DOCTORAL WRITERS' RESILIENCY IN THE COVID-19 PANDEMIC

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ABSTRACT

Aim/Purpose	The COVID-19 pandemic and subsequent lockdown required doctoral writers to demonstrate resiliency to continue their culminating projects. This study examines the socioecological factors that fostered that resiliency.
Background	Resiliency is a key factor in determining whether doctoral writers continue with their culminating projects. Thus far, studies on doctoral student experiences during the pandemic have yet to investigate doctoral students' adaptive strategies to continue with their projects.
Methodology	The qualitative study uses in-depth interviews to document the narrative journeys of four research participants pre-pandemic and in-pandemic. Those narratives are analyzed using an infectious disease resilience framework as a metaphor to highlight the resilience within each participant's writing ecology.
Contribution	The study seeks to reframe the approach to doctoral writing beyond the individual student toward a broader ecological system to better serve those students and the knowledge produced, regardless of a disruptive crisis.
Findings	The disruptions that the four participants experienced are documented through their narratives. The participants described their coping strategies related to their workspace, technology, loss of connection, and their breaking point.
Recommendations for Practitioners	The resilience shown by the four participants demonstrates areas where institutions can provide assistance to alleviate the pressures placed on doctoral writers.

	Reframing the dissertation writing process as a socioecological system rather than a cognitive one allows for solutions to problems that are not limited to individual writers.
Recommendations for Researchers	Extending the socioecological systems metaphor, further research should investigate other stakeholders in a writer's ecology to obtain different perspectives on a particular system.
Impact on Society	The pandemic has presented an opportunity for educational institutions to reassess how they can cultivate students' resilience to positively impact their socioecological balance.
Future Research	It would be worthwhile to document the post-pandemic experiences of doctoral writers to find out how they seek balance in their ecology as they continue to deal with the post-pandemic fallout.
Keywords	doctoral writing, resilience, COVID-19 pandemic, writing ecology/ies

INTRODUCTION

A written culminating project in the form of a thesis or dissertation is a ubiquitous aspect of a doctoral program. The complex rhetorical demands on such an exercise stem from the university, department, committee, and disciplinary field. Student writers often experience disruptions to their personal writing ecologies (Vacek et al., 2021). The COVID-19 pandemic caused major disruptions, including to doctoral students who were in the process of proposing, conducting, or writing their doctoral thesis, dissertation, or other culminating projects. As Donohue et al. (2021) have described, the process of writing a culminating project is an extremely important part of the doctoral program learning experience with varied levels of support from institutions and one that suffered mightily due to the pandemic and the global lockdown of 2020. The current research study used in-depth interviews to gather data on the experiences of four doctoral students to discover how their individual writing ecologies were impacted by the pandemic. Those writing ecologies encompass the school-work-life balance (Vacek et al., 2021) based on Cooper's (1986) idea "that writing is an activity through which a person is continually engaged with a variety of socially constituted systems" (p. 267). This study builds on recent research that surveyed doctoral students to examine the ways in which the disruption was affecting their culminating projects and how those students were responding (Donohue et al., 2021). Those findings indicate students were greatly impacted in five categories: research design, access to resources, workload, mental health, and finances. A need was identified for further research into the pandemic's impact on individual students' research and writing practices and the strategies they employed to adapt to the extraordinary circumstances of the pandemic and seek ecological rebalancing.

This study builds on that research to address the ways that doctoral education needs to move forward in fulfilling its mission to prepare knowledge producers through their culminating project experience. The disruption of the pandemic exacerbated underlying issues within doctoral education and the ways that institutions support doctoral writers. A greater need was created as doctoral students had to find ways to adapt and regain the already fragile balance of their personal school-work-life ecologies in order to continue making progress on the culminating project. A study of those experiences through the lens of infectious disease ecology led us to ask the research questions: How were these doctoral students' writing ecologies affected by the COVID-19 pandemic? What strategies (if any) did the study's participants adopt to continue making progress on their dissertation?

LITERATURE REVIEW

DOCTORAL STUDENTS' COVID-19 EXPERIENCES

Scores of articles have been published on doctoral student experiences during the pandemic. Many fall into the following categories: those on individual students' experiences (Brinkert et al., 2020; Jiang, 2020; Khan, 2020), those on the experiences of one specific group of students in a specific field and/or location (Bick et al., 2021; Börgeson et al., 2021), those focused on one particular impact (Haas et al., 2020; Johnson et al., 2020), those that surveyed a broader group of students (Cahusac de Caux, 2021), and those focused on some form of improved support (Corbera et al., 2020; Mullen, 2020; Stewart et al., 2021). This sample of literature points to ways institutions could have better supported doctoral students, and nearly all of these articles corroborate the findings of Donohue et al. (2021), that the pandemic impeded academic progress by negatively impacting doctoral students' progress in the five major categories mentioned above. However, much of this literature fails to address personal contributing factors enabling the students who were resilient to first cope and then adapt.

The literature focusing on individual experiences holds the most potential for discussing resiliency. However, though institutional factors are noted as eventually helping students cope, no self-adaptive strategies were developed by the students who were the focus of each article. Brinkert et al. (2020) or list the various struggles students face and suggestions for how institutions should help. Through diary entries, Jiang (2020) documents her struggle to complete the comprehensive exam at the height of the lockdowns. She shares her anxiety, guilt, and fear related to COVID-19 and the origins of the virus, as well as being an inadequate wife and mother while she wrote. Jiang does not present writing the journal entries as a coping strategy and does not describe any improvement in her mental health due to journaling. Her negative feelings continued until she and her support network began meeting online, after which she felt less isolated and anxious. Khan (2020) likewise does not describe any other way she coped with the disruptions other than to dig deeper into her research topic (ironically on teacher resilience), despite the uncertainty about her fieldwork timeframe for her study. Her intensified research created further imbalance since she had lost her usual coping strategies to the pandemic – going to church, for instance.

Other types of doctoral students' pandemic experiences focus on institutional factors. Börgeson et al. (2021) surveyed students in biomedical and medical PhD programs at eight major universities in Sweden about positive or negative support strategies their institutions provided during the pandemic, concluding that more frequent support on a variety of platforms, supervisor's emotional support, and extended deadlines benefitted students most. Bick et al. (2021) conducted multiple interviews with 22 London School of Economics PhD candidates from 11 different departments, listing action items such as "targeted communication and proactive engagement," "accessible information," "accessible mental health support," ways to "combat intellectual isolation," and "reallocation of funds," among others.

Studies focusing on doctoral students' COVID-19 experiences have documented the negative impact of pandemic disruptions, compounding the extant challenges faced by doctoral students under non-pandemic times such as stress (Barry et al., 2018), funding (Fernandez et al., 2019), and relationship management (McAlpine, 2017). These studies also note some strategies institutions could adopt to foster coping and resiliency. However, there is not yet a study that looks at the pandemic's impact on a doctoral writer's ecology or the strategies that doctoral writers adopted in order to continue making progress on their culminating project, leaving a research gap on the strategies individual students have developed for coping and adapting during extreme disruptions to their lives and doctoral projects.

DOCTORAL STUDENTS' COPING STRATEGIES AND RESILIENCE

Studies have shown that doctoral students utilize various coping strategies to overcome the complex and multi-faceted challenges they face during the normal course of their doctoral studies. These challenges were exacerbated by the COVID-19 pandemic, as Sideropoulos et al. (2021) showed that the 155 doctoral students they surveyed had depression symptoms. From personal recall accounts (Lau, 2019) to collective case studies (Byers et al., 2014) to surveys (González-Ocampo & Castelló, 2019), scholars have used different methodologies to identify doctoral students' coping strategies and how they eventually achieved resilience. These strategies have been categorized in different ways. For example, Spaulding and Rockinson-Szapkiw (2012) described these strategies as personal, social, and institutional factors while Sverdlik et al. (2018) classified them as external and internal factors. Some of these personal or internal factors included finding ways to stay motivated (Sverdlik et al., 2018) and maintaining a certain pace with their work while the external or institutional factors involved available departmental activities that helped students achieve their goals (Spaulding & Rockinson-Szapkiw, 2012). Social or interpersonal factors included establishing support groups with their cohorts or leaning on friends and family (Byers et al., 2014) and managing their relationship with their dissertation advisors (González-Ocampo & Castelló, 2019). Interestingly, McCray and Joseph-Richard (2020) determined that the key to achieving resilience among eleven doctoral students in the United Kingdom was the "establishment of a clear but complex inter-relationship between the personal, family, social and academic relationships" (p. 693). This "inter-relationship" is worthy of more investigation when it comes to the dissertation writing process. Specific to this process, however, less information is available on doctoral writers' coping strategies. Devos et al. (2017) found that dissertation writers relied much more on advisor support than on peer support and suggested that a wholesale review of the dissertation process should focus on the doctoral writers' "social working environment" (p. 72). The findings of McCray and Joseph-Richard (2020) and Devos et al. (2017) point researchers in the direction of investigating coping strategies and resilience that take into account simultaneous, multiple, and interdependent factors.

DOCTORAL DISSERTATION WRITING

In non-pandemic years, dissertation writing is still a challenge. According to the National Center for Science and Engineering Statistics (2019), which publishes an annual report on earned doctorates from accredited universities in the United States, the median time toward completion is 5.8 years across a broad spectrum of academic disciplines. Some of that time is taken up by dissertation writing, and studies have shown that many doctoral students experience challenges during this culmination stage. Scholars researching doctoral student dissertation writing experiences have attributed these difficulties to individual and institutional factors (Burns & Gillespie, 2018; Locke & Boyle, 2016). Concepts relevant to the individual include the ability to engage in self-directed learning (Ciampa & Wolfe, 2019), pre-existing commitments and psychological blocks that can prevent doctoral students from completing their dissertation (O'Connor, 2017), doctoral students' ability to handle supervisor feedback (Odena & Burgess, 2017), and the regulation of their writing process (Locke & Boyle, 2016; Sala-Bubaré et al., 2021). At an interpersonal or social level, doctoral writers are concerned with the appropriate scaffolding and mentoring provided by their supervisors (Locke & Boyle, 2016), peer cohort support during the dissertation writing process (Ciampa & Wolfe, 2019), family responsibilities (Burns & Gillespie, 2018), and concurrent employment commitments (Vacek et al., 2021). Institutionally, doctoral writers face challenges related to the inadequate teaching of research and writing skills (Ciampa & Wolfe, 2019), funding deficiencies (Skopek et al., 2020), and delays that result from working with overloaded supervisors or supervisor sabbatical or retirement (Spaulding & Rockinson-Szapkiw, 2012). It is not uncommon for doctoral writers to be met with one or more of these obstacles during their culmination stage, and if they succeed in completing their dissertation, it is likely that the doctoral student has found some way to overcome these challenges.

Doctoral students writing their dissertation must balance their multiple commitments to succeed. The seven doctoral writers in the study conducted by Burns and Gillespie (2018) mentioned a loss of connectedness to their projects and their program because they had to prioritize other, more important, aspects of their lives: their families and their work. Similarly, Vacek et al. (2021) found that doctoral writers had to find ways to balance their school-work-life to complete their dissertation. One of those mechanisms helping doctoral writers was writing groups, and some participants in Vacek et al.'s study credited the writing group for helping them reach the finish line. Other doctoral writers actively sought out help from their university's writing center and their advisors for additional mentoring and assistance, as the participants in Ciampa and Wolfe's (2019) study showed. Some universities offered a "dissertation boot camp" as a credit-bearing course to assist doctoral students with their dissertation writing, and Locke and Boyle (2016) concluded that the participants in this boot camp appreciated the time, space, instruction, and the resultant camaraderie created among the participants, all of which helped motivate the participants to continue with their writing. Despite the ability of many doctoral writers to complete their culmination projects, dissertation writing remains an enigmatic and often confusing process, further complicated by the doctoral students' school-work-life balance.

ECOLOGICAL FRAMEWORK FOR DISSERTATION WRITING

By considering dissertation experiences through an ecological metaphor (Vacek et al., 2021), a deeper understanding is gained regarding how doctoral students seek to balance school, work, and life. Specifically, different realms of doctoral students' lives – within the ecological metaphor, Vacek et al. call these realms symbiotic clusters, citing Fleckenstein et al. (2008) – both disrupt and contribute to each other. When the COVID-19 pandemic hit, academic writers' ecologies suddenly changed. Following the ecological metaphor, ideas from infectious disease ecology provide apt metaphors for academic writers' experiences during this sudden change. Of particular note, biologists Chapin et al. (2008) discuss disease-induced changes in state to socioecological systems. They argue that resilience theory is the appropriate lens to understand how socioecological systems respond to disruptions, either weathering the storm or being fundamentally altered:

> Resilience is the capacity of a system to absorb shocks such as disease outbreaks without changing its fundamental properties, for example its social norms, its typical economy, and the types of species it supports (e.g., grain crops or forests). These fundamental properties typically change slowly, but, when modified, they alter the nature of the system (Carpenter and Turner 2000; Chapin et al. 1996)). Sustaining these slow variables reduces the likelihood that disease or other major perturbations will have irreversible consequences. (Chapin et al., 2008, p. 292)

Reading this description leads to the question, what are the "fundamental properties" or "slow variables" in a writer's ecology? What does absorbing the shock of a disease outbreak look like for a doctoral writer? Knowing how stressful the doctoral experience is for most students (Barry et al., 2018; van Rooij et al., 2021), we are struck by this statement: "Disease interacts with other stresses and disturbances. Systems that are already stressed are more vulnerable to disease-induced state changes" (Chapin et al., 2008, p. 293). Will looking closely at doctoral student writers' experiences during the pandemic show how vulnerable or resilient their writing ecologies are? Furthermore, will understanding how COVID-19 has impacted student researcher's ecologies help better prepare future students for unforeseen yet significantly impactful events? We believe so; the argument that ecologists can better humanity's reaction to new diseases (Keesing et al., 2008) may be applied metaphorically here.

METHODS

RESEARCH DESIGN OVERVIEW

This qualitative study explored the experiences of four doctoral students who were working on their dissertations during the COVID-19 pandemic. We conducted individual, in-depth interviews with each of the students. First, we needed to understand their individual stories. We used a narrative analysis approach (Josselson & Hammack, 2021) to explore how individual research and writing processes were disrupted (or not) by pandemic-induced changes and how the students adapted their processes (or not) in response. We then looked across the four narratives for points of divergence and convergence in their experiences. The interpretive, constructionist epistemology of narrative analysis highlights individual experiences and does not aim to generalize to populations (Josselson & Hammack, 2021).

RESEARCHER DESCRIPTION

We are PhD-holding scholars with a shared academic background in English composition and applied linguistics, which means we have expertise in first- and second-language academic literacy in English. We also bring diverse perspectives to our research – and value the inclusion of diverse voices – as a result of our lived experiences and sociocultural identity characteristics. Alice is an Asian American woman teaching at a university in East Asia with a background in Ethnic Studies and English language teaching. Shelah is an African American woman who teaches graduate classes and directs a writing center at a university in the east-central United States. William is a White male and father of two young children; he is chair of an English department at a university in the mid-Atlantic region of the United States. Kathleen is a White woman and mother of young children living in the north-central United States; she works as an independent consultant supporting graduate students and faculty with academic writing.

PARTICIPANTS

The four participants were doctoral students from four different institutions in the USA. They experienced a variety of pandemic-related changes to their dissertation research and writing processes. Roger, a father of five with a full-time position in a school, was pursuing a doctorate in educational leadership and described the challenges of making dissertation progress while caring for his family; he identifies as a White man. Kyle was pursuing a PhD in statistics and described primarily benefiting from changes brought about by the pandemic; he identifies as a man and a person of color. Sherry, a PhD candidate in nutritional science, described significant changes to her data collection plans; she identifies as a Black woman. Emily was pursuing a doctorate in engineering education and primarily experienced mental health challenges related to her dissertation process concurrent with the pandemic; she identifies as a White woman.

RESEARCHER-PARTICIPANT RELATIONSHIPS

The four researchers and four participants were all affiliated with different institutions and had no prior professional or personal relationships. Shared identification as academics helped researchers establish rapport with the participants during the interviews.

PARTICIPANT RECRUITMENT

Participants volunteered for an interview when they completed a survey about the impacts, challenges, and benefits of the pandemic for doctoral students working on their dissertations or theses. The survey invitation was distributed through email and social media accounts of a nonprofit organization, the National Association of Graduate-Professional Students, and a business, The Dissertation

Coach. The survey was conducted in August-September 2020, and 235 doctoral students completed the survey. Of these, 116 volunteered for an interview.

We needed to identify a small group of interview participants who could illuminate our research questions through an in-depth analysis of each individual. A small number of participants fits with the purpose of narrative research, which is to highlight individual experiences, thus making a conceptual contribution to scholarship (Josselson & Hammack, 2021). We thus looked through the survey responses for potential interviewees who could speak about a variety of disruptions and how they responded to those disruptions. Secondarily, because gender, race, and academic discipline are salient factors that can impact doctoral experiences (Crumb, 2022; Lim et al., 2019; Scott & Johnson, 2021), we also noted potential interviewees' gender, race, and academic discipline with the goal of including participants of different genders, races, and disciplines. In other words, we purposefully chose participants from the volunteers based on their survey responses: first, we identified individuals who could speak about a variety of pandemic impacts on their dissertation progress (our conceptual question), and second, we aimed for diversity in terms of gender, race, and discipline. This secondary criterion of diversity is accepted in narrative analysis (Josselson & Hammack, 2021, p. 19). In forming our participant group, we did not intend to draw conclusions about any groups of doctoral students but rather aimed to be inclusive in choosing our participants and cognizant of how race, gender, and discipline might come up in their individual narratives.

We emailed a targeted list of potential interviewees and, ultimately, completed the informed consent process with our four participants. After interviewing these four participants, we felt we had "enough people to have something interesting to say" (Josselson & Hammack, 2021, p. 21) about our questions.

DATA COLLECTION AND TRANSFORMATION

Interviews were conducted in January and February 2021. Each researcher interviewed one participant: Kathleen interviewed Roger, Alice interviewed Kyle, Shelah interviewed Sherry, and William interviewed Emily. The in-depth, semi-structured interviews lasting 60-90 minutes were conducted in English via Zoom. The interview protocol (see Appendix) covered the students' dissertation story, follow up on their responses to the survey questions about pandemic challenges and benefits, coping strategies in response to pandemic-induced changes, and how the students' sought balance among various parts of their lives (e.g., work, family, self-care).

Initial transcripts were generated using the Zoom software application. Each researcher then edited the transcript of their interview. Next, each researcher condensed their transcript by removing extraneous or tangential comments unrelated to the research questions.

ANALYSIS

With the transcript condensed, each researcher transformed the transcript into a narrative. The narrative analytic strategy used was based on methodological leanings toward narratives as a representational device and as an entity found within the research material (i.e., a succession of events) (Robert & Shenhav, 2014). As a way of a process example for all four researchers, Kathleen noted that for her interviewee, Roger, three time periods were salient to his dissertation story: before the pandemic, "quarantine," and return to work (for Roger, this was when the K-12 school he worked at reopened for face-to-face instruction in August 2020). Kathleen cut and pasted interview transcript segments to order them chronologically following the time periods Roger identified. She then drafted the narrative to relate Roger's experiences in a story form. Transforming the interview transcripts into chronological narratives gave us an organized way to produce meaning about the writers' ecologies before the pandemic, initial pandemic disruptions, and the ecological responses to those disruptions.

After composing the narrative, which itself served as an analytic strategy, each researcher sent the narrative to the participant for corrections and updates. After the participant check, all four researchers reviewed the narratives for patterns of both similarity and divergence, as well as for elements of the infectious disease ecology resilience framework (Chapin et al., 2008) guiding our research questions. Through rounds of individual reading of the narratives and collaborative discussion, we charted events or elements of each writer's narrative which answered our research questions. As themes emerged, we synthesized the insights arising from both analytic strategies to construct the findings section below.

FINDINGS

To answer our research question of how the four doctoral writers' ecologies were affected by the pandemic, we first present what their ecologies were like before the pandemic followed by the disruptions these writers experienced. Next, we describe the strategies these writers adopted to continue making progress on their culminating projects, which is the focus of our second research question.

PRE-PANDEMIC ECOLOGIES

Sherry is a Black female who was working on her PhD in Nutritional Sciences at an R1 university while also a research intern in the lab. Prior to the pandemic, Sherry was working daily on location while also writing her dissertation proposal: "I like to be in the lab getting work done, and I find that the most productive way for me to work." In March 2020, Sherry was at the point of recruiting Black women participants for in-person focus groups and nutritional intervention sessions: "I had talked with my personal church leaders, so that conversation had already been had." Before the pandemic, Sherry felt she was successfully balancing her internship, lab work, dissertation, wellbeing, and relationships with family and friends: "For the last few years, I [had] really grounded myself."

Kyle describes himself as a male person of color pursuing a PhD in math and statistics at a California public university with a very high research activity. Kyle noted a few pre-pandemic disturbances to his dissertation writing ecology: He "went through three advisors," which slowed his progress and he "fell behind" with the examination schedule, leaving less time for his research proposal. Kyle played Ultimate Frisbee semi-professionally and spent his down time training. He also tutored undergraduate students in math and statistics. Before the pandemic hit, he was balancing his doctoral studies with his sport, friends, home, and partner. Speaking of frisbee, workouts, campus events, and lunch with colleagues, Kyle noted, "And all of that got shut down," leaving him shut inside with his dissertation.

Roger is a White man studying educational leadership at a public institution in the United States. He continued working as a classroom teacher while completing his doctoral program coursework. Roger experienced several life-changing events during the coursework phase: the birth of a child, a divorce, a new marriage, and a job change. For two years Roger tried to find balance among his work, dissertation, and family responsibilities, often struggling to find "three- or four-hour chunks" of time when he could be alone and work on his proposal. He saw a fellow cohort member achieve balance and strove to emulate him: "I saw him take it slow, be deliberate, but also I'd see him going out with his family. I'd see him realizing that not every Saturday is a workday. And so that's what I'm trying to do." Roger defended his dissertation proposal in early March 2020.

Emily is a White woman who was in an engineering education program in the spring 2020 semester. She had previously left a different PhD program, having had "a really ugly divorce" with her original advisor. In her second attempt at a doctoral program, Emily continued to have difficulties matching with an advisor, but ultimately found someone with whom she "clicked." With her new advisor, her interview data collected, and mixed-method analysis complete, Emily should have been in the home stretch of writing the dissertation in the spring of 2020, but teaching and wedding planning also vied for her time, leading to "procrastination" with her writing: "I'm a terrible and horrible procrastinator.

So when COVID struck, I probably should have been three chapters in, but I was one chapter in due to my terrible procrastination."

PANDEMIC DISRUPTIONS

The disruptions faced by our four doctoral writers included a sudden change to their available work-space, with all four limited to working from home. The impact of this varied from writer to writer. Since Sherry lived alone, she was not distracted by other people, but often found herself procrastinating on her writing to tend to household tasks that would have otherwise been a non-issue when writing at the lab. Sherry explained, "Initially, we couldn't go on campus, and that really rocked my world. It's just a different type of environment. And so I really struggled this whole pandemic with being as productive as I usually am."

Roger was at home with his wife and five school-aged children; initially, the seven family members had just two devices to share among them. With the kids using Roger's computer and home office space throughout the day, writing became even more difficult: "Once it became everyone's home all day every day, that kind of breached that sacred space that I had. They were using that computer throughout the day." Roger's progress slowed to a trickle.

In contrast, Kyle's productivity "skyrocketed" in the first four months after the pandemic hit, in part because all of his campus and athletic activities were shut down, and in part because his home was only "500 square feet.". Kyle channeled all of his energy into his dissertation work: "I was about six feet away from my computer, so it was just easier to just sit here and work for an hour. An hour became the rest of the day and late into the night." But after four months of working intensely at home, Kyle, who "started getting eye pains and sore eyes from always being inside and always looking at [his] computer.," began having more unproductive days, and spent more time tutoring: "I tutored way more than I should have for sure."

Emily's most salient disruption differed; while she, too, was working from home, the additional work-load of moving her teaching online combined with organizing alternative pandemic plans for her June wedding meant that she could not work on her dissertation: "When COVID hits, I'm pretty stressed and overwhelmed with my course responsibilities and having a tough enough time as it is trying to get myself motivated to engage in the dissertation." She postponed her planned graduation date From May until August to have more time to complete the project: "I had to take a pause on the dissertation. There are so many things that are unplanned and unexpected that you just accept that August is what it is."

COPING STRATEGIES

For workspace issues, our participants adopted different strategies. Depending on their living situation, they found ways to carve out a workspace that allowed them to continue working on their projects. Emily was essentially confined to home – she made the best of that situation by establishing a place for her cat, taking mini-breaks on her porch, and writing while logged in to a virtual writing group. Sherry was also confined to home, alone in a one-bedroom apartment, and missed her lab but made her own workspace that best suited her: "I have a desk, but I don't use it. I'm usually on the couch on my laptop or I'll sit here at the [kitchen] table and do work." Kyle had to compete for space with his partner because they were in a one-bedroom apartment: "When she's here, it can be hard to work. We're competing for space; we're trying to spend time with each other and also set boundaries." Then Kyle changed his daily routine so that he could be working when his partner was not in the apartment: "Now I get up at five in the morning at six in the morning, every day and I have silence. I know there's not gonna be anyone outside or making noise. I get a couple of hours of uninterrupted work." Roger initially had no workspace or any writing devices, but as he and his children returned to school, he had more options, especially since he changed jobs from classroom teacher to

administrator: "It's given me a lot of time to work on it, being outside of the classroom. So I get a little bit more unscheduled downtime."

Our participants found ways of using technology to replace what they could not access during the pandemic. For example, the use of video conferencing technology allowed our participants to continue meeting with their advisors during the pandemic though that was less than ideal as Roger noted: "All face to face meetings with my dissertation chair stopped. We still emailed and texted back and forth. Did zoom calls, but it's not the same. Especially when you switch midstream." Additionally, Roger and Sherry switched to collecting their data online instead of in person. Sherry noted, "One of the silver linings was that I was able to reach more women, so many of the women that were in my study weren't even from the local area." Roger similarly noted, "it's a little bit hopeful that more people are willing to do a zoom interview now than welcoming a stranger into their school to interview a principal." Kyle replaced his casual chats in the office by being in a group text with his cohort, though he found this method less helpful than in-person: "To share code is very, very difficult.; even just asking the questions or trying to explain answers over email or over text or a zoom call is much harder."

Our participants experienced a loss of connection to the outside world, and they found ways to maintain some type of a bond with nature or with other people. Sherry not only continued doing exercises outdoors when her gym closed but also met with her writing group online. She recalled, "I loved to go [to local walking trails] sometimes and reflect and free my mind because a lot of things started coming out in the news about mental health." She also said of her writing group's help with coping, "It's just a time for us to be able to come together and vent. New students can get advice, and we can come together and talk research. I think that was even more important as we were going through this process during the pandemic." Kyle used his physical therapy as exercise and tutored students online, which provided another way to connect with other human beings during isolation: "I go to physical therapy, which is about the only time that I leave and go somewhere where there are other people because I've had some back issues." Kyle also reestablished connections with his brothers during the pandemic. "I haven't lived with them or spent much time with them in the last nine years, so I started paying for an online video game service, convinced one of my brothers to join as the other one already had it," Kyle recalled. "Now every couple of weeks we'll sit down and play video games for a couple of hours together. It helps a little bit to just unwind and have a little fun, a little relaxed time with my brothers." Emily leaned heavily on her partner, who supported her by leaving her alone to write and cooked food when she needed it. "My husband was an amazing support. He would leave little post-it notes saying 'I love you.' 'You're doing great," Emily shared. I reported to him every day about how much I got done, and he would celebrate the wins and let me cry out the losses on days that I was less than productive. He was my champion." Further, she had writing accountability buddies who would be on Zoom with her doing their own thing and supplying an outlet for venting.

Lastly, our participants shared their last line of defense, an invisible boundary they were not willing to cross no matter how difficult the situation became during the pandemic. For instance, Kyle made sure he slept and ate healthy food when it seemed like nothing else was in his control. "One big goal I made when I started grad school is that I wouldn't sacrifice sleep consistently. I know that I function much better when I get eight to nine hours of sleep," Kyle noted. "And so with this, I try to turn it off half an hour before bed – just read a book or play video games or watch TV or spend a little time with my partner." Although Roger regrets spending so much time during the pandemic playing video games and watching television, he still managed to squeeze in 10-15-minute work sessions: "I had to do CITI training. I had to re-up it, and that's where I started with, and was just kind of clicking through it about 10 or 15 minutes a day, while the kids are eating lunch." Emily initially blamed her advisor for setting an almost impossible timeline (a chapter per week), but she did not allow herself to give up: "She did it because she knew that it could get done, and she knew better than I did

that I was capable of doing it. But I was really upset," Emily recalled. "I would work until about midnight/1 AM and then do it all over again, and I honestly have no idea how I did it, but I did it." Sherry procrastinated on her work at the beginning of the pandemic, but she was able to meet her original deadlines because she sought out resources from her institution, stating that her department and school "did a really good job with providing stress resources," and that her advisor was "definitely supportive," helping her come up with a "game plan."

DISCUSSION

DOCTORAL STUDENT WELL-BEING AND COPING STRATEGIES

As previous studies focusing on doctoral students' well-being have shown, the stress these students experience comes from trying to find a balance between their studies, their work, and their private lives (Vacek et al., 2021). Whether it was pre-pandemic or during the pandemic, our participants' experiences do not fall outside of these parameters. All four worked at their jobs, two got divorced, and one remarried – all the while trying to work on their dissertations. Much like other doctoral students, our participants found emotional support in their peers (Byers et al., 2014), sought advice from their dissertation advisors (González-Ocampo & Castelló, 2019), exercised (Sverdlik et al., 2018), participated in relevant academic activities specific to dissertation writing (Ciampa & Wolfe, 2019), and sometimes avoided doing the work. In other words, they were juggling the different aspects of their busy lives, much like the other doctoral students in previous studies. Whether doctoral students' coping strategies were internal, social, or external, McCray and Joseph-Richard (2020) suggest in their "model of resilience protection" that all factors are not only interconnected but also present in the experiences of doctoral students who successfully graduated in their study. This point of interdependency echoes the findings of Devos et al. (2017), which took a social-environmental perspective in describing how their participants were able to complete the dissertation writing process. Our study results suggest similar interdependent resilience factors.

THEORETICAL REFRAMING

While there are limitations to the extent to which Chapin et al.'s (2008) socioecological systems metaphor can be applied to doctoral writers, we believe the strength of our study lies in this transformative way of seeing the dissertation writing process. Cooper's (1986) "ecology of writing" argument laid the foundation for seeing writing as not only a cognitive process situated within the writer but as a social process that is part of a larger, complex, and interconnected system. This socioecological lens expands the focus from the writer to an entire system. Reframing doctoral writers' challenges as system disruptions, especially during a pandemic, points to solutions both at the level of the larger ecosystem and as adaptations within the ecosystem. It also moves forward the research put forth by Devos et al. (2017) and McCray and Joseph-Richard (2020) to frame the coping strategies and subsequent resilience from an interdependent environmental system perspective. Under this reframing, we interrogate the coping strategies portion of our findings and present them through a socioecological lens.

RESILIENCE

What are the "fundamental properties" or "slow variables" in a writer's ecology? In other words, what are the minimum resources a doctoral writer must have to continue moving their project forward? Our participants' stories suggest that these are space and tools, data or literature, support and feedback, and time and energy. Time and energy are particularly important as they represent the "currency" in this economy. Time and energy together constitute the resource that must be dispersed across all responsibilities (including self-care) in such a way that all responsibilities can be met.

While all four of our participants experienced disruptions, all "absorbed the shock" of the pandemic. At the time of their interviews, they were all still moving forward or had completed their projects.

Chapin et al. (2008) point to three factors promoting resilience in socioecological systems: diversity, seeds of recovery, and a flexible approach, three factors present in our participants' experiences.

Diversity indicates a diversity of options. Specifically, when their research writing ecologies were disrupted, our writers needed alternative options for data collection and retrieving information, interacting with supporters, workspace, and self-care. While the ubiquitous use of Zoom during the pandemic means such video conferencing technology is now largely taken for granted, it must be noted how critical having this alternative option has been. Widespread use of video conferencing technology made online data collection an option for both Sherry and Roger. Kyle initially struggled to work through his coding with his advisor because it was much harder to do it via Zoom, but he still managed to make progress on his dissertation project. The writers could also access some tools remotely, like library databases and research ethics training modules. In addition to virtual data collection, virtual meetings with supportive people such as advisors or writing groups were an option, even if participants felt this format lacked something compared to face-to-face meetings. Beyond video conferencing, other technology facilitated the slow variables during lockdown. For example, Kyle was in a group text with his cohort, maintaining some feedback and support. Writers also needed diverse options for workspace. Initially, Roger did not have any available workspace, but as the pandemic progressed, he was able to schedule both time and space to work on his dissertation. The other writers could work at home, even if it wasn't ideal or required adaptation. Finally, our participants noted the importance of options for self-care: outdoor exercise (Sherry), physical therapy as exercise (Kyle), playing video games (Roger), and taking breaks on her patio (Emily).

Our participants' experiences also include "seeds of recovery," which, in the case of writing ecologies, would be rules for handling a crisis. Roger initially avoided doing the work because he had fallen so far behind it made him uncomfortable; however, as his children returned to school, he was able to keep to a schedule he created to continue writing. Sherry said her institution was very supportive, suggesting an effective crisis response plan. Hard rules put in place by her advisor helped Emily as the "tough love" from her advisor gave Emily a focus beyond COVID. From something as basic as sleeping and eating healthy food to finding a new reason to complete his degree, Kyle sought out different motivations to keep himself going.

Even when diverse options are present in the system, they might not be used by the writer. Here we see the importance of Chapin et al.'s (2008) "flexible approach." Sherry chose to hike outside when her gym was closed. Kyle reached out to his brothers for connection, something he had not done regularly since he graduated high school. Although Roger's writing group opted not to continue meeting, Sherry's writing group took up the option of online meetings.

Emily's narrative seems to point to a system that changed so substantially it did not recover to its original state. Instead, Emily essentially paused her dissertation until all of her competing symbiotic clusters were completed (teaching, wedding planning) or could be put on hold (relationships). Then she compressed her dissertation work into a very short timeframe. Emily's unique situation challenges the concepts of diversity and flexibility as keys to resilience, but the other three writers' experiences support the usefulness of these concepts from infectious disease ecology as metaphors for understanding how doctoral writers are affected by the pandemic.

TRANSFORMATION?

Chapin et al. (2008) argue that successful adaptation requires one to learn and be innovative, and in Kyle's case, we suggest that the manner in which he adapted to the crisis shows early signs of transformation. The high demand for his tutoring services helped Kyle see how the educational system was failing these undergraduate students. Kyle also saw more clearly how communities of people of color were unequally impacted by the pandemic. It revealed a depth of disparity that Kyle could not ignore. Although his original goal was to obtain a research-focused faculty position, after experiencing the pandemic, Kyle would prefer to work for a non-profit organization that would allow him to

teach underrepresented populations and do research simultaneously. Kyle now plans to focus his research on underserved populations to highlight their experiences and effect change.

A WRITER'S SOCIOECOLOGICAL SYSTEM

Mapping the challenges faced by doctoral writers onto Chapin et al.'s (2008) socioecological system, we see that a flexible approach can help writers maintain focus on their goals. Doctoral writers often work in less-than-ideal conditions, even in "normal" times. Demands on a doctoral student's time come from school, work, and life (Vacek et al., 2021). Ciampa and Wolfe's (2019) study highlighted how inadequately prepared doctoral students are to engage in a lengthy and complicated writing process. As a result, many writers can become overwhelmed by the dissertation if they do not have a diversity of options. Our participants looked for small pieces of their dissertation puzzle that could be completed. They sought both metaphorical balance (Vacek et al., 2021) and harmony (Fleckenstein et al., 2008). Collecting these small successes built resiliency against disruptions to their socioecological systems. In other words, they found ways to exert agency during this lengthy process, demonstrating resilience throughout the pandemic disruption by finding a diversity of options, searching out seeds for recovery, and adopting a flexible approach.

In the interviews, our participants did not speak about the actual process of writing but rather about creating an environment that was conducive to their writing. Referring again to Cooper's (1986) work, a writer's ecology is about more than the immediate context in which the writing is done. However, Cooper's framework – which she applies to the concepts of "ideas," "purposes," "interpersonal interactions," "cultural norms," and "textual forms" – still limits the ecology framework to cognitive activities. We propose that a socioecological system can more broadly capture the experiences of a doctoral writer, and more importantly, include not only the cognitive aspects of writing but also the "biological, social, institutional, and economic" components of a writer's lived experience (Chapin et al., 2008, p. 284). Viewed through this lens, we can see that the "fundamental properties" of a writer's socioecological system include much more than cognition and socialization. All aspects of a writer's life are connected, and a disruption in one aspect can have drastic, unbalanced-driven consequences in the other aspects of the writer's life.

Dissertation writers must work within the scope provided by their home institutions, and our participants spoke about how their institutions aided or hindered their progress. From a socioecological perspective, institutions occupy a key role in a writer's ecology, and the decisions they make can impact this ecology. We point to materials access and technology as examples. Although all four of our participants had access to online materials, it is important to highlight the fact that this access is not commonplace. Institutions will need to address the material needs of their doctoral students to reduce obstacles. Additionally, advising is a key component of a doctoral student's dissertation writing process, and during a pandemic this advising moved online, requiring technology and operational know-how for both the advisor and advisee. Our participants described the challenges they faced when they tried to meet with their advisors using virtual conferencing technology (Kyle and Roger). In a survey with more than 200 graduate school deans from U. S. institutions, Stewart et al. (2021) found that both the quality and the quantity of online advising between faculty and graduate students were not satisfactory during COVID-19. Lee et al. (2020) highlighted the need for doctoral programs to consider bolstering their online capabilities. Thus, improved distance learning capabilities, including training for all stakeholders, can reduce some of the stress that doctoral students experienced.

LIMITATIONS

This study is qualitative in nature and does not seek to generalize the experiences of four doctoral students to a larger population. Instead, we aim to portray the depth of experience from these four voices. Although we would have preferred to incorporate the voice of an international doctoral student or one from outside of the U.S. to add diversity to these narratives, it was not possible to do so.

IMPLICATIONS

Our study has implications related to doctoral students working on their dissertations and institutions responsible for these students. First, our study documented the resilience of four doctoral students who found flexible approaches to make progress on their dissertations despite massive pandemic disruptions. While ample literature describes the challenges of the dissertation writing process during a pandemic, few studies highlighted these students' resilience. We encourage doctoral writers to take the time necessary to find their own flexible approach, much like the way our four participants did, especially during times of significant personal or even national crises. Institutions of higher education need to account for the pressures, demands, and priorities of the whole self of doctoral students and their pursuit of knowledge represented in the dissertation.

The dissertation writing process requires deep engagement, and such engagement may obscure the larger socioecological system. By reframing the dissertation writing process, not as one that is undertaken by an individual but one that is undertaken by a collective of individuals making up a larger system, both the writer and the institution may be better able to see the roles that each plays within this system. Cast in this light, institutions can take steps to alleviate some of the pressures; examples include offering graduate-level research and writing classes, promoting participation in dissertation writing groups, and providing mentoring training to faculty advisors. The pandemic has challenged institutions in many ways, but it has also presented an opportunity for these institutions to reflect on how they can better foster individual students' resilience, positively impacting their socioecological balance.

FUTURE RESEARCH

Our qualitative study focused on the pre-pandemic and pandemic experiences of four doctoral writers using an ecology metaphor. Continuing with the socioecological systems metaphor offered by Chapin et al. (2008), researchers might wish to understand how a writer's ecology finds its balance after significant turmoil. Future research can apply the ecological model to the post-pandemic experiences of doctoral writers. It would be worthwhile to find out how doctoral writers seek balance in their ecology as they continue to deal with the post-pandemic fallout. Additionally, future research might include other actors and stakeholders in a writer's ecology to gather different perspectives on a particular system.

CONCLUSION

The pandemic exacerbated the challenges of doctoral writing and deepened the need for resiliency to meet those challenges. This study addressed the gap in the current literature by focusing on individual doctoral students' actions to adapt and achieve that necessary resilience during the COVID-19 pandemic. Our findings document pre-pandemic ecologies and in-pandemic disruptions in order to show resiliency within the larger socioecological system of the participants as they sought to make progress on their projects and achieve a healthy balance in response to the crisis. Though their coping strategies could not be categorized differently than those of writers outside of a global crisis, our participants' narratives showed that the infectious disease metaphor's framework of finding a diversity of options, searching out seeds for recovery, and adopting a flexible approach is applicable to fostering resiliency within doctoral writers. The use of the metaphor as an ontological approach by doctoral writers may provide them with the macro perspective necessary to be resilient and maintain balance in times of enormous crisis as well as calmer times. Beyond the individual focus, seeing disruptions to their personal ecologies as challenges to be overcome by the larger socioecological system as well will lead to a healthier, nurturing system in which doctoral writers can flourish.

REFERENCES

Barry, K. M., Woods, M., Warnecke, E., Stirling, C., & Martin, A. (2018). Psychological health of doctoral candidates, study-related challenges and perceived performance. *Higher Education Research & Development*, *37*(3), 468-483. https://doi.org/10.1080/07294360.2018.1425979

Bick, C., Gerwens, S., Lypp, J., & Papiasse, D. (2021). *Research, interrupted: COVID-19's impact on LSE PhD students employing in-person qualitative methods.* https://info.lse.ac.uk/current-students/phd-academy/assets/documents/Research-Interrupted-COVID-19s-Impact-on-LSE-PhD-Students-Employing-In-Person-Qualitative-Methods-final.pdf

Börgeson, E., Sotak, M., Kraft, J., Bagunu, G., Biörserud, C., & Lange, S. (2021). Challenges in PhD education due to COVID-19 – Disrupted supervision or business as usual: A cross-sectional survey of Swedish biomedical sciences graduate students. *BMC Medical Education*, *21*(1). https://doi.org/10.1186/s12909-021-02727-3

Brinkert, J., Kokosi, T., & Sideropoulos, V. (2020). "COVID-19 has made a mess of things": Experiencing the pandemic as a doctoral student. *Developmental Psychology Forum, 92*, 15-17. https://osf.io/x96ck/download

Burns, E. M., & Gillespie, C. W. (2018). A phenomenological study of attrition from a doctoral cohort program: Changes in feelings of autonomy and relatedness in the dissertation stage. *International Journal of Doctoral Studies*, *13*, 517-537. https://doi.org/10.28945/4158

Byers, V. T., Smith, R. N., Hwang, E., Angrove, K. E., Chandler, J. I., Christian, K. M., Dickerson, S. H., & McAlister-Shields, L. (2014). Survival strategies: Doctoral students' perceptions of challenges and coping methods. *International Journal of Doctoral Studies*, *9*, 109-136. https://doi.org/10.28945/2034

Cahusac de Caux, B. (2021). Doctoral candidates' academic writing output and strategies: Navigating the challenges of academic writing during a global health crisis. *International Journal of Doctoral Studies*, *16*, 291-317. https://doi.org/10.28945/4755

Chapin, F. S., Eviner, V. T., Talbot, L. M., Wilcox, B. A., Magness, D. R., Brewer, C. A., & Keebler, D. S. (2008). Disease effects on landscape and regional systems: A resilience framework. In V. T. Eviner, R. S. Ostfeld, & F. Keesing (Eds.), *Infectious disease ecology: Effects of ecosystems on disease and of disease on ecosystems* (pp. 284-303). Princeton University Press. https://doi.org/10.1515/9781400837885.284

Ciampa, K., & Wolfe, Z. (2019). Preparing for dissertation writing: Doctoral education students' perceptions. *Studies in Graduate and Postdoctoral Education*, *10*(2), 86-108. https://doi.org/10.1108/SGPE-03-2019-0039

Cooper, M. M. (1986). The ecology of writing. *College English*, *48*(4), 364-375. https://doi.org/10.2307/377264

Corbera, E., Anguelovski, I., Honey-Rosés, J., & Ruiz-Mallén, I. (2020). Academia in the time of COVID-19: Towards an ethics of care. *Planning Theory & Practice*, *21*(2), 191-199. https://doi.org/10.1080/14649357.2020.1757891

Crumb, L. (2022). Fostering the success of working-class Latina doctoral students at predominantly White institutions. *International Journal of Doctoral Studies*, *17*, 25-38. https://doi.org/10.28945/4886

Devos, C., Boudrenghien, G., Van der Linden, N., Azzi, A., Frenay, M., Galand, B., & Klein, O. (2017). Doctoral students' experiences leading to completion or attrition: A matter of sense, progress and distress. *European Journal of Psychology of Education*, *32*(1), 61-77. https://doi.org/10.1007/s10212-016-0290-0

Donohue, W. J., Lee, A. S.-J., Simpson, S. Y., & Vacek, K. (2021). Impacts of the COVID-19 pandemic on doctoral students' thesis/dissertation progress. *International Journal of Doctoral Studies*, *16*, 533-552. https://doi.org/10.28945/4818

Fernandez, M., Sturts, J., Duffy, L. N., Larson, L. R., Gray, J., & Powell, G. M. (2019). Surviving and thriving in graduate school. *SCHOLE: A Journal of Leisure Studies and Recreation Education*, *34*(1), 3-15. https://doi.org/10.1080/1937156X.2019.1589791

Fleckenstein, K. S., Spinuzzi, C., Rickly, R. J., & Papper, C. C. (2008). The importance of harmony: An ecological metaphor for writing research. *College Composition and Communication*, *60*(2), 388-419. https://www.jstor.org/stable/20457064

González-Ocampo, G., & Castelló, M. (2019). How do doctoral students experience supervision? *Studies in Continuing Education*, *41*(3), 293-307. https://doi.org/10.1080/0158037X.2018.1520208

Haas, N., Gureghian, A., Jusino Díaz, C., & Williams, A. (2020). Through their own eyes: The implications of COVID-19 for PhD students. *Journal of Experimental Political Science, (9)*1, 1-21. https://doi.org/10.1017/XPS.2020.34

Jiang, X. (2020, October). *Isolation squared? An autoethnography study of the comprehensive examination during the COVID-19 outbreak*. Paper presented at the American Association for Adult and Continuing Education 2020 Conference, Online. https://files.eric.ed.gov/fulltext/ED611617.pdf

Johnson, R. L., Coleman, R. A., Batten, N. H., Hallsworth, D., & Spencer, E. E. (2020). The quiet crisis of PhDs and COVID-19: Reaching the financial tipping point. *Research Square*. https://doi.org/10.21203/rs.3.rs-36330/v2

Josselson, R., & Hammack, P. L. (2021). *Essentials of narrative analysis*. American Psychological Association. https://doi.org/10.1037/0000246-000

Keesing, F., Ostfeld, R. S., & Eviner, V. T. (2008). Introduction. In V. T. Eviner, F. Keesing, & R. S. Ostfeld (Eds.), *Infectious disease ecology: Effects of ecosystems on disease and of disease on ecosystems* (pp. 1-6). Princeton University Press. https://doi.org/10.1515/9781400837885.1

Khan, T. (2020). How COVID-19 has impacted my PhD research. *Journal of Health and Social Care Improvement*, *3*(2), 4-9.

Lau, R. W. K. (2019). You are not your PhD: Managing stress during doctoral candidature. In L. Pretorius, L. Macaulay, & B. Cahusac de Caux (Eds.), *Wellbeing in doctoral education: Insights and guidance from the student experience* (pp. 47-58). Springer. https://doi.org/10.1007/978-981-13-9302-0_6

Lee, H., Chang, H., & Bryan, L. (2020). Doctoral students' learning success in online-based leadership programs: Intersection with technological and relational factors. *International Review of Research in Open and Distance Learning*, *21*(1), 61-81. https://doi.org/10.19173/irrodl.v20i5.4462

Lim, H., Li, X., & Jung, H. (2019). Exploring factors associated with doctoral students' concern about completing their degree in time: A case from a research-focused university in Korea. *International Journal of Chinese Education*, *8*(2), 265-292. https://doi.org/10.1163/22125868-12340115

Locke, L. A., & Boyle, M. (2016). Avoiding the A.B.D. abyss: A grounded theory study of a dissertation-focused course for doctoral students in an educational leadership program. *The Qualitative Report*, *21*(9), 1574-1593. https://doi.org/10.46743/2160-3715/2016.2167

McAlpine, L. (2017). Building on success? Future challenges for doctoral education globally. *Studies in Graduate and Postdoctoral Education*, *8*(2), 66-77. https://doi.org/10.1108/SGPE-D-17-00035

McCray, J., & Joseph-Richard, P. (2020). Towards a model of resilience protection: Factors influencing doctoral completion. *Higher Education*, *80*(4), 679-699. https://doi.org/10.1007/s10734-020-00507-4

Mullen, C. A. (2020). Online doctoral mentoring in a pandemic: Help or hindrance to academic progress on dissertations? *International Journal of Mentoring and Coaching in Education*, *10*(2), 139-157. https://doi.org/10.1108/IJMCE-06-2020-0029

National Center for Science and Engineering Statistics. (2019). *Doctorate recipients from U.S. universities: 2019*. National Science Foundation. https://ncses.nsf.gov/pubs/nsf21308/

O'Connor, J. (2017). Inhibition in the dissertation writing process: Barrier, block, and impasse. *Psychoanalytic Psychology*, *34*(4), 516-523. https://doi.org/10.1037/pap0000132

Odena, O., & Burgess, H. (2017). How doctoral students and graduates describe facilitating experiences and strategies for their thesis writing learning process: A qualitative approach. *Studies in Higher Education*, *42*(3), 572-590. https://doi.org/10.1080/03075079.2015.1063598

Robert, D., & Shenhav, S. (2014). Fundamental assumptions in narrative analysis: Mapping the field. *The Qualitative Report*, *19*(38), 1-17. https://doi.org/10.46743/2160-3715/2014.1005

Sala-Bubaré, A., Castelló, M., & Rijlaarsdam, G. (2021). Writing processes as situated regulation processes: A context-based approach to doctoral writing. *Journal of Writing Research*, *13*(1), 1-30. https://doi.org/10.17239/jowr-2021.13.01.01

Scott, S., & Johnson, J. M. (2021). Racial realities: Exploring the experiences of Black male doctoral candidates in "all but dissertation" status. *International Journal of Doctoral Studies*, *16*, 171-187. https://doi.org/10.28945/4701

Sideropoulos, V., Midouhas, E., Kokosi, D., Brinkert, J., Wong, K., & Kambouri, M. A. (2021). The effects of cumulative stressful educational events on the mental health of doctoral students during the COVID-19 pandemic. *UCL Open: Environment Preprint*. https://doi.org/10.14324/111.444/000105.v1

Skopek, J., Triventi, M., & Blossfeld, H. P. (2020). How do institutional factors shape PhD completion rates? An analysis of long-term changes in a European doctoral program. *Studies in Higher Education*, *47*(2), 318-337. https://doi.org/10.1080/03075079.2020.1744125

Spaulding, L. S., & Rockinson-Szapkiw, A. J. (2012). Hearing their voices: Factors doctoral candidates attribute to their persistence. *International Journal of Doctoral Studies*, *7*, 199-219. https://doi.org/10.28945/1589

Stewart, D. W., Davoren, A. K., Neumeister, J. R., Knepler, E., Grigorian, K., & Greene, A. (2021). *Graduate schools respond to COVID-19: Promising pathways to innovation and sustainability in STEM education* [White paper]. University of Chicago. https://www.norc.org/PDFs/Graduate%20Studies%20COVID/NORC_COVID-WhitePaper_2021_FINAL.PDF

Sverdlik, A., C. Hall, N., McAlpine, L., & Hubbard, K. (2018). The PhD experience: A review of the factors influencing doctoral students' completion, achievement, and well-being. *International Journal of Doctoral Studies*, *13*, 361-388. https://doi.org/10.28945/4113

Vacek, K., Donohue, W. J., Gates, A., Lee, A. S.-J., & Simpson, S. (2021). Seeking balance within personal writing ecologies: A collaborative autoethnography of a doctoral student writing group. *Studies in Continuing Education*, *43*(1), 104-118. https://doi.org/10.1080/0158037X.2019.1703670

van Rooij, E., Fokkens-Bruinsma, M., & Jansen, E. (2021). Factors that influence PhD candidates' success: The importance of PhD project characteristics. *Studies in Continuing Education*, *43*(1), 48-67. https://doi.org/10.1080/0158037X.2019.1652158

APPENDIX

Semi-Structured Interview Guide

Thank you so much for agreeing to talk with me about your experiences. As you know from the informed consent form you signed, you can tell me if you don't want to answer a question, and you can stop the conversation at any time. Also, I will be recording the conversation. Are you ready to start the recording now?

Today is [date] and I'm talking with [participant].

Background:

1. *Tell me your dissertation/thesis story.*
   a. *How would you describe where you are in your dissertation writing process?*
2. *What are the struggles or conflicts you see in your story?*
3. *How do you resolve those struggles or conflicts? Or how might you resolve them?*

Survey-based questions:

1. *In the earlier survey, you talked about the ways the Covid-19 pandemic has impacted your progress. You mentioned:*

   [insert answer]

      a.   *Tell me more about this. In what ways has the pandemic impacted your progress?*
      b.   *What types of progress were you making before the pandemic?*

2. *You also mentioned in your survey response the challenges you are or were experiencing as a result of the Covid-19 pandemic:*

[insert answer]

      a.   *Tell me more about this. In what ways has the pandemic made it harder for you to make progress?*
      b.   *What difficulties did you have managing the balance between your family, work, friends, church, other obligations and commitments, etc.?*

3. *You talked about one or more benefits you are experiencing or experienced as a result of the Covid-19 pandemic. You said:*

[insert answer]

      a.   *Tell me more about this. In what ways has the pandemic made it easier for you to make progress?*
      b.   *How has the benefits helped you balance between your family, work, friends, church, other obligations and commitments, etc.?*

Coping mentioned in written response	*Coping NOT mentioned in written response*

4. *You mentioned one or more ways of coping you used in relation to the Covid-19 pandemic when you said:*
 	
[insert answer]
 	
  a. *Tell me more about this. How did the coping work for you?*
  b. *Were there times when the coping didn't work? What happened?*
  c. *How have you adapted to your current situation if it is different from before?*
	5. *In what ways have you tried to cope with the Covid-19 pandemic?*

Lazarus and Folkman (1984) define coping strategies as "managing or altering the problem (problem-focused coping), or regulating the emotional response to the problem (emotion-focused coping)".

Ecology framework questions

6. *Earlier in your answers you mentioned your [family, work, friends, church, other obligations and commitments].*
      a.   *How did you balance [your family, work, friends, church, other obligations and commitments, etc.] with your dissertation?*
      b.   *What were the challenges of maintaining this balance?*
7. *After [insert significant event that participant mentions, such as lockdown, school closure, friends/family with covid, etc.] happened, did your views on your dissertation progress change?*
      a.   *How did [this event] impact you (and your school, family, work, etc.)?*
8. *You also mentioned dealing with [insert a previously mentioned changing situation]. How did you cope with that?*

Conclusion

What do you expect as you go forward with your dissertation/thesis work?

Is there anything else you want to share about your dissertation/thesis experience?

Is there anything else you want to share about your experience of the COVID 19 pandemic?

[some kind of link to any theories?]

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