." "What was it like to engage in this qualitative project as a participant?" "What did you learn?" and "What might others learn from our photos and reflections in this process?"

Data Analysis

To prepare data for analysis, student presentations, and the focus group discussion were audio-recorded and transcribed. Students had access to the transcripts to ensure any commentary ascribed to them was correct, but they were instructed not to alter the transcript otherwise. Thematic analysis was used to identify patterns in the data (Clarke & Braun, 2017; Saldaña, 2015). Using an inductive approach, each student created an initial coding frame. These initial coding frames were then discussed in small groups to consolidate them into four possible coding frames. Finally, all students discussed the four draft coding frames as a large group to consolidate them into a final study coding frame, a method that also served as an iterative form of team analysis and member checking (Jones et al., 2014). Seven codes and 24 sub-codes emerged from the data. Transcripts and memos were imported into Computer Assisted Text Markup and Analysis (CATMA, version 6.5), where co-researchers applied the codes from the finalized study coding frame. This manuscript presents the results from selected emergent categories, with a special emphasis on the main codes titled stressors and coping.

Several strategies were used to ensure the trustworthiness and credibility of the findings (Creswell & Poth, 2018; Jones et al., 2014), including triangulation with multiple sources (visual images and student sharing, focus group, memos), ongoing process consent, and member checking as a team of co-researchers. The participants and instructor engaged in weekly discussions about the process and products. These conversations included candid reflections on the complex relationships of students who are co-researchers and learners in a classroom setting. Moreover, since the team of co-researchers was co-analyzing the data as part of a class, there were frequent opportunities to develop analyses in real time with one another

and to engage in member checking. Finally, discrepant case analysis (Creswell & Poth, 2018) was used to honor the complexity of the findings and to ensure that conclusions reflected the complexity of doctoral student experiences.

FINDINGS

This paper presents data from selected emergent categories of stressors and coping. Graduate students shared images and discussed the challenges they faced during (and after) the COVID-19 pandemic and how they learned to adjust. The findings draw heavily from the verbal and written reflections of participants in the focus group discussion and memos. Selected images are included in this paper to illuminate the kinds of images shared by participants. However, many students included pre-existing images (e.g., online photos, memes) which are copyrighted and therefore could not be included in this article. Nonetheless, we believe the reflective prose about the images (even those not included here) helps document robust emergent themes around doctoral student stressors and coping strategies.

STRESSORS

Findings reveal that doctoral students experience a variety of stressors. As participants presented their images, they described experiencing an array of stressors as graduate students, which aligns with prior literature (Allen et al., 2020; Mousavi et al., 2018). Further, findings illuminate, via powerful images and prose, the interconnections among student identities (women, students of color, first-generation students), student roles (parents, partners, employees), and the expectations–implicit and explicit–that doctoral students should be focused on their studies and experts in their disciplines. Although the graduate student participants in this study were progressing academically and incredibly knowledgeable about their fields, they experienced a complicated mix of stressors related to their social locations, roles, and competing priorities. They reported feeling like life was a challenging juggling act. They also shared that they experienced imposter syndrome and guilt about not enjoying or appreciating the privilege of being a doctoral student.

Some stressors were related to uncertainty with graduate work, including experiencing impostor phenomenon, feeling as though someone is going to perceive them as being lazy, and feeling burned out. One student, Alia, remarked that, despite working hard, she felt uncomfortable resting or taking breaks. She was working on being okay with "just sitting and not doing anything because in my brain that processes me being lazy." This was met with agreement by others, including Joan who said: "As some persons already mentioned, feeling of imposter syndrome. There is a lot of change and evolution, but all of that growth also comes with just anxiety at times, in trying to just juggle everything." Other students throughout the focus group nodded along in agreement, which was unsurprising as imposter syndrome has been known to affect many graduate students (McGregor et al., 2008; Parkman, 2016).

Other stressors were more social in nature. Many of the students in the focus group had started their Ph.D. journey during the height of the COVID-19 pandemic in 2020 and had experienced a great deal of social isolation from their peers. One first-generation graduate
student, Sebastatin, described the exacerbated isolation that she felt as a first-generation immigrant student:

> Everything was just so new being first gen, being first-gen immigrant as well, as Alia said before. Many similar experiences of just being the first in a program and people not understanding, community not understanding, being the first of my friend group going to grad school. It's just a lot of firsts. And, not know[ing] who to share the experiences with, because I also didn't meet my cohort members until this year in person, which is wild to think about.

As noted by Sebastatin who did not meet her peers in person for more than two years, the COVID-19 pandemic fostered uncertainty and isolation for many students. For some, this stressor was compounded by juggling multiple roles, such as being a mother and doctoral student, in the same environment. This complex balancing act was encapsulated by Meg, who used an internet image (copyrighted) of a clown juggling while riding a unicycle as a metaphor to describe her experience raising her young son in a new country while starting her Ph.D. during the COVID-19 pandemic:

> So I think the unicycle is COVID. What COVID has brought to us, it makes things more difficult than before, because we don't want–because my son is not vaccinated–so we don't want him to go to daycare. And also because we are here with no family members, so we have to keep him at home and sign up for different classes for him. So that's my life for the past two years.

The experience of dealing with competing priorities and roles, such as being a mother and a doctoral student, was conveyed by several students. And while many students felt that they could lean on their families for support during their graduate school experience, other students shared that graduate school created stress in their family relationships. For instance, Clementine shared: "I guess the discussions of family members not getting it because I have experienced resentment from family members and this kind of not understanding of my journey I've been dealing with lately."

Another student reflected on the financial changes that she had to make for her family as a mother, wife, and doctoral student. As someone with multiple roles to fill, Naomi expressed guilt over ordering pizza (Figure 1) for dinner more often due to limited finances:

> One of the impacts of grad school in my life is that I have a lot less money than I did two years ago. And so we probably wouldn't have ordered Dominoes two years ago, but we order it now because I can order it from my computer during class and have it at the door for my kids. And it & it's also really inexpensive.

Figure 1

Photograph Taken by Naomi After Ordering Pizza For Her Family

Naomi's comment reflects the intersection of competing roles, time demands, and the newfound stressor of financial limitations that was brought on by attending graduate school. Earlier in the class, another student, Gloria, expressed financial stressors by showing a screenshot of a text message that she sent, which read, "Can't afford that," to illustrate her surprise at how much lower her income was due to graduate school. She elaborated as follows:

> Ever since I got in grad school, I have been constantly shocked about how broke I am and how I can't really afford to do things for me anymore that I used to. And, I worked all of undergrad, so I had extra money and I can't do that anymore.

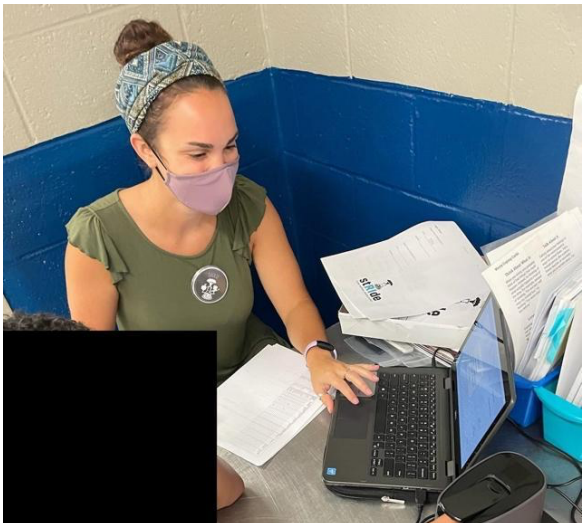
Students were not all immediately comfortable sharing their financial hardship in the focus group but memoed about their reflections later. In a research memo, Naomi mentioned her emotional response to Gloria's experience of not being able to afford what she used to. Naomi wrote: "And financial pressure, also can relate to—and I'm aware that she has opened the door for me to share more about the Dominoes boxes." Financial challenges were difficult to talk about, but Naomi and Gloria's comments resonated strongly with other co-researchers in the PGVM study.

Finally, students often described experiencing guilt over not always enjoying graduate school. This guilt perplexed students, as they felt stress and frustration with something that they believed should be considered a privilege. This paradoxical guilt affected Gloria so much that she explained how she felt the need to include a positive picture for her slide (Figure 2):

> So, starting off with the picture all the way to the left. This was a picture I added at the last minute because I felt like I was being pretty negative about my experiences in 2022 and as a PhD student overall. So I wanted to add in this picture because you can tell I am smiling through my mask.

Figure 2

Gloria Smiling Through Her Mask, Showing That There Have Been Good Moments Amidst The Stressful Moments



Students commiserated over this feeling of guilt, finding relief in learning that others grappled with it as well. For instance, Nelly said:

> So, one of the things that I thought was really interesting that a lot of us brought up was the privilege of being in grad school and the flip side of that. This kind of feeling guilty when we feel exhausted. I saw that come up a lot and it really resonated with me. I've said to my husband a number of times, like "I'm so grateful to be here, I'm so grateful that you are helping me with all of this, and I'm sorry that I'm not enjoying every minute of it." So, that was good to hear everyone else talk about too.

After detailing how graduate school was stressful and how it complicated their relationships, students found a sense of camaraderie, connection, and comfort by talking about their stress with each other.

COPING

In addition to describing the stressors represented in their photos, doctoral students also discussed the many ways they learned to cope with stress in their educational and personal lives. Interestingly, many of the methods of coping mirrored their stressors. For example, family could be a source of stress because students could feel pressure to fulfill multiple roles or because students' families did not understand their doctoral life. Yet, family was also described as a source of support for students. For instance, Nelly shared: "They could see that I was progressing, and they would encourage me and all of that. So even though there's no one here,
there's people behind me in this."

Family was not the only support system discussed. One student described the many networks of support they found and what those networks meant to them. Sebastatin explained:

> I have this circle. It's supposed to represent sister circle, and it represents my community, including my friends, my family, my girlfriend, and other supporters in the program. Without them, I don't know where I would be.

Peers were also described as a source of community and support by other students. One student spoke about the bond she shared with other students who started the graduate program simultaneously. Lyra stated, "We always persevere and kind of support each other through milestones and stuff, which has been very nice." Ultimately, students agreed that family and peer support was an important part of what made them persevere through the challenges of graduate school. Paige chronicled how family and friends kept them going: "But then you got this encouragement and support from your friends and family and, 'Okay, I'm trying again, I can do this.' So, I'm not sure where I am in this journey, but I still feel like the goal is far away."

One of the ways in which doctoral students used connection with others to cope during the COVID-19 pandemic was through virtual communities and interacting with friends and family online. Doctoral students relayed how they turned to online environments to combat the isolation during and after the pandemic and, for some, being on their own in a new country. For instance, Joan said: "I spend a lot of time on my phone, just trying to be connected to friends and family who are overseas." Joan also sought out online communities via academic Twitter to better understand research methods (See Figure 3).

In addition to online communities and virtual communication, another trend in how participants connected with others as a coping strategy involved the use of memes. Memes have been used to share relatable experiences with others (Marwick, 2013) and have become intertwined with everyday life as a part of expressing emotions and relating experiences. In this research, participants used memes for multiple purposes. Due to copyright issues, the memes provided by students cannot be provided. However, we have summarized the relevant text from

Figure 3

Screenshot Shared by Joan Illustrating How She Connects With Others Through Virtual Communities

the memes to illustrate the meaning-making processes described by the participants. Clara explained how she found both humor and comfort in one of the memes that she shared on her slide:

> I also find great comfort when I remind myself that I'm not the only person experiencing these feelings, which again, that can happen while also talking to my peers in my program. But, also finding solace in social media, via memes with this one being one of my recent favorites, which reads, "Getting a PhD so when I get something in the mail that I've purchased, I can say, 'Ah, just what the doctor ordered every single time until I die.'"

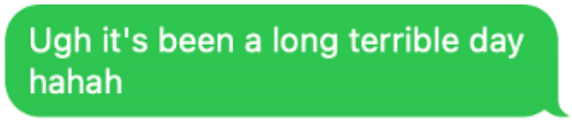
Another student reflected on how she uses memes as a way to bond with her peers. Lyra said: "One of my jokes is that memes are a way that I show my love, so if I text memes to someone that's a pretty big thing for me." She was not alone in this form of connecting with others. Many participants' slides used memes. During the focus group and in written research memos, most participants expressed how they found memes relatable and illuminating. As Barbie reflected, "Memes help capture an idea better than words."

Students discussed how humor, in general, was an integral part of how they coped with stress. While memes may not always be directly funny, participants were inclined to find them relatable and often humorous. Participants engaged in a kind of knowing laughter in other situations too, including when Clara

shared a text message (the titular quote of this paper, Figure 4): "It's been a long and terrible day." Despite not being an outright joke, the message of the text message was met by the students in the focus group with a smile or even laughter because they were able to relate to her experience and found comfort in her humor.

Figure 4

Text Message Sent by Clara Describing Her Day



Sebastatin highlighted the broader context of widespread social isolation when describing the importance of "just laughing and being able to feel connected in a time where a lot of people feel disconnected." Other participants in the focus group nodded and affirmed that sharing and laughter among a community of learners was an important coping strategy.

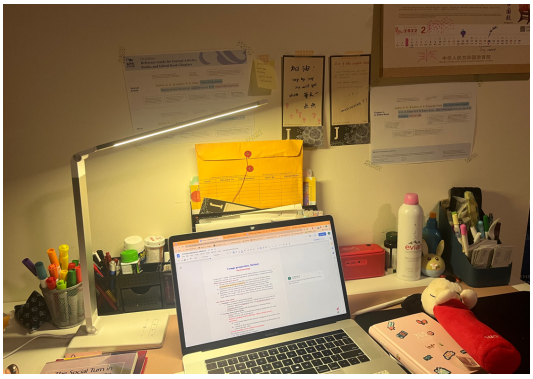
In addition to humor, students felt that self-compassion was an important aspect of coping with stress. Self-compassion is the tendency to treat oneself with respect, kindness, and patience (Allen & Leary, 2010). Clara described self-compassion as "empowering" and went on to talk about how she is working to "give [herself] the same compassion that I give to others in my personal and professional life." Other students echoed the need for self-compassion and shared how they were working on building self-compassion into their lives more. Clementine shared how a recent diagnosis changed how they approached challenges:

> I was recently diagnosed with ADHD. So, knitting has been kind of the embodiment of me accepting my own limitations that were exacerbated by coming back to grad school in the middle of a pandemic and realizing that there are things that I need to do that I now allow myself to do to cope. Whereas before, I'd argue with myself as to if it was rational or needed to actually have things like that. Now with the actual label, I'm able to just say, "Hey, my brain works a little differently, let's just work with it instead of fighting it."

Students also shared how they engaged in self-compassion by putting a lot of thought into how their workspaces were set up. During and after the pandemic, graduate students were often required (or encouraged) to work from home. Meg described how she wrote notes for herself and put them on the wall with encouraging messages (Figure 5) like "You got this" or "Write something every day."

Figure 5

Meg's Desk and the Wall Behind it, Decorated with Motivational Notes



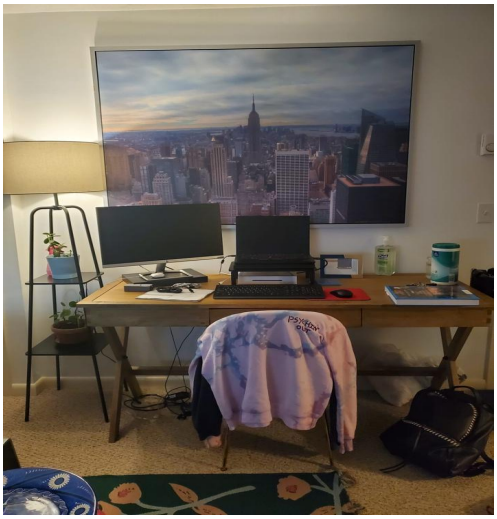
Another participant described her workspace setup (Figure 6) as "very calming, very supportive." Alia explained how the decorations in her workspace motivated her:

> Some of the pictures are from my travels from Cuba, from Thailand, some stuff from India. And then there's a picture of me and my partner and a picture of my grandparents. And then also a picture of my parents on their wedding day, feeding each other…So, it's just a daily reminder of how I should continue and just motivation for me.

Self-compassion was an important coping strategy that manifested in both self-talk and the intentional creation of affirmative workspaces.

Figure 6

Alia's Workspace, Decorated With Images That Make Her Think of Traveling and Her Family. Family Photos Have Been Omitted to Preserve Confidentiality



DISCUSSION

PGVMs allow researchers to obtain different and richer information than other techniques and to share power with participants (Pain, 2012; Richard & Lahman, 2015; Van Auken et al., 2010). Photographs and other visuals can be metaphors of meaning and representations of inherent meaning, as participants' visual choices and accompanying language serve as sites of common metaphorical understandings (Richard & Lahman, 2015). Moreover, participants in studies that involve PGVMs perceive methodological advantages. For instance, interacting with visual images allows for nonverbal communication on challenging topics, particularly around issues related to difficult life experiences (Roger & Blomgren, 2019). Our findings reflect these benefits. In particular, the use of visual images and metaphors encouraged multiple levels of reflection and critical thinking from co-researchers (Elliot et al., 2017). By pairing PGVM with a focus group (instead of, for instance, individual interviews), participants in this study provided content-rich data as new ideas, comments, or constructs were generated by other students. Through dialogue, students interacted with each other's visual contributions and the ideas they shared in discussion. As co-researchers engaged in the analytic process reviewing empirical data and memos of their peers, the process yielded robust learning, reflection, and continued dialog about emergent themes related to stressors and coping.

Current PGVM research on college students in general, as opposed to graduate students only, has focused on specific groups, such as first-year students (Kahu & Picton, 2022), international students (Elliot et al., 2017), and first-generation Latinx graduate students (Montero-Hernandez & Drouin, 2020). Only one study focused broadly on graduate students (Lynch et al., 2020). While prior studies include students in diverse academic fields, the study presented in this paper was enriched by its focus on doctoral students who were learning at an important moment in time (e.g., COVID-19 and post-pandemic realities). Focusing on a diverse cohort of graduate students in various disciplines and with different life roles (e.g., parental status, job status) allowed a multifaceted outlook on the doctoral experience that illuminated both commonalities and differences.

The findings of this study aligned with previous research on doctoral students' experiences of stressors and coping strategies both before and during the pandemic. For instance, participants experienced mental health issues and various pressures, such as anxiety, imposter syndrome, and feelings of guilt and isolation in their doctoral lives (Alsandor & Trout, 2020; Bekkouche et al., 2022; Evans et al., 2018; LaRosa et al., 2022; Loza et al., 2021). Moreover, many participants shared their experiences juggling different roles (Alsandor & Trout, 2020; Bal et al., 2020). Also, in line with prior studies (Chirikov & Soria, 2020; LaRosa et al., 2022; Nodine et al., 2021), participants noted that financial issues were also a challenge. To manage the stress, participants sought support from various members of their communities, including family, friends, peers, and mentors (Bal et al., 2020; Bekkouche et al., 2022; Charles et al., 2021; Posselt, 2021; Rigg et al., 2013).

This study also contributes new insights to current research, adding nuance and visual complexity, to the current understanding of the stressors and coping strategies of doctoral students. While previous research identified stressors individually, participants in this study reflected the intersecting nature of these stressors in their doctoral experience. To cope with feelings of isolation during the COVID-19 pandemic, participants turned to online communities and virtual communication to bond with peers, friends, and family. Humor was also an integral part of participants' coping strategies. For instance, memes were used by participants to share relatable experiences, express emotions, find comfort, and bond with peers. In addition, self- compassion was used to manage stress. Participants shared how they built self-compassion into their lives through positive thinking and the creation of affirmative workspaces to empower themselves. These PGVM findings constitute new and rich insights into doctoral students' experiences.

LIMITATIONS

As with any study, there were limitations. First, in this project, many students selected images from the internet for their slides. Due to copyright restrictions, we were unable to visually share all the images referenced in this paper. Nonetheless, we believe that our prose provides important information regarding the meaning-making surrounding the images. As one participant noted, the project was a "co-constructive meaning making process. The narratives about images are more important [than the images themselves]. We are finding our collaborative narrative [and] we are interested in everyone's subjective experience." A second limitation of this study is that the participants were students from a limited set of disciplines, namely education, health, and psychology. Although qualitative research is never generalizable, the themes identified in this paper could be transferable to doctoral students in other social and health science fields. It is unclear, however, if and how, the findings might accurately capture the nuanced lived realities of doctoral students in other fields, including STEM and the humanities.

RECOMMENDATIONS AND FUTURE RESEARCH DIRECTIONS

In alignment with the study purpose, the findings from this study point to pandemic and post-pandemic stressors and coping strategies. However, as noted in the discussion (and literature review), the findings also correlate with graduate student stressors that have consistently been documented by scholars for decades (c.f., Alsandor & Trout, 2020; Bal et al., 2020; Chirikov & Soria, 2020; LaRosa et al., 2022; Nodine et al., 2021). As a result, several recommendations were identified that are simultaneously post-pandemic specific and timeless.

Higher education leaders should develop strategies both for cohort building within graduate programs and for the introduction of graduate students into communities of practice within the student's area of study beyond the university. Graduate student cohorts provide a community with others experiencing similar challenges; they also facilitate relationships that could mitigate feelings of inadequacy and isolation. Faculty sponsorship within academic communities of practice could contribute to students' sense of confidence and membership as they develop their academic identities. With this two-pronged approach – programmatic cohort building and faculty sponsorship within the field – graduate programs can begin to address stressors related to feelings of inadequacy, outsider status, and isolation.

Higher education leaders should evaluate all strategies for supporting graduate students' mental health through the lens of students' diverse identities and life circumstances. This study illustrated the ways in which intersecting identities (e.g., international, first generation, disabled) and roles (e.g., parents, employees) shaped the experiences and stresses of graduate students. All policies should be examined for their unique impacts upon specific groups of students, including international students, students with disabilities, parenting students, and working students, as well as for their cultural responsiveness. This evaluation of policies will likely require collaboration across university departments in the delivery of services. In addition, higher education leaders should consider the ways in which the COVID-19 and post-COVID-19 contexts might shape graduate students' experiences (Nodine et al., 2022) and exacerbate their feelings of stress (Alsandor & Trout, 2020; Bal et al., 2020). Finally, higher education leaders should support graduate students' coping strategies (Lynch et al., 2020) by understanding the varied ways that students cope and offering additional student-specific coping strategies. Educators can recommend coping strategies documented in the literature and generate additional suggestions from students. As with this PGVM project, cultivating a community where students can give and receive support is one way to assist graduate students who are coping with stress.

This project offers insight into the need for further qualitative research with graduate students. This small study on one campus added nuance to insights from prior works about graduate student coping and stressors (Alsandor & Trout, 2020; Bal et al., 2020; Chirikov & Soria, 2020; LaRosa et al., 2022; Nodine et al., 2021). Future research should expand this work and engage doctoral students at a variety of campuses and at different points in time leading away from the COVID-19 pandemic. Additional research should include doctoral students from all disciplines, including STEM and the humanities, as those disciplines were absent from this project.

CONCLUSION

This study illuminated doctoral students' experiences through PGVM, finding extensive sources of stress (e.g., imposter syndrome, competing roles, financial hardship) and several strategies to minimize its impact on mental health (e.g., peer support, self-compassion, workspace setup). Based on these findings, we proposed recommendations for higher educators working with doctoral students to minimize stressors and empower doctoral students by supporting their coping strategies at the community level. We also point to our findings as evidence of the benefits of PGVM for co-researchers, especially when employed in conjunction with other strategies for collaborative research. This PGVM project contributed to student co-researchers' sense of connection and validation, making the project itself both a contribution to the scholarly literature as well as a coping strategy for graduate student stress.

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