Picturing Graduate Students' COVID-19 Experiences: Working from Home and Coping Through Memes

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Abstract

The coronavirus disease (COVID-19) outbreak has impacted many aspects of education, as well as the lives of those involved in preparing and carrying out teaching and learning amidst the ongoing pandemic. At the collegiate level, while both students and faculty alike have navigated virtual learning spaces, one specific population has experienced stress of being both a student and educator – Graduate students. This study used internet-based photo-elicitation and interview methods to investigate the experiences of graduate students serving as teaching/research assistants during the abrupt transition to virtual teaching and learning at the onset of COVID-19. Study results weave together participant provided images with personal interviews. Data showed graduate students had minimal resources, mental health effects, and that humorous memes served as coping tools. Recommendations include increased resources, flexibility, and understanding of graduate student experiences must be centralized in higher education to benefit graduate students' wellness through and beyond the pandemic.

Keywords: COVID-19, graduate students, mental health, online education, qualitative

The 2019 novel coronavirus (COVID-19) impacted every institution of modern society, including education at the post-secondary level. In accordance with recommendations by the Centers for Disease Control and Prevention (CDC, 2020) to help reduce the spread of COVID-19, colleges and universities across the United States implemented a variety of modifications to their standard operations of practice (American College Health Association [ACHA], 2020; Aucejo et al., 2020; Gillis & Krull, 2020; Smalley, 2020). Of particular note was the swift and reactive decision to switch from in-person instruction to online, remote learning to complete the 2020 spring semester (ACHA, 2020; Gillis & Krull, 2020). Although some institutions had emergency response plans prepared for inclement weather and natural disasters, many of these plans were undermined as the

rules for navigating COVID-19 were unpredictable (Kuhfeld, et al., 2020). Due to the abrupt nature of this transition, students and educators were allotted little time to prepare for such an educational environment (Kuentz, 2020; Ralph, 2020).

While adjusting to the changes in their educational experiences, students were also required to balance other pandemic-related stressors, circumstances, and disruptions in their personal lives (Gillis & Krull, 2020; Lederer et al., 2021). This balancing act may have been particularly pervasive among graduate students, as they are traditionally more likely than undergraduate students to hold professional careers and/or have familial responsibilities at home while completing their education (Bal et al., 2020). In fact, graduate students may balance several personal and professional roles during their degree programs, such as student, teacher or research assistant, parent/guardian or other caregiver, and/or professional employee outside the university (Bal et al., 2020; Haynes et al., 2012; Offstein et al., 2004). The challenges and stressors of navigating the pandemic influenced changes to their professional and personal lives impacted many graduate students' mental health (Scorsolini-Comin et al., 2021). Mental health is a balance of managing emotions, cognitive and social skills, and coping through flexibility and resilience to foster an internal equilibrium (Galderisi et al., 2017). Graduate students exemplified their flexibility to transition to online education mid-semester amidst the pandemics of COVID-19 and racial injustice. However, it is imperative their experiences be explored, understood, and not overshadowed by the surface level assumption that they fared well during this time simply because they successfully completed a school year virtually. In many cases, COVID-19 amplified the ways academia lacks equitable support and holistic understanding of the lived experiences of students. While many studies surveyed students about their COVID-19 experiences (Liu et al., 2022; Wang et al., 2020), the following research is significant in that it utilized a participatory arts-based qualitative approach to examine graduate students' work from home environments and memes that spoke to their experiences during COVID-19.

Conceptual Framework

A conceptual framework supported by a review of the literature was used to guide analyses and interpret the results that emerged in this study.

Mental Health Framework

Public health emergencies can significantly impact the physical and emotional or mental health and well-being of individuals (Pfefferbaum & North, 2020). Considering the consistent observance of emotional distress among populations impacted by disaster situations, Pfefferbaum and North (2020) posited such emotional distress would similarly be observed in populations impacted by COVID-19. Santabarbara et al. (2021) conducted a meta-analysis to examine the prevalence of anxiety among the general population during COVID-19 and reported an overall rise in anxiety rates. This finding was particularly true among females, younger persons, those with low education levels, unemployed individuals, and students due to factors such as higher levels of stress and anxiety or lower financial security as compared to the general population (Santabarbara et al., 2021). Factors such as stay-at-home orders, isolation, and disrupted routines pose concern regarding the mental health attributes associated with how Americans may react to such circumstance. The indefinite nature of stay-at-home order, fear of having inadequate supplies, issues in securing medications or routine medical care, and conflicting messages presented across governmental and public health entities may further intensify stress and negative mental health (Pfefferbaum & North, 2020).

Working from Home and Mental Health

As COVID-19 lockdowns halted many traditional university on-campus brick and mortar work environments, research indicated a mixture of attitudes and experiences toward work from home (WFH) arrangements (Drašler et al., 2021; Oakman et al., 2020; Xiao et al., 2021). A survey of students and faculty at the University of Lubljana in Slovenia found respondents indicated the benefits of WFH included reduced daily commuting, improved eating habits, and more time with family (Drašler et al., 2021). However, the downsides of WFH arrangements impacted some respondents' mental health through increased stress, less productivity, more distraction, and lower quality physical working space (Drašler et al., 2021). Rubin et al. (2020) surveyed and interviewed individuals who stopped commuting to work due to the pandemic and found (a) respondents were slightly less productive at home and enjoyed work less, but moderately positive about working from home in the future; (b) some participants missed in-person social contact with colleagues; and (c) parents with young children had to juggle tasks. Additional studies had similar findings and recommended universities and organizations support employees and students through formal leave and work location policies, frequent communication from managers, online networking between colleagues, setting home and work schedule boundaries, technical support, clarification of roles and responsibilities, and mental health resources (Oakman et al., 2020; Xiao et al., 2021).

Humorous Memes as a Collective Coping Mechanism

Empirical evidence supports the notion that humor can serve as a buffer against negative effects of stress (Desphande, 2012; Martin & Lefcourt, 1983; Moran & Massam, 1997; Overholser, 1992). Research highlights humor as a useful tool for creating avenues for social bonding and building rapport within difficult situations, which can increase a greater sense of belonging (Wanzer et al., 1996). Additionally, perceived social support has been identified as a key factor in determining how well an individual copes with stress, and the use of humor may help individuals to build valuable social relationships (Thoits,

1995; Watson et al., 2007, Sliter et al., 2013). Memes are "contagious patterns of cultural information that are transferred from mind to mind" (Flecha Ortiz et al., 2021, p. 168) and have become common sources of humor that also circulate information and communicate emotions among social networks (Knobel & Lankshear, 2007). Memes created a new form of communication that created a connection between individuals, messages, and cultural knowledge (Miltner & Highfield, 2017). Including all things pop culture, such as songs, phrases, and fashion icons, to name a few, memes can be found throughout social media and are often utilized to bring satire and comedy to everyday occurrences (Flecha Ortiz et al., 2021). The use of memes increased in popularity during the pandemic, particularly around navigating life changes (Flecha Ortiz et al., 2021).

Coping is defined as thoughts and behaviors used to manage internal and external stressors to assist in emotional regulation and problem solving (Lazarus & Folkman, 1984). Collective Coping Theory (CCT) "analyzes social representations triggered by any media that build and communicate something new" (Flecha Ortiz et al., 2021, p. 170). CCT asserts that a group works to give meaning to new challenges and phenomenon when trying to maintain the integrity of their current view of the world (Flecha Ortiz et al., 2021). CCT is analyzed in four stages: (a) awareness, (b) divergence, (c) convergence, and (d) normalization (Wagner, 1998; Wagner et al., 2002). Some studies on collective coping have concluded that traditional news media (a) upset the public (Wagner et al., 2002), (b) contribute to anguish (Holman et al., 2020) and (c) increase social interactions (Abdulkareem et al., 2020), leading the public to use social media as an alternative (Yoo et al., 2020). As such, the medium of a meme and humor is central to sharing and expressing emotions, which evolves into a form of collective coping to mitigate stressful effects and producing divergence (Benaim, 2018).

Purpose and Research Questions

This study examined graduate students' experiences at a land grant university during COVID-19 and the transition to social distancing while also working and learning at home during the spring of 2020. Researchers used qualitative photo elicitation methods for rich understanding of participants' personal perspectives. Specifically, this study included three research questions:

1. What changes did graduate students make to their personal environments to accommodate the need to work from home during COVID-19?
2. What popular online memes resonated with graduate students during the beginning of the COVID-19 quarantine?
3. How did working from home impact graduate students' mental health during COVID-19?

Methods

Research Design

A social constructivist perspective guided our study, as we prescribed to the view that participants and researchers can co-construct knowledge of the world around us (Berger & Luckmann, 1966; Hacking, 1999). We followed a qualitative internet-based, arts-based, phenomenological research design that utilized email-based photo elicitation interviewing (PEI) methods. PEI is an empirical arts-based method rooted in anthropology and sociology that began in the 1950s and has grown in popularity (Collier & Collier, 1986; Harper, 2002). Photos are used in an interview process as a tool to uncover how participants and researchers respond to and view a phenomenon (Harper, 1986). Prior research has used photos to explore constructs such as identity, culture, history, and social organization (Harper, 2002). PEI can be conducted in-person or online via synchronous videoconferencing or asynchronous written formats such as interaction through e-mail (Torre & Murphy, 2015). In internet-based research, photos can be self-created or may include screen captures of observed online phenomena. Screen captures are static images that can be captured via software built into most computers and mobile devices (Gerber et al., 2017).

Context and Participants

This current study was part of a larger study that aimed to understand graduate students' experiences during the COVID-19 pandemic. We recruited graduate students across the University of Florida (UF) to participate. In the fall 2020 semester, 17,189 graduate students were enrolled in the university (University of Florida: The Graduate School, n.d.). We used convenience sampling and sent e-mail invitations to encourage participation via three university student e-mail listservs. The UF Institutional Review Board (IRB 202001101) granted approval of this study and participants provided informed consent electronically. Participants (n = 22) were 23 to 52 years old, and the average age was 31.86 (Table 1). The students were at varying stages of their respective degree programs. The majority were full-time students, while six were part-time students and full-time university employees through the Employee Education Program.

Data Collection and Analysis

The study included two phases. First, graduate students participated in either Zoom interviews or open-ended written questions in Qualtrics about their experiences during the transition to COVID-19 emergency remote teaching, learning, and research. The interviews were transcribed, coded, and thematic results were published in a prior study ([Blinded Authors, 2021]). After the interviews, we followed up with participants and invited them to provide (a) a photo and short written description of their work from home location(s) and (b) screen captures of two COVID-19 related memes that resonated with them and

Table 1.

Interview Participant Descriptions and Demographics

Name	Gender	Age	Race	Degree	College	EEP Student
Adam	Female	35	Multiracial	Master's	[Agriculture]	No
Amelia	Female	39	White	Master's	[Agriculture]	Yes
Lillian	Female	33	White	Master's	[Agriculture]	Yes
Michelle	Female	23	White	Master's	[Agriculture]	No
Rebecca	Female	24	H/L	Doctoral	[Agriculture]	No
Sophia	Female	24	White	Master's	[Agriculture]	No
Sage	Female	42	Greek American	Master's	[Business]	No
Muriel	Female	31	Multiracial	Doctoral	[Agriculture]	No
Madeline	Female	26	White	Doctoral	[Agriculture]	No
Isabella	Female	47	White	Doctoral	[Agriculture]	Yes
Lorenzo	Male	25	H/L	Master's	[Agriculture]	No
Evelyn	Female	32	Black or AA	Doctoral	[Education]	Yes
Avery	Female	27	Black or AA	Doctoral	[Liberal Arts]	No
Katie	Female	29	White	Master's	[Agriculture]	No
Brittany	Female	26	White	Doctoral	[Agriculture]	No
Willow	Female	23	Black or AA	Doctoral	[Liberal Arts]	No
Naomi	Female	34	White	Doctoral	[Agriculture]	No
Reagan	Female	23	White	Master's	[Agriculture]	No
David	Male	30	H/L	Doctoral	[Agriculture]	No
Emily	Female	32	White	Master's	[Agriculture]	No
Margret	Female	52	White	Master's	[Agriculture]	Yes
Maria	Female	46	Asian	Doctoral	[Agriculture]	Yes

Note. H/L = Hispanic/ Latino; AA = African American; College acronyms will also be used when un-blinded.

their experiences as well as written descriptions of their perceptions of the provided memes. The writing prompts for participants included: (a) work from home photo - Write a two sentence photo caption that explains the device and location you used, why you worked from that space, and what it felt like teaching/working there. (b) meme(s) - Write a two sentence caption that explains where you saw the meme, what it meant to you, and why it is funny.

We analyzed the photos, memes, and written captions through PEI methods. We operationalized PEI data collection steps (Torre & Murphy, 2015) within the study context to include: (a) research topic identification – COVID-19 WFH experiences and meme humor for coping, (b) participant recruitment – graduate students at a land grant university, (c) images - participants took photos of work from home spaces and screen captures of memes about the topic and submitted them via email or Qualtrics, (d) elicitation - researchers used the photos and memes to elicit participant perceptions and interpretations via written captions, (e) data analysis – coding of photos, memes, and captions, (f) and report findings.

Three of us (Loizzo, Rampold, and Suarez) used the constant comparison method to code the photos, memes, and captions. In the first coding round, each coder separately examined the same two participants' photos with captions and memes with captions. Then, we compared our inductive codes and developed agreed upon code books to deductively code the remaining data (Figure 1). The code books included parent codes, child codes, and a section for noting portions of the written captions that further explained the image codes. For instance, for the WFH photo code books, the parent code of location included child codes of indoors, outdoors, and specific room in the house.

We next divided the data into three evenly and randomly distributed sub-sets and individually coded each data set. We met again to compare deductive codes and

Figure 1.

xample of Work from Home Photo (left) and Meme (right) Coding
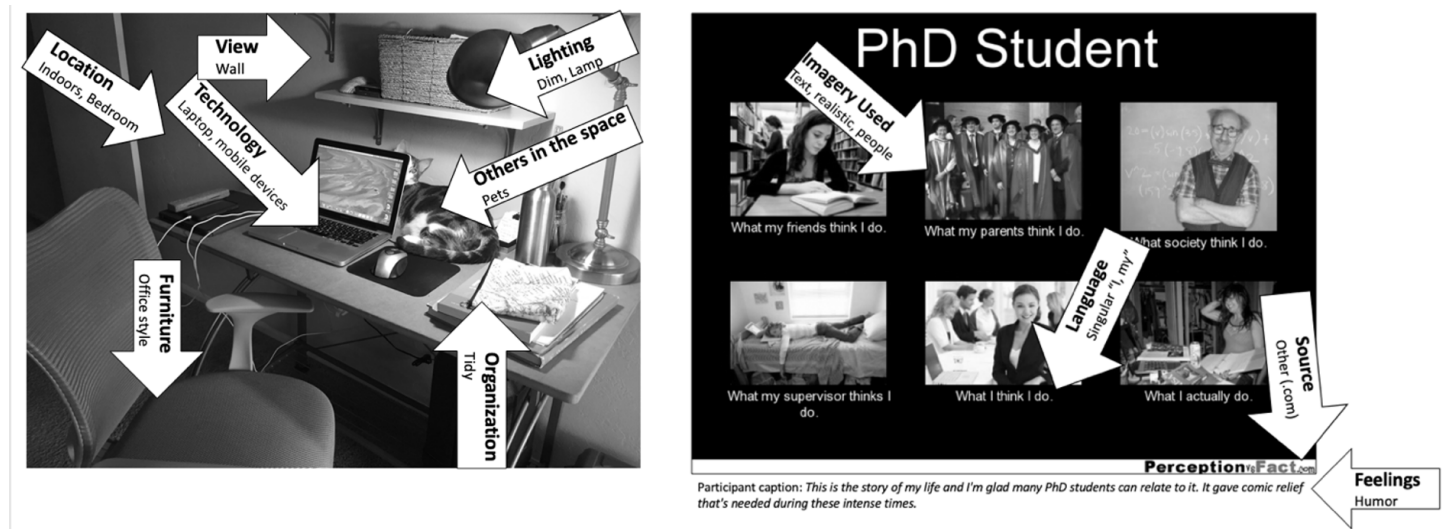
observations. We then combined codes into chunks and chunks into themes. For instance, the parent codes of *location, technology, furniture, organization, functionality of space*, and *size of work area* were combined into theme one about graduate students' varying work from home modifications.

Trustworthiness and Transparency

Trustworthiness in qualitative research is described as the quality of the study and its findings (Schwandt, 2015). Guba and Lincoln (1989) outlined credibility, transferability, dependability, and confirmability as four criteria to establish trustworthiness. We developed credibility through peer debriefing throughout the coding process and confirmability through member-checking (Bloor, 1983). Study participants chose their own pseudonyms, reviewed our results, and confirmed their agreement with the findings. Methods from the study can be transferred through other contexts, as we have provided detailed description of our data analysis process and maintained an audit trail of our procedures for dependability and confirmability (Lincoln & Guba, 1985). We also triangulated multiple data sources, provided thick descriptions of participants' experiences, had multiple coders for multiple investigator triangulation, and included a researcher subjectivity statement for transparency (Denzin, 1989; Geertz, 1973; Seale, 1999).

Researcher Subjectivity

At the time of the study, three members of our research team were tenure-track assistant professors who taught and advised graduate students (Loizzo, Suarez, and Bunch), and one author was a research assistant who worked closely with graduate students at a research center (Rampold). Two members (Beattie and Coleman) were graduate students. All research team members at the time worked at the same land grant university where the research occurred. All authors participated in data collection, and three of us

were directly involved in data analysis. Our personal higher education experiences as former and current graduate students as well as faculty and research roles could have influenced our interpretation of the data and influenced study results.

Limitations

Study limitations included that participants' demographics and backgrounds did not represent the entire university population, and the results cannot be generalized beyond the sample. Additionally, the online format of the study could have impacted participants' comfort levels to converse beyond what they shared in written text due to the impersonal nature of computer mediated communication.

Results

Theme One (RQ1): Graduate Students Made a Variety of Physical and Technological Changes to Their Home Environments to Incorporate Work into Their Personal and Family Lives and Spaces

PEI coding results indicated participants quickly found ways to move their professional lives from their campus-based offices to personal at home spaces. For some, the transition was smooth since they already had home office areas. For others, the transition was more challenging and required reconfiguring rooms and the purchase of various office technology, accessories, and furniture (Figure 2).

Michelle provided the photo on the left in Figure 2 and wrote, "About a week into quarantine, I had to move a desk into my living room because prior to COVID-19, I had no designated workspace back home. I use my laptop for most work and my iPad for reading digital textbooks." Lorenzo had to make significant changes, including securing an internet connection (Figure 2, middle image):
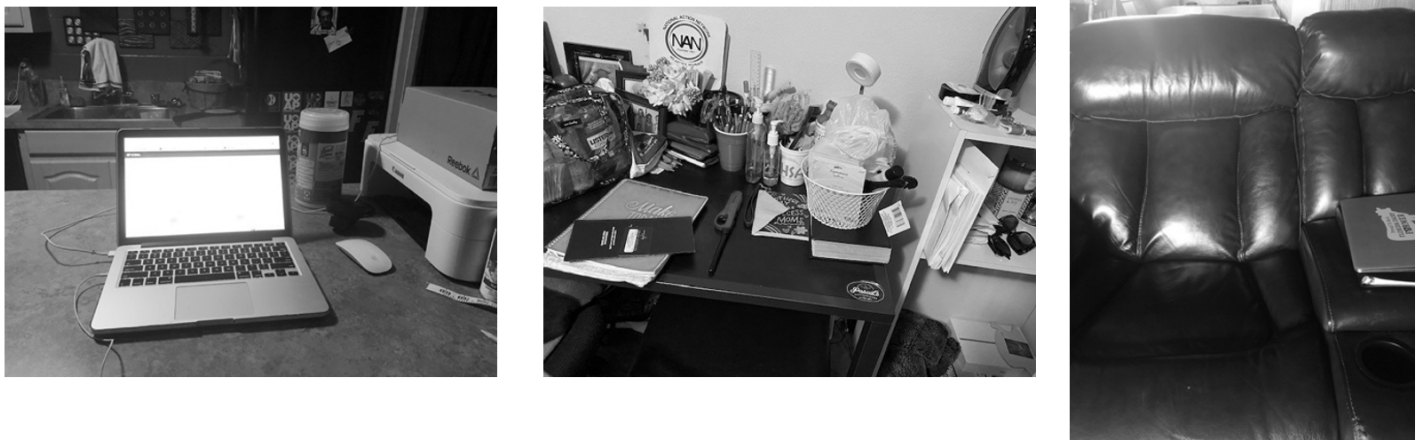
Figure 2.

Three Examples of Designated Home Office Spaces; Michelle (left), Lorenzo (middle), and Naomi (right).

Figure 3.

Three Examples of Workspaces Fit into Home Spaces; Maria (left), Willow (middle), and Brittany (right).

This is my sister's laptop, that I am using for Zoom calls and to complete my assignments. She has a work laptop that she was able to bring home as she also has to work from home now. Before COVID-19, we have not had WiFi at our house for over a year. We didn't want to bring work home. However, we had to quickly scramble and purchase WiFi. I work from my room upstairs in our townhome since I have less calls. My sister works downstairs in the dining table. My room is peaceful, I enjoy working in here.

Naomi also made space and furniture adjustments to maximize productivity at home (Figure 2, right image):

This is my upgraded space after I purchased a desk, chair, whiteboard, additional monitor, desk lights, and monitor stands. Before the room was a guest bedroom, and I had to move the bed and the furniture that was in here. I live with my partner and pets, so I needed to work in a quiet space with a door I could shut for meetings. Some workspaces were very organized with items placed neatly in designated work areas, while some were chaotic and cramped into high traffic areas in the home (Figure 3).

Most participants used laptops and mobile devices for completing their work and school responsibilities. Maria described, "I live in a very tiny (900 square-foot) house. The is no 'office space,' and I work from my kitchen counter (Figure 3, left photo)." Willow explained their photo (Figure 3, middle photo):

I apologize for the clutter of my environment. It's a reflection of my life and our world. I've attached pictures of my MacBook and iPad. I work in three areas: couch, counter tabletop, and desk. I chose these spaces because they bring me comfort and are the only places to study inside of my small apartment.

Brittany similarly worked from a place of comfort and lacked a designated office area (Figure 3, right photo). She said, " Before COVID, this is where I would work after laying

Figure 4.

Three Examples of Designated Home Office Spaces; Michelle (left), Lorenzo (middle), and Naomi (right).
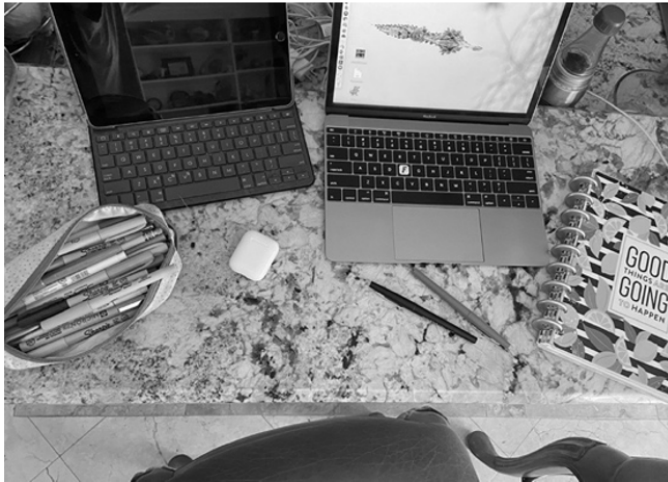
my child down to bed, so I'm used to the space. It gets a little old after a while, but it works. We don't have the space for a home office right now."

Sophia described working indoors and outdoors, depending on various factors (Figure 4). They explained, "I've preferred working outside on the patio, weather permitting, to separate myself from everyone working inside the house (four other people), and I felt the 'background' was nice so when I had Zoom calls, I didn't have to alter it."

Adam (Figure 5) also described seeking balance between focused work in their home setting with breaks to get outside. They said:

> I work here because it's close enough to the rest of the house to be in an active environment but gives me some seclusion. I also love the natural light and large bookshelf behind me. It feels confined after

Figure 5.

Adam's Work from Home Location

a couple of hours, so I often take breaks and walk around the block.

More than half of the participants described challenges of working from home and finding focus due to the chaos of living with partners, grandparents, kids, and roommates who were also at home due to the quarantine.

Sage was living with multiple people in their home and navigating the collision of work and home roles and spaces (Figure 6). They wrote:

> Two photos of workspace places: one (left) shows a desk in a corner that I have been using early in the mornings and late at night to hide from everyone in the household (grandfather, husband, and three kids) to study or conduct Zoom meetings (it has the guitar in the corner). The other photo is of a desk in our bedroom and doubles as the workspace for our children when they're taking their online classes as well as myself, especially during a class weekend.

Muriel similarly discussed working from two locations in their home, in order to monitor their sons as they played (see Figure 7). They explained:

> My laptop has been invaluable because it is portable so I can still work while carrying it around chasing my boys depending on where they play since their movements dictate my work environment. We are outside most of the day so the back porch has been my primary place to work because I can see them and I get some fresh air, but when inside, I'm in the study with the doors wide open so I can see them in the playroom and hear them when they are not in sight.

In addition to sharing space with people, animals appeared in some of the participants' photos. Most of the animals were domestic pets and included cats and dogs. Participants' workspaces also often included personal artifacts such as plants, photos of loved ones and friends, and even items such as instruments and medications. Participants often described their pets and personal artifacts as comforting.

Figure 6.

Sage's Two Work from Home Locations

Figure 7.

Muriel's Two Work from Home Locations

Theme Two (RQ2): Humorous Memes about Shared Experiences Helped Graduate Students Observe Public Dialogue and Cope During Challenging Times

Coding results showed most of the participant shared memes included imagery and text. The memes came from a variety of social media sources including Twitter, Facebook, Instagram, and Pinterest. Most memes included humor related to the pandemic and poking fun at shared COVID-19 experiences and impacts such as social distancing and running out of supplies at grocery stores.

For instance, Michelle shared the memes in Figure 8 and wrote, "I couldn't help but have two memes that are similar in theme and made me literally laugh out loud. They are both from Pinterest, and I enjoyed them because they were creative approaches to a relevant and heavy situation." Michelle's meme on the left referenced the toilet paper shortage at many stores across the country, as people heavily purchased household items and cleaning supplies at the beginning of the pandemic. The Olympics meme on the right humorously spread out the rings in the iconic logo in reference to the Centers for Disease Control's COVID-19 guidelines to maintain six-feet apart to reduce transmission of the virus.
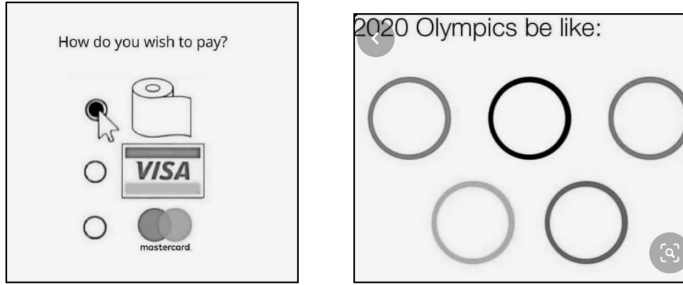
The feelings of being physically isolated at home, yet together online emerged. Madeline shared Figure 9 and wrote:

> I love this meme because it is cat related, and I love all things involving cats. I saw this meme

Figure 8.

Michelle's Humorous Memes

Figure 9.

Muriel's Two Work from Home Locations

Figure 10.

Muriel's Two Work from Home Locations

on Facebook and found it funny because I've experienced a rollercoaster of emotions during this stay-at-home order, and the meme helped me realize others were going through the same experience, and it was totally normal.

Coding also revealed that several of the memes included pop culture references such as popular songs, television shows, movies, and celebrities.

Adam provided the Tweet on the left in Figure 10 that included a song reference and connected it to social distancing. They explained, "A recent doctoral graduate from UF sent it to me. I loved it because that song was from my undergrad years! David shared the middle Spiderman image and described:

I thought it was funny because A. Retro Spidermen. My daughter and I both get a kick out of the old episodes available online, and it reminds me of the ending tease of 'Into the Spiderverse', which is a really great tribute to Spiderman fans. I also like Spiderman. B. It is really hard to know what day it is at home without going to work.

Maria provided the meme to the far right of Figure 10 and simply wrote as their explanation for why the meme resonated with them, "Harry Potter nerd."

Another commonality across participants' memes was that several of the images shared science content and opinions about COVID-19 misinformation and prevention recommendations such as social distancing and handwashing.

Katie described the Figure 11 meme on the left, "My husband posted this on Facebook, and it reminds me of trying to convince family members that COVID-19 is not a 'hoax' or a 'plandemic.' It helps that I found the original video very funny, but it adds some levity to a very frustrating situation." Katie was referring to an online documentary that emerged called in spring 2020 called "Plandemic: Indoctornation" that was accused of spreading COVID-19 conspiracy theories. The middle and right meme are examples of how science-based CDC recommendations were shared in visual and humorous forms. Brittany explained about the middle image, "This meme isn't super humorous to most, but as a dairy scientist I love it and it

Figure 11.

COVID-19 Misinformation and Prevention Meme Examples; Katie (left), Brittany (middle), and Margaret (right).
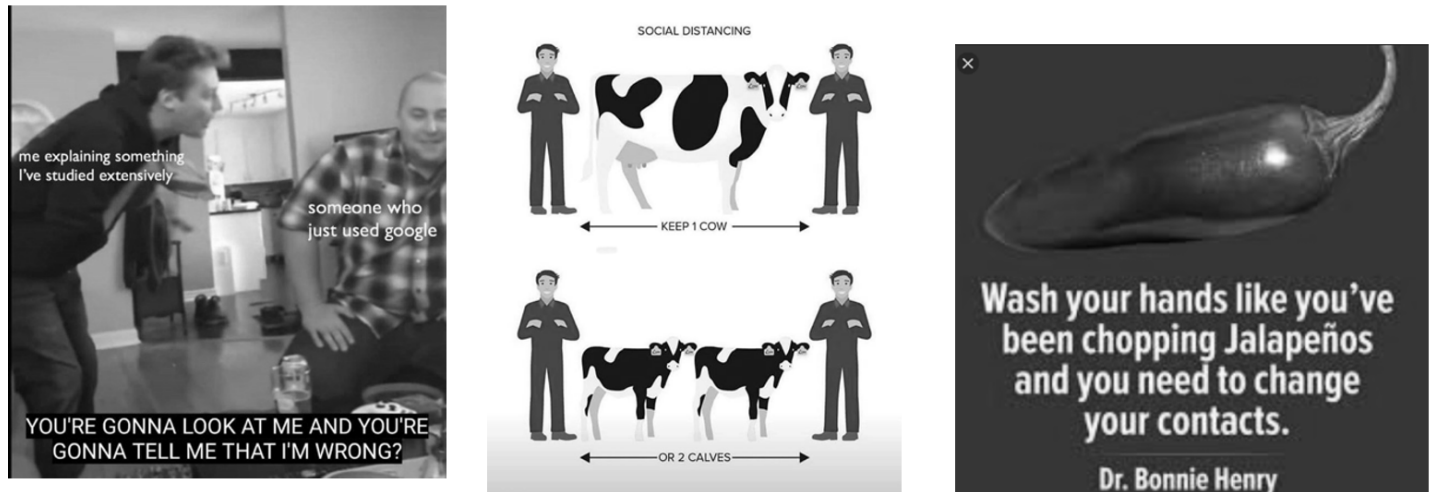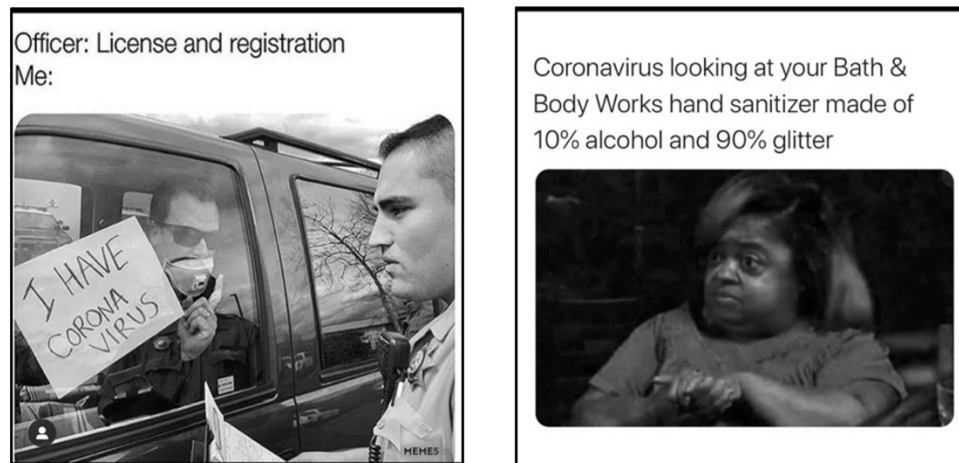

Figure 12.

Lorenzo's Memes About COVID-19 Restrictions and Practices

actually helps me visualize social distancing better! I was proud because my alma mater (University of Wisconsin) shared it, and it became viral." Margret discussed the meme on the right, "I teach proper handwashing as a part of food safety training, and this meme caught my eye on Facebook because it highlights a resurgence in handwashing attention and is something I will be able to use in my programs going forward. I have added this to my presentation."

Some participants provided a mixture of memes that used humor to highlight public misunderstanding and misinformation about COVID-19 restrictions and best practices.

Lorzeno wrote about their two memes in Figure 12, "They are hilarious even today, three months later, still working from home."It appeared that by noticing misinformation and science-sharing memes, participants were able to observe public dialogue about COVID-19.

Theme Three (RQ3): Graduate Students Experienced Mental Health Strain, yet Described Physical Light and Shared Humor as Comforting

From the WFH photo descriptions, some participants shared about feelings of sadness, depression, and isolation. For example, Reagan took a photo of her WFH location at an angle from across the room (Figure 13).

They wrote about their space, "It is very dark in my room (only one window on the opposite side of my desk) which is more depressing than I expected, I feel trapped in my bedroom." Participants who appeared to have cramped and dark work arrangements often associated their environment with negative emotions. Often, participants who had brightly lit WFH environments would discuss more positive feelings. If they did not have suitable lighting, many participants would find ways to improve their moods by either adjusting the lighting or finding ways to get outside. Many of the photos included a mixture of bright indoor overhead lighting, lamps,

Figure 13.

Reagan's Work from Home Location

Figure 15.

Muriel's COVID-19 Parenting Balance Meme

Figure 14.

Reagan's Work from Home Location

Figure 16.

Sage's Meal Preparation Meme

and natural light from windows. Some participants even arranged their WFH locations around lighting and outdoor spaces (Figure 14). Amelia wrote:

> I am an avid gardener and set up this space facing a window that overlooked my garden space. I would take breaks when I needed and go get therapy in the garden for a couple minutes and watching the garden develop, and in general, was very helpful. I also bought the small desk that is right in front of the window after this all started to make my home-work more mobile. It only weighs a couple pounds, and I carry it out to the garden and work out there in the early mornings. Short story, including my outdoor world in my quarantine experience was emotionally supportive.

Participant provided memes also indicated mental health and personal well-being were challenging during the start of the pandemic. Participants who lived at home with partners, roommates, and/or family members also found memes to express the mental and emotional difficulties of navigating a new living situation together.

Muriel was not only working as a graduate assistant, but also as a parent to two sons whose daycare shutdown (Figure 15). Muriel felt the pressures of facilitating her sons' new daily routines and lives and shared a meme that spoke to their experience of the work life balance struggle. Muriel wrote:

> It is so funny to me because the first few days, I had a daily schedule for my two boys that was meticulously planned out, but by the third day of them being home, the schedule was thrown out the window, and the new one was exactly what is said on the right side.

Across participants' experiences, there was a sense that the pandemic stay-at-home transition was novel and almost exciting in the beginning. However, the intensity of repetitive tasks and activities at home appeared to strain participants' personal well-being over time. For instance, Sage's meme featuring Lucille Ball (Figure 16), an actress in the popular 1950s 'I Love Lucy' television sitcom, indicated the redundancy of at-home meal preparation was draining.

Sage described, "Many nights, I was simply exhausted from cooking and baking comfort food in the kitchen for a full household and couldn't bring myself up to read up for my MBA classes."

As life slowed down, some participants described opportunities for spending more time cooking, outdoors in their own backyard connecting with nature, and gardening. Participant shared memes connected humor to the more mundane life happenings during quarantine.

Reagan shared Figure 17 and wrote:

I saw the meme in the Swampy Green Memes Facebook page (the best meme page ever!) and related to it because rather than work on my research, I have been very excited about growing plants and gardening instead as a distraction. It is kind of nice to know other people have the same level of enthusiasm about "the little things" as I do.

Other than pursuing hobbies during quarantine, the participants overall described that their graduate student lives and activities remained mostly the same, as they

Figure 17.

Reagan's Gardening Humor Meme

continued to engage in studying, teaching, and research. Memes with historical imagery and references intertwined with humor emerged to represent the grind of graduate student life during a pandemic.

Sophia provided the meme on the left in Figure 18 and described, "I saw this one on Facebook and thought it was funny because it depicted exactly how I felt -- a sort of 'business as usual' feeling despite everyone I knew (not in grad school) was sharing how bored they were and didn't know what to do. I have had plenty!!" Naomi shared the meme on the right and wrote, "It's funny because living in a digital age, we take for granted that great scientists, inventors, artists, etc. were able to be prolific without the luxuries we have now. In the big scheme of things, we can still be good students, professors, faculty and staff, good thinkers and doers and creators." The shared humanity depicted in memes and sharing of humor with friends, family, and other online support systems seemed to elevate graduate student COVID-19 experiences, increase relationship bonds, and foster positive emotions for improved mental health.

Discussion and Conclusions

It appeared the pandemic forced graduate students to find ways to integrate their professional and academic lives into their personal lives and spaces. In addition to physical home adjustments, participants found their professional, student, and personal worlds collided as several of them navigated the complexities of balancing work with family life, roommates, and other responsibilities in their home environments. Similar studies have confirmed that graduate students faced technological, financial, and health obstacles during COVID-19 (Bal et al., 2020). Additionally, students in previous research described feeling powerless and out of control as their employee, student, and personal roles and responsibilities blended and blurred (Kee, 2020).

Participants identified and shared humorous memes

Figure 18.

Historical Reference Meme Examples; Sophia (left) and Naomi (right)
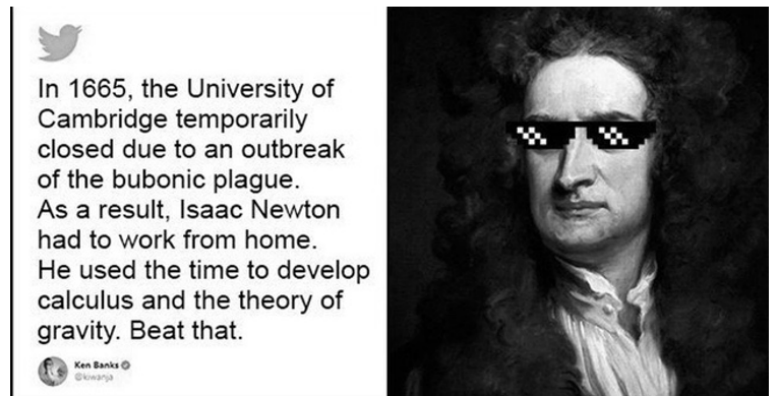
that helped them cope during the tumultuous time. Prior research indicated the public oftentimes creates and shares memes for expressing shared opinions, experiences, and for coping during times of shared events (Cancelas-Ouviña, 2021; Flecha Ortiz et al., 2021). Many of the participant shared memes included references to lived COVID-19 experiences such as stores running out of toilet paper due to public demand or jokes related to social-distancing. Some of the memes referenced pop culture phenomena and applied it to timely COVID-19 happenings such as event cancellations and feelings of monotony during quarantine. Many of the memes poked fun at the mental and emotional challenges of the pandemic, such as carrying on with graduate student work amid the chaos, balancing family schedules, and feelings of isolation, creating a shared humorous interpretation of a common lived experience by employing collective coping (Wagner, 1998; Wagner et al., 2002). Participants described that the humorous memes evoked feelings of happiness, joy, and belonging which helped them feel less isolated and connected to others in similar circumstances. The shared memes also showed that several participants generally supported scientist recommended COVID-19 precautions and felt frustration with conspiracy theories and lack of public science-based knowledge. Hence, some of the memes were representative of the public debate about trust in COVID-19 public health scientists and guidelines for social distancing (Agley, 2020; Eichengreen, 2021; Kreps & Kriner, 2020). The participants' educational backgrounds and roles as graduate students in STEM and social science majors and their work alongside scientists may have influenced their selection of COVID-19 memes and perceptions that the public should trust scientists and make science-informed decisions.

Participants described how the pandemic negatively impacted their mental health. They reported some of their feelings included overwhelm, sadness, burnout, frustration, chaos, and isolation. To cope, they searched for ways to address their stress through adjusting their WFH locations and environments. Physical light and time outdoors proved

to be two major coping mechanisms graduate students identified for improving their mental states. Mental health research has indicted that taking time for self-care such as physical activity and mindfulness or making changes to a physical environment during stressful times can reduce stress, prevent burnout, and improve an individual's overall mood (Berman et al., 2012; Myers et al., 2012; Partonen & Lönnqvist, 2000). While the graduate students described times of communicating with family members and friends and participating in social media, they also discussed feelings of isolation due to their unique experiences, quarantine, and stresses of serving in multiple roles. In a related previous study, the graduate students shared in interviews that they felt supported by their university, departments, and advisors (Beattie et al., 2021). However, in their work from home photo captions, they did not directly discuss these supports, and their images were often of workstations in secluded spaces, and their only interactions with school and work were online.

Recommendations

Our recommendations based on the results of this study are for universities and faculty to recognize and honor graduate students' unique positions, during normal operations as well as crises such as global pandemics. Administrators and faculty should be trained to understand and acknowledge the intersectionality of graduate students' identities, including their backgrounds, cultures, living environments, opportunities, and constraints for productive mentorship, advising, and advocacy. Understanding their backgrounds could help in making WFH arrangements and policies that are customizable to graduate students' individualized circumstances to support their mental health to balance work and wellness. When a crisis emerges, administrators, faculty, and advisors should survey graduate students about their WFH technology and office supply needs. Colleges and departments should consider providing graduate students wireless internet hotspots and

mobile technologies so they can work on and off campus and to reduce personal costs to them for conducting their teaching and research assistant duties. Universities should establish and facilitate emergency funds to supply needed mobile internet hotspots, computers, and other needed technology for graduate students to successfully complete their work at home. Participants valued and praised faculty for their support during the pandemic. Faculty working with graduate teaching assistants should be flexible and allow time for students to adjust to the crisis, organize their work schedules, student responsibilities, and roles and demands in juggling their home life.

Amidst a crisis, universities should be prepared to support graduate students' mental health through a variety of means. Many graduate students are also parents or caregivers to their grandparents or siblings and face additional stresses to care for their families while working from home. Universities should consider ways to provide child and family care either through financial means or in-home caregiving services to alleviate the strain created when work and home responsibilities collide. Some of the participants had small children and grandparents to care for in their homes, in addition to managing their assistantships. Due to daycare services closing during the pandemic, alternative healthy and potentially in-home childcare support was needed for participants to have undisrupted, dedicated WFH hours.

Participants expressed that they were grateful for their university, department, and faculty advisor's communication frequency during the COVID-19 stay-at-home time period. It is recommended that university administration and faculty advisors continue to consistently communicate information about the pandemic via email, web, and text messages for graduate students to maintain a feeling a community with their institution. Faculty mentors should be available to graduate students asynchronously and synchronously via a variety of communication channels.

Finally, regarding mental health, graduate students should consider adjusting their WFH spaces to include high-speed internet, laptops for moving to alternate locations, and lots of natural light. They should also establish a routine schedule with boundaries between work and personal hours and include breaks to go outdoors and possibly include meditation practices in their day (Scorsolini-Comin et al., 2021). Universities should provide counseling services and resources for graduate students. However, administrators and counselors should consider moving beyond simply sharing links to mental health information and limited appointment times to around-the-clock opportunities for graduate students to access tele-counseling services and sessions especially during times of global crises. Further research is needed to examine administrators' and faculty members' experiences supporting graduate students during the pandemic and for university administration and graduate students to develop a shared plan for future pandemic WFH and mental health assistance and policies.

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