

A Visual Study of First-Generation College Students' Remote Learning Experiences During the COVID-19 Pandemic

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With the COVID-19 outbreak, colleges and universities abruptly shifted to remote education without the infrastructure or resources to support this change. Before the pandemic, first-generation college students were already struggling to navigate campus environments and persist to graduation. This study uses visual research methodologies to explore three first-generation college students' unseen experiences with emergency remote education and their visions for the future of higher education. This study contributes to the emerging literature on the impact of the COVID-19 pandemic and provides practical suggestions for institutions looking ahead to post-pandemic instruction.

Keywords: remote learning, first-generation college students, COVID-19, visual research methodologies

INTRODUCTION

The COVID-19 pandemic has forced colleges and universities to make difficult decisions on how to best continue education during a crisis. In order to ensure the safety of students, faculty, and staff, many institutions have shifted to emergency remote education despite lacking the necessary resources to support this sudden change. Emergency remote education is not a new crisis-response measure in higher education. However, the ongoing threat of COVID-19 has necessitated that institutions attempt a more robust and sustainable emergency remote education implementation than we have seen before. Scholars are interested in documenting how institutions are evolving in response to this crisis (e.g., Baloran, 2020; Hodges et al., 2020; Murphy, 2020). As we examine this moment of pivotal change in higher education history, we must also evaluate how crises highlight long-standing problems within our society, and by extension, our campuses.

Before the pandemic, first-generation college students were already struggling to navigate campuses and persist to graduation. The Center for First-generation Student Success at NASPA: Student Affairs Administrators in Higher Education shows that compared to their continuing generation peers, only 27% of first-generation college students obtain a postsecondary degree after four years (RTI International, 2019). Other studies indicate that first-generation college students may also lack the knowledge and resources to successfully thrive in college (Clauss-Ehlers & Wibrowski, 2007; Demitrou et al., 2017; Hébert, 2018). If pre-pandemic learning environments were already challenging for first-generation college students, it is worth exploring how the remote learning environment has impacted these barriers, if at all.

A recent New York Times article, "College Made Them Feel Equal. The Virus Exposed How Unequal Their Lives Are," suggests the shift to emergency remote education has made class and racial divides more visible among marginalized students. Casey (2020) notes that college campuses were an "equalizer" that

obscured many students' differences before the pandemic. Casey (2020) writes: "When they were all in the same dorms and eating the same dining hall food, the disparities in students' backgrounds were not as clear as they are over video chat" (Casey, 2020). These issues have always been present in higher education, and as Shugart (2013) notes, the "deep architecture," or culturally ingrained ideologies and practices of our institutions, can heighten these student challenges. Institutional cultures have historically privileged certain types of students (usually affluent, able-bodied White cis-males) and disenfranchised others (i.e., students of color, students with disabilities, queer students, students with mental health issues). As we become more aware of students' challenges, especially marginalized students' experiences, we must learn how better to support them during future crises and post-pandemic education. We must also use this time as an opportunity to critique and shift our institutional cultures.

This study takes inspiration from Casey and Shugart's work in the spirit of making the invisible "visible" from a student-centered perspective. This paper accompanies a video that uses visual research methodologies (Pink, 2012; Rose, 2016) to explore three first-generation college students' lived experiences with emergency remote education and their visions for post-pandemic education at a public university in northern California. This study has three goals:

- To document this moment in higher education history from a first-generation college student perspective—specifically, to show students' lived experiences with emergency e-learning.
- To learn how best to support first-generation college students during moments of disruptive change and beyond.
- To explore students' visions for post-pandemic education.

This video is not a documentary per se, but rather a visual artifact that offers an additional narrative of looking at both emergency remote instruction and our plans to return to education after the pandemic. This study includes a detailed description of the participants' experiences and recommendations for post-pandemic education and the benefits of visual research methodologies.

CHALLENGES FOR FIRST-GENERATION COLLEGE STUDENTS

According to the National Association of Student Personnel Administrators (NASPA), first-generation college students make up 56% of all undergraduate students in the U.S. (RTI International, 2019). This student population is not homogenous; different aspects of their identity, class background, and race may impact their experience as students (Orbé, 2008). Scholars disagree about which students should be considered first-generation. Some researchers define this population as students whose parents or guardians have not attended any post-secondary institution (Hébert, 2018; Inkelas et al., 2007). Others adopt a broader definition that includes students whose parents/guardians may have attended some college but did not persist to degree completion (Tate et al., 2015). This study utilizes the Educational Opportunity Program's definition as a "college student (parent(s)/legal guardian(s) have not completed a bachelor's degree." The Educational Opportunity Program (EOP) is a federally funded program created in the 1960s to support students from economically and academically disadvantaged backgrounds (About EOP, 2020).

First-generation college students may arrive more academically unprepared and experience "imposter syndrome," a phenomenon where first-generation college students believe they have tricked the university into overestimating their intelligence (Peteet et al., 2015). Once admitted, first-generation college students may experience a cultural and class discrepancy between their working-class home lives and middle to upper-class university environments. This discrepancy can elicit feelings of conflict and guilt among first-generation college students whose achievements surpass their family or peers (Covarrubias & Fryberg, 2015). Compared to their continuing generation peers (those whose parents/guardians have a bachelor's degree or higher), first-generation college students are far less likely to obtain a degree on time (RTI International, 2019). Continuing generation students also may already have some knowledge about college life (Covarrubias & Fryberg, 2015). In contrast, first-generation students may lack the social capital (information, support, and resources available) to successfully navigate university settings (Schwartz et al., 2018).

Research shows that various factors can contribute to first-generation college student attrition. Demetriou et al.'s 2017 study on academic resilience found successful first-generation college students engaged in high-impact practices such as living-learning communities, study abroad, faculty-mentored research opportunities, and supportive relationships with instructors. Similarly, studies show on-campus curricular activities, EOP advising, and first-year summer programs as beneficial practices for first-generation college student success (Clauss-Ehlers & Wibrowski, 2007; Hébert, 2018). Meaningful, supportive relationships with faculty also help first-generation students better adapt to the college environment and contribute to their overall sense of belonging within the university (Hébert, 2018).

EMERGENCY REMOTE EDUCATION

The COVID-19 pandemic is not the first crisis that has required a shift to remote instruction. However, the implementation of emergency e-learning protocols is a relatively new phenomenon in higher education that is distinct from online learning and teaching. Although emergency remote education may utilize similar educational technology tools, online instruction requires extensive planning and forethought. The term "emergency remote instruction" or "emergency remote education" more accurately acknowledges this mode of instruction as a temporary crisis response measure to the threat of in-person schooling (Murphy, 2020). With these distinctions of terminology in mind, this research uses "emergency remote education" or "emergency e-learning" interchangeably to refer to our current context and encompass other facets of the university beyond teaching (i.e., student support services).

The most recent implementations of emergency remote education were shorter-lived than our current COVID-19 context. In the aftermath of Hurricane Katrina's landfall in 2005, several colleges throughout the Gulf region were too physically damaged to host on-site instruction and, as a result shifted to a full semester of online classes (Lorenzo, 2008; Meyer & Wilson, 2011). A more relevant example of emergency remote education is the 2009-2010 H1N1 (swine flu) pandemic, which involved utilizing video conferencing platforms to deliver synchronous instruction (Allen & Seaman, 2010). These e-learning methods are most similar to the remote learning plans institutions have implemented in response to the COVID-19 pandemic, though notably, technology has changed drastically since these past examples (Murphy, 2020).

The literature that has emerged from these two crises (Hurricane Katrina and the H1N1 pandemic) tends to explore two themes: recommendations for how universities can manage crises on an institutional scale and students' perceptions of these crises (Beaton et al., 2007; Van et al., 2010; *CDC Guidance*....2010; Gardner et al., 2007). While the current context is different, some of these studies' findings are relevant to educators interested in how crises impact students, especially regarding their mental health. Most notably, studies examining students' attitudes towards Hurricane Katrina, and other natural disasters, consistently links students' experiences with these events with post-traumatic stress disorder, anxiety, and depression (David et al., 1996, Galea et al., 2007, Ironson et al., 1997, Kessler et al., 2008).

EMERGING LITERATURE ON HIGHER EDUCATION & COVID-19

What sets the COVID-19 pandemic apart from previous crises is the unknown impact of sustained emergency remote education on students' long term mental health. Historically, institutions have shifted online in response to natural disasters, or more similarly, the H1N1 pandemic, but these shifts were more temporary crisis response measures (Akhan et al., 2010, David et al., 1996; Lorenzo, 2008). But as we are still grappling with the COVID-19 pandemic in the U.S., there is, as yet, limited published peer-reviewed research available. So, the studies cited here are preliminary. However, several available pre-publication abstracts, letters to the editor, and online higher education blogs indicate scholarly interest in themes of student mental health, continuity operations, and the future of instruction (see, for example, Araújo et al. 2020; Burki, 2020; Zhai & Du, 2020). Two notable studies outside of the U.S. examined Ukrainian students' needs during emergency remote education (Nenko et al., 2020) and another study explored Southern Filipino students' pandemic-induced anxiety (Baloran, 2020). Nenko et al. (2020) suggest that Ukrainian

universities need to bolster faculty professional development with educational technology to better support students' emergency remote learning experience. Baloran's 2020 study on two private colleges in the southern Philippines found that students were most anxious about housing, food, and financial insecurities. These studies suggest that faculty should be cognizant of both technological barriers and students' personal circumstances that may hinder their success in remote learning environments.

While emerging COVID-19 pandemic literature primarily focuses on student experiences and future emergency remote education recommendations, some scholars wonder how this moment will transform the higher education landscape in the coming years. Gurukkal (2020) anticipates that institutions may utilize videoconferencing and other educational technology tools on a widespread scale, demanding an increased level of technological competency from faculty. Although some institutions have successfully supported instructors with best practices in virtual learning, a recent study in Germany found it challenging to translate other university support services (i.e., student counseling, library services) to the remote environment (Zawacki-Richter, 2020). This limitation highlights a distinction between institutions founded as online schools versus brick-and-mortar institutions that are now extending their campuses to a virtual space. As scholars consider how instruction will change post-pandemic, Murphy (2020) warns against adopting emergency e-learning strategies as the "new normal" rather than crisis response. He writes:

Efforts to normalize emergency eLearning measures precisely because post-pandemic pedagogy seems unthinkable rob the education sector of the opportunity for open discourse on how the sector can be emancipatory for all students. The normalization of emergency eLearning would mean the normalization of a form of education that perpetuates structural inequalities of class, race, and support (Farhadi, 2019) that schools should allow students to break free from (p. 10).

Murphy does not condemn all forms of online education, but he does implore institutions to be mindful of which emergency remote education practices they take post-pandemic. My study builds upon Murphy's encouragement to use this time as an opportunity to reimagine the landscape of higher education by learning from first-generation college students' recent experiences with remote instruction.

RESEARCH DESIGN

I used a phenomenological research design (Kvale & Brinkman, 2009) and visual methodologies (Pink, 2012; Rose, 2016) to align with the overarching goals of the study. I focused primarily on student participant interviews to create a visual artifact that captures this phenomenon (emergency e-learning in response to COVID-19) in higher education history. The visual artifact also offers a new way of imagining post-pandemic education. Visual methodologies within qualitative research are relatively new in higher education studies but are standard ethnographic methods within anthropology and sociology (Glaw et al., 2017). Visuals can facilitate better communication and rapport between the researcher and participants and contextualize participant experiences (Pain, 2012). This research design helped participants feel more comfortable opening up about their pandemic experiences and hopes for future instruction.

Selection and Description of Participants

The study took place at a public university in northern California. The undergraduate student population is predominantly White (49%) and Latinx/Hispanic (28%), with the remaining 23% being multiracial, Asian, African American, American Indian, and Hawaiian/Pacific Islander. The three participants were full-time undergraduate students enrolled in the university's Educational Opportunity Program (EOP). This federally funded program supports first-generation college students from historically low income and educationally disadvantaged backgrounds. I used selective sampling and snowball sampling to identify participants who met the inclusion criteria: (a) currently enrolled as an undergraduate student (b) enrolled in EOP (b) identified as the first-generation in their family to attend a post-secondary institution.

The three participants, Diana, Celeste, and Amy, had varied backgrounds. Diana, a third-year liberal studies major, self-identified as undocumented, bisexual and noted that these aspects of her identity strongly shaped her experiences with emergency remote learning. Before the pandemic, Diana was socially active and had strong bonds with her instructors. Amy, a third-year biology major and first-generation citizen identified strongly as a woman of color in STEM. Before the pandemic, Amy's busy and rigorous academic schedule limited her time for extracurricular and social activities. However, she has had a strong desire to be more involved in the campus community. Celeste, a 2nd-year criminal studies major, sociology minor, and student-athlete, shared that she "took advantage" of several on-campus resources for first-generation college students in her first year and felt comfortable accessing these resources frequently. Growing up in a single-parent household, Celeste noted it was important to be a strong female educational role model for her younger family members.

Data Collection

I collected data remotely over the Fall 2020 semester. Instruction was primarily offered online during this semester as an emergency crisis response to the COVID-19 pandemic, with only a few select courses being offered in-person and on-site. The most important aspect was a one-hour interview with each participant that I video recorded through a HIPAA compliant Zoom account. I designed the interview questions to explore students' experiences with the pandemic, emergency remote education, and their hopes for instruction after the pandemic. I notified all participants ahead of time that interviews would be video recorded to distinguish the Zoom interview from their experiences with remote classes that utilize Zoom. This data collection method, called auto photography, is a useful tool when working with underrepresented communities. Auto photography allows participants to consciously decide how they would like to represent themselves in the research (Glaw et al., 2017; Thomas, 2009).

This distinction is significant since educators have increasingly relied on video conferencing platforms, such as Zoom, during remote instruction. A recent blog in *Inside Higher Ed* notes there is a degree of spectatorship with webcams in remote learning that is different from in-person instruction experiences (Reed, 2020). Through webcams, we may be seeing more of the students' home lives than they might typically reveal to their classmates and instructors. Conversely, auto photography invites the students to self-reflect on how they would like to be visually represented in the research. They have the agency to choose the background, setting, and objects in the visual scene that they feel best depicts them as a participant (Glaw et al., 2017; Thomas, 2009).

In addition to these video-recorded interviews, I also used photo-elicitation, another visual methodology, to contextualize participants' experiences. Photo elicitation involves participants' commentary and reflection on photos provided by them or the researcher. Harper (2002) explains the commentary that accompanies the visuals evokes more meaningful insights because the parts of the brain that interprets images are evolutionarily older than the parts that process verbal information. In this study, participants self-selected visuals (photos, self-shot footage, and social media posts) that they felt depicted their recent experiences with remote education. Participants emailed the visuals and explained why they selected these images. Any personally identifiable information that the student had not willingly shared but was visible in their provided visuals (student email, ID, grades, class schedule) was redacted or blurred to protect student privacy and comply with FERPA. Where appropriate, I incorporated these visuals into the documentary alongside the video recorded interviews.

Data Analysis

This study combined standard qualitative research strategies with documentary filmmaking techniques to analyze and interpret participants' video-recorded interviews. This process involved reviewing the raw footage of each participant's interview individually and identifying codes. Codes from the first participant's interview footage were then applied to the second and third interviews. I used memoing to record emerging insights and subjectivities. After reviewing and coding all of the interviews multiple times, I edited the raw footage according to the emergent themes. The finished video organizes the data (the video footage and other student visuals) into a meaningful narrative that offers a visual representation of the findings.

Additionally, to ensure confidence in my representations of participants' perspectives, I sent each of them their edited interview clips and visuals, and then incorporated their feedback into the finished video.

Researcher Reflections on Visual Data Analysis Methods

The choice to utilize visual methodologies ties to Elizabeth Ellsworth's (1997) ongoing encouragement in her work for educators to utilize the humanities, and especially filmmaking, to work towards anti-oppressive pedagogy. Ellsworth argues that we must look beyond the social sciences to other modes of thinking. Although the visual artifact that accompanies this research is not a documentary, it does utilize documentary filmmaking techniques. Documentary scholars Rosenthal & Eckhardt (2016) define documentary as a "creative treatment of actuality" that cannot show the objective truth but may show the "spirit of truth." While this definition seems to oppose research goals, visual artifacts can present a complex phenomenon on an intimate, micro-scale that differs from traditional studies. Documentaries are dialogical; they reject one dominant perspective and instead engage multiple, sometimes opposing viewpoints. Rabiger (2009) explains: "Dialogical film deals better with the richness and changeability of real life, with the subjectivity of human experience and therefore memory, and with the arbitrariness or injustices of the status quo" (Rabiger, 2009, *Documentary Intentions and Ingredients*, para. 4). Given the ever-changing and fluid nature of the COVID-19 pandemic, I felt documentary filmmaking techniques would help capture this complex moment in higher education history from a first-generation college student perspective. This approach's benefits are outlined below, along with recommendations for educators interested in adopting this strategy.

One of the main benefits of video editing is its iterative process complements traditional coding strategies. By continually reviewing the raw footage and selecting the most salient clips for the finished product, I became very familiar with the data. This cyclical process of reviewing, coding, and editing, contributed to more meaningful interpretations. Additionally, video-recorded interviews can potentially aid the coding process in a way that audio-recorded interviews or transcribed interviews cannot. Reviewing the footage helps the researcher identify which responses are most important to the participants. For example, while reviewing the filmed interview clips, I noted where participants' facial expressions, body language, and tone of voice indicated which questions sparked meaningful responses. These visual cues aided the coding process, the editing process, and the interpretations of findings. Working towards a finished product within a time constraint (the video can only be so many minutes) also encourages the researcher to edit the footage according to the initial research questions closely. The researcher can only feature the most critical findings in the video while also structuring the information into a coherent narrative.

FINDINGS

All three first-generation college students in this study had unique yet connected experiences that shaped their insights on how the university should move forward with post-pandemic education. Notably, all three participants identified that despite the adversities of shifting to remote instruction, the fall 2020 semester had been a time of tremendous personal growth. For two participants, the online environment alleviated some of the common challenges first-generation college students experience. Participants' personal growth and ability to navigate the remote education environment impacted their relationships with peers and faculty. Although participants' experiences varied, their visions for post-pandemic education shared common themes. The participants expressed wanting institutional acknowledgment that this period has been traumatic for many students and more opportunities to foster meaningful relationships with different campus community members when we return to in-person instruction.

Challenges of the Remote Learning Environment

Engaging in the Zoom Classroom

Learning from home presented new challenges the participants had not experienced before during in-person instruction. School/life boundaries were blurred as the students struggled to navigate home life experiences with instructors' new expectations in the Zoom classroom environment. For Diana, a third-year

Hutchins major, early adverse experiences with racist teachers in her K-12 schooling impacted how she navigated student/teacher relationships. Ultimately, these experiences motivated her to pursue a career in education. Before the pandemic, she felt it was important to establish supportive and professional relationships with her instructors. She also explained she is "big on mental health" and frequently accessed campus spaces to create a separation between home and school life. Diana now says her relationships with faculty are strained between school and increased home responsibilities and that she has barely had time for a break. During the fall semester, Diana babysat her two-year-old nephew for most of the day, which significantly impacted her ability to concentrate during synchronous classes. She explained that it was a struggle to actively engage in class because her nephew would often need her immediate attention: "You can't necessarily tell a screaming two-year-old to stop. I'm not going to lie; it's really hard to concentrate on what my teachers are saying." She also often struggled to retain class information and found it difficult to speak during group discussions with the loud background noise in her house.

Diana's chosen visuals depict the various ways she attempted to create a more comfortable learning environment for herself and establish a distinction between school and personal life. Since her bedroom served as her classroom during the day, Diana painted one wall a bright yellow color that she said made her feel calm. During our interview, I commented on the beautiful paintings in her Zoom background. Diana later provided a picture of her school set up, explaining that with limited space to work, she often sat on her bed to do schoolwork and set up her laptop so her Zoom background would feature the art on her bedroom wall. Another photo she shared shows the small garden she has started in her parents' backyard. Diana explained that she is not a fan of technology as much as her peers are, so it has been essential for her to develop hobbies off-the screen during this remote learning period.

Engaging in the Zoom classroom environment was also tricky for Celeste at times, although for different reasons. Celeste, who initially described herself as having a solid grasp of remote learning, struggled to actively participate over Zoom after a friend suddenly passed away mid-semester. She explains shortly after receiving the news that she realized Zoom classes were going to be difficult:

I saw myself through the camera; my emotions seeping more on the outside than if I was to look in the mirror or be on FaceTime or anything. So, having to try and be on the camera all the time, just seeing myself in my tiny little box, was the biggest challenge, and it would give me that shaky kinda little feeling. I wasn't ready to be seen in class or anything. So, having to manage that and try to figure it out and take the time I need to be able to process everything, but also make sure I stay with my academics and keep on top of that was the biggest challenge.

Celeste overcame this challenge by reaching out to faculty who were emotionally supportive and worked with her to get back on track. Through her professors' support, Celeste persevered and now views this experience as instrumental to her growth and newfound clarity with her future career path in sociology.

For Amy, a third-year biology major, her biggest challenge was the peer-to-peer collaboration in Zoom classes, especially as a woman in STEM. Amy's development in self-efficacy skills helped her overcome challenges with engaging with peers online. According to Amy, it is common for students to be silent in their Zoom breakout rooms and disengage from the course. She described one particularly harmful instance where her physics professor placed her in a breakout room with two male peers who negatively reacted when she took the initiative on their group's problem. Their dismissive remarks to her commentary made her feel awful. When speaking about the incident, she said: "It's even worse because you both are guys, and it feels like you're both teaming up on me because I'm a girl." Amy eventually left the Zoom breakout room, and after talking with her professor, completed the problem on her own. She said lack of engagement from peers was an ongoing issue in her classes but that this was the "worst experience ever." Unlike a physical classroom where students' actions are more visible, and peers and instructors can overhear negative comments, the Zoom breakout room provides a unique space for negative peer-to-peer interactions to go unchecked.

Distance From On-Campus Resources

Only one participant, Diana, discussed the challenges of not being able to access on-campus resources. As an undocumented student, Diana shared that she relied heavily on several on-campus resources, including the undocumented student center, the food pantry, and the library as a quiet study space. She acknowledged that undocumented students often have limited resources tied to federal funding but that non-funding resources may still be available. She expressed feeling disappointed that the university did not consider the needs of under-resourced students and communicate which similar resources were available off-campus: "I'm not going to lie, it's hurtful...We won't know about resources unless someone communicates them to us."

Benefits of the Remote Learning Environment

Overcoming Imposter Phenomenon

Two participants noted that the remote learning environment was more comfortable to navigate as a tech-savvy student and helped them overcome common first-generation college student challenges, such as imposter syndrome and access to varied resources. Amy spoke about her positive remote education experience from her perspective as a first-generation college student and woman of color in STEM. She describes how her relationships with faculty and teaching assistants changed for the better: "Before remote online learning there was always that hesitant or fear factor, like oh my gosh like the professor is up here and I'm down here, like how do I approach them like there's an age difference there's like a degree difference." Now that communication is primarily through email, she explains it is much easier reaching out to faculty: "I don't really have that much time to be scared and doubtful because all it takes is one button, so I just need one instance where I'm like 'I'm confident' versus walking up the stairs, walking into the department, finding my professor's room and then like before I push in the door... right now it's just a click." During our interview, Amy visually represented her newfound confidence in university settings with her chosen virtual Zoom background. This Zoom background showed students comfortably lounging and studying in the campus student center. Previously, she said she viewed attending college as a mistake and felt uninspired to pursue a career, even wondering if she should drop out of college. However, remote learning has helped Amy feel more comfortable building more meaningful relationships with professors, TAs, and mentors, who helped her clarify her post-graduation goals. In addition to these stronger bonds, Amy also identified that updated websites and virtual workshops made internships and other professional development opportunities much more accessible.

Improved Access to Opportunities & Resources

Similarly, Celeste found networking and connecting with campus resources became more accessible in the remote environment. Before the pandemic, Celeste self-identified that she knew how to access campus resources and make connections successfully. She stated that she felt comfortable doing this online as well. One of her provided is a social media post featuring her acceptance to a remote scholarship opportunity. Another is a screenshot of a social Zoom meeting with a large group of friends. Even with her strong self-efficacy and networking skills, she now identifies that she had a distinct social bubble of EOP friends and track teammates. Now, with everything virtual, Celeste feels other student communities are more public and accessible. She explained that she might have missed promotional flyers for social events before the pandemic because they were advertised in campus spaces and communities she did not frequent. However, with social media, Celeste now follows several campus accounts to stay up-to-date on upcoming events. She attends these events with her current friends but emphasizes she is also making new connections.

More Time for Personal Exploration

Amy and Celeste self-identified that remote instruction has allowed them to explore their interests outside of academics and grow as individuals. Many of the visuals they shared featured new hobbies and connections. When sharing one of her visuals of a chessboard, Amy explained that she previously had little personal time outside of school as a busy STEM major. She now feels grateful that the flexibility of the

remote learning environment has allowed her to explore different versions of herself, which she felt she did not have the opportunity to do during in-person instruction:

Finding a hobby or a social group has been tough for me ever since I started college. It could be because I am a biology major who has a straightforward personality, but during this pandemic, I've had the time to develop genuine friendships and realize that maybe there is hope that I'll be one of those statistics that find lifelong connections in their college years. I made a friend in freshman year, but we have never gotten the chance to hang out because we are both STEM majors, but we finally hung out this semester, and he taught me how to play chess. This was one of the best days of my fall 2020 semester. I also realized that there is much more to life than just succeeding, there's the fundamental aspect of finding joy in personal hobbies.

As she explains above, Amy's free time exploring extracurricular activities in the remote environment has helped her overall mental health.

Similarly, Celeste felt that she had minimal time to connect with family and interests between school responsibilities and being a student-athlete. During the fall semester living at home, she developed closer bonds with her mother, who taught her and her younger nieces to sew. In sharing a picture of her younger nieces, Celeste cited their closer relationship as inspiration for her newfound interest in mentorship opportunities within the university. She says that she wants to be an educational role model for her nieces and other incoming first-year students who may need guidance navigating higher education. The remote environment's flexibility and additional quality time with friends and family helped Amy and Celeste discover aspects of their identity outside academia.

Visions for Post-Pandemic Education

Respect for Emotional and Physical Boundaries

When asked about their visions for post-pandemic education, all participants emphasized that this period of remote instruction has been marked by challenges, trauma, and personal growth for many students that will inevitably change the way we return to in-person learning. Notably, all three students commented that this history cannot be "erased" and that we must be mindful of how we interact with one another post-pandemic. Diana was concerned about respect for emotional and physical boundaries. In terms of physical boundaries, she explained that some students may not yet feel comfortable sharing desk space with other students and may still want to practice social distancing. Emotionally, she noted that some students might have had the virus themselves, lost a family member, or their home during this pandemic, and that we need to be mindful when talking about this time.

Amy envisioned instructors being more understanding of students' home lives outside of the classroom. As a STEM student typically enrolled in large lectures, Amy enjoyed connecting with her instructors more quickly in the online environment. Based on her experiences this semester, Amy values professor/student relationships more. She hopes there will be more opportunities, especially within large STEM classes, for instructors to build connections with students when we return to in-person instruction. More specifically, Amy envisions instructors helping tailor assignments to students' career goals and generally being more flexible with course expectations. Amy and Celeste both felt that academics dominated their lives to an unhealthy extent before the pandemic that left little time for personal exploration or relaxation. In particular, Amy hopes that instructors will recognize that students' lack of course engagement might be a red flag that there are underlying mental health issues and offer appropriate support.

Meaningful Relationships Across the University

While Diana viewed relationships becoming more academic, both Amy and Celeste expressed hope that students, faculty, and staff would form more meaningful relationships post-pandemic. Amy, who had negative experiences with peers but positive experiences with faculty, suggested that the university host informal events or Socratic seminars where different campus community members could dialogue about

their experiences in academia and form bonds. She emphasized that these community conversations need to feel organic and intimate for people to participate willingly. Similarly, Celeste hopes that faculty members will be more emotionally vulnerable with their students. During this pandemic, she appreciated when instructors opened up about their challenges with remote education. She said this is something she did not see as much during in-person instruction, and she hopes these reciprocally supportive relationships will continue when we return on campus. Diana, who described having almost familial relationships with faculty and staff before the pandemic, also hopes for these stronger relationships but feels it will be challenging to reconnect after the time apart.

DISCUSSION

Navigating the Emergency E-Learning Environment

The participants' narratives are consistent with research on common first-generation college student experiences, even with the unique emergency e-learning context. For example, Amy's description of the "doubt" or "fear factor" she felt during in-person instruction illustrates the imposter syndrome that inhibits many first-generation college students from developing the social capital necessary to succeed in a college environment (Petee, Montgomery, & Weekes, 2015; Schwartz et al., 2018). The imposter syndrome is a phenomenon where first-generation college students feel intellectually inferior compared to their peers and out of place on a college campus. Canning et al. (2020) explain imposter phenomenon is further exacerbated for students of color and women in STEM who may also experience racial and gender discrimination (Canning, LaCrosse, Kroeper, & Murphy, 2019; Collins, Price, Hanson, & Neaves, 2020). Amy's anecdote of her Zoom breakout room discussion with male peers offers an example of what gender discrimination can look like in an online environment.

However, what is notable about Amy's breakout room experience is that she felt comfortable reaching out to her instructor for support. Interestingly, removing physical barriers and the immediacy of online learning has helped Amy feel more confident overcoming professor/student power differentials to advocate for the help she needs. Zheng et al.'s recent study on internet self-efficacy during the COVID-19 pandemic found that students who already had strong self-efficacy adapted well to the remote environment. In contrast, students who lacked these skills may develop them out of necessity. Zheng et al. (2020) write: "[I]n the context of the COVID-19 pandemic where physical contact is restricted, students' only option is to use internet services to enhance their academic, social networks. Based on our study results, it is suggested that the quality of virtual interactions can help proactive students to enhance their web-based social capital." Amy's enhanced social capital was evident in her intentional Zoom background for our interview. Even though her current student life was virtual, her choice to visually represent herself in the heavily trafficked student center shows that she feels more comfortable occupying university spaces.

Accessing Resources

This study illustrates that universities' improved virtual services may help first-generation college students develop self-efficacy skills and social capital. When the campus shifted to emergency remote instruction, several campus departments updated their websites and used social media to communicate. These communication methods made internships, resources, services, and professional development opportunities more accessible to tech-savvy first-generation college students who may not have had the same access to these resources during in-person instruction. Amy described feeling more comfortable accessing workshops, reaching out to mentors, and applying for faculty-mentored research opportunities. These new opportunities helped Amy define her goals and ultimately was a deciding factor in her decision to continue her degree. Similarly, even Celeste, who developed strong self-efficacy skills by utilizing services recommended for first-generation students (EOP advising, participating in on-campus groups, utilizing mentor services), found it was easier to navigate relationships and resources. Both Amy and Celeste's positive experiences align with research findings that first-generation students who are academically resilient access a wide variety of campus resources and faculty-mentored opportunities (Demitrou et al., 2017).

Conversely, Diana's difficulty navigating the remote environment illustrates that first-generation college student experiences cannot be over-generalized. Zheng et al. (2020) explain that students may struggle to develop internet self-efficacy without the support of positive online interactions, social capital, and a conducive home environment. Different identity aspects, such as socioeconomic and citizenship status, may also alter how first-generation college students engage in their education (Orbe, 2008). In Diana's case, the distance from valuable campus resources, such as the undocumented student center, and increased home responsibilities made it more challenging to successfully adapt to the remote learning environment.

RECOMMENDATIONS

Supporting Students Through Crises and Beyond

Based on these findings, institutions looking ahead towards a post-pandemic transition may want to plan a reorientation to campus that emphasizes resources and opportunities that can be accessed both in-person and online to best support first-generation college students. In addition to clearly communicating on-campus resources and services online, institutions may want to work closely with their undocumented student center or similar departments to communicate available off-campus community resources. Transitioning such student support services into a remote environment can be challenging for institutions but is not unfeasible with clear forethought and crisis management planning (Zawacki-Richter, 2020). As Diana noted in her interview, the distance from physical campus resources was especially challenging for her, and this may be a similar experience for other under-resourced students. Recommended off-campus resources could include food pantries, accessible study spaces, wifi hotspots, and potential financial resources. It is recommended that institutions utilize a multipronged approach that involves updated websites, various social media platforms, and campus community members to communicate what is available off-campus. Although the university in this study has a dedicated undocumented resource center, Diana emphasized the desire that faculty, staff, and other departments, anticipate the needs of non-citizens. Beyond future crises, institutions should offer professional development to educate community members on how they can best support undocumented and under-resourced students.

This study also contributes to the emerging literature on how remote learning and the COVID-19 pandemic may impact students' mental health. As early COVID-19 studies and previous pandemic research show, students' mental health tends to suffer during global crises. Beyond anxiety sparked by the crisis at hand, students may be struggling with health issues, financial stress, hunger, academic overload, or the loss of a loved one (Akhan et al., 2010; Baloran, 2020; David et al., 1996). Instructors can incorporate emerging best practices to support students' mental health during this crisis. All three participants consistently described how supportive faculty and staff relationships helped them overcome various remote learning challenges. Their desire for more opportunities to foster meaningful relationships with faculty post-pandemic is consistent with current literature on how instructors can support first-generation students. Demetriou et al.'s 2017 study of academically resilient first-generation college students found that students were more successful when they had multiple opportunities to organically form supportive mentorships with peers and faculty, where they regularly addressed the students' goals and potential barriers. This finding connects closely with the participants' post-pandemic recommendation for more informal opportunities to dialogue and build connections between faculty, staff, and students.

These instructor/student bonds can also be formed in the remote environment, albeit through different means. McCarthy, an editor of *Student Affairs Today*, recommends that faculty do not assume what resources or emotional support students need. Instead, she encourages faculty to use surveys, email campaigns, and focus groups assessing students' actual needs to help students succeed in their remote coursework (McCarthy, 2020). Additionally, she recommends active advising through multiple communication modes (email, websites, learning management systems) to reach as many students as possible (McCarthy, 2020). Luckily, many of these best practices are adaptable and recommended for the return to in-person learning. Faculty inexperienced in these student-counseling techniques would benefit from targeted professional development supporting students' emotional and mental health while also

respecting boundaries. As the participants noted, meaningful faculty support will be vital for students struggling to overcome trauma and reorient themselves to the on-campus learning environment.

CONCLUSION

While this study focuses on a small subset of students' pandemic educational challenges ("Zoom fatigue," technology access, online accommodations are all current topics of interest), it contributes to the emerging literature on COVID-19's impact on higher education. The use of visual research methodologies, in particular, presents a more intimate examination of students' experiences and a student-centered narrative of imagining post-pandemic education.

This study made visible how our campuses' physical environment limits and supports first-generation college students and how the remote learning environment may mitigate some of these barriers. In some ways, the creativity that emerged in response to the pandemic (whether intentionally or not) made the university environment more accessible to first-generation college students. Beyond a change of environment, institutional practices evolved. Improved accessibility of websites, internships, and resources may help students like Amy develop social capital to navigate university settings and relationships better. Celeste's success in overcoming personal challenges in a remote environment suggests that the high-impact practices that support first-generation students during in-person instruction may help them better adapt to a remote learning environment. Diana's experience as an undocumented student points to the practicality of on-campus resources and the need for institutions to communicate which off-campus resources are available both during crises and generally.

Although participants' remote learning experiences varied, they shared similar visions for post-pandemic education. Their recommendations for campus community building and supporting students through pandemic trauma are practical suggestions for institutions looking ahead to the return of in-person instruction. Moreover, their visions offer a unique perspective on how institutions can harness the creativity and lessons learned during this crisis to build a more inclusive and accessible institution. There is a strong possibility that more institutions will rely on virtual instruction methods post-pandemic (Gurukkal, 2020), so it is critical we continue exploring ways to maximize the positives of remote learning and ameliorate the negatives. As we look forward to post-pandemic education, we need to pay attention to the ways that our students are experiencing virtual learning. To that end, this study and further phenomenological research can help inform our creation of learning environments that best support students' needs.

REFERENCES

- About EOP | Educational Opportunity Program at Sonoma State University. (2020, October 16). *About EOP*. Retrieved January 01, 2021, from <http://eop.sonoma.edu/about-eop>
- Akan, H., Gurol, Y., Izbirak, G., Ozdatli, S., Yilmaz, G., Vitrinel, A., & Hayran, O. (2010). Knowledge and attitudes of university students toward pandemic influenza: A cross-sectional study from Turkey. *Bmc Public Health, 10*(1), 413.
- Allen, I.E., & Seaman, J. (2010). *Learning on demand: Online education in the United States*. Babson Survey Research Group (Original work published 2009).
- Azmitia, M., Sumabat-Estrada, G., Cheong, Y., & Covarrubias, R. (2018). "Dropping out is not an option": How educationally resilient first-generation students see the future. *New Directions for Child and Adolescent Development, 160*, 89–100. <https://doi.org/10.1002/cad.20240>
- Baloran, E.T. (2020). Knowledge, attitudes, anxiety, and coping strategies of students during COVID-19 pandemic. *Journal of Loss and Trauma*.
- Beaton, R., Stergachis, A., Thompson, J., Osaki, C., Johnson, C., Charvat, S.J., & Marsden-Haug, N. (2007). Pandemic policy and planning considerations for Universities: Findings from a tabletop exercise. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, 5*, 327-334. [10.1089/bsp.2007.0029](https://doi.org/10.1089/bsp.2007.0029).
- Burki, T. (2020, June). COVID-19: Consequences for higher education. *The Lancet Oncology, 21*(6), 758.

- Casey, N. (2020, April 4). College made them feel equal. The Virus exposed how unequal their lives are. *New York Times*. Retrieved August 27, 2020, from <https://www.nytimes.com/2020/04/04/us/politics/coronavirus-zoom-college-classes.html>
- Center for Disease Control and Prevention. (2010, February 22). *CDC Guidance for Responses to Influenza for Institutions of Higher Education during the 2009-2010 Academic Year*. Retrieved from <https://www.cdc.gov/h1n1flu/institutions/guidance/>
- Clauss-Ehlers, C., & Wibrowski, C. (2007). Building educational resilience and social support: The effects of the Educational Opportunity Fund program among first- and second-generation college students. *Journal of College Student Development, 48*(5), 574-584.
- Covarrubias, R., & Fryberg, S. (2015). Movin' on up (to college): First-generation college students' experiences with family achievement guilt. *Cultural Diversity & Ethnic Minority Psychology, 21*(3), 420-429.
- David D., Mellman T.A., Mendoza L.M., & Kulick-Bell, R. (1996). Psychiatric morbidity following Hurricane Andrew. *Journal of Traumatic Stress, 9*, 607-612.
- Demetriou, C., Meece, J., Eaker-Rich, D., & Powell, C. (2017). The activities, roles, and relationships of successful first-generation college students. *Journal of College Student Development, 58*(1), 19-36. <https://doi.org/10.1353/csd.2017.0001>
- Ellsworth, E.A. (1997). *Teaching positions: Difference, pedagogy, and the power of address*. New York: Teachers College Press.
- Galea S., Brewin C., Gruber M., Jones R.T., King D., King L., . . . Kessler, R.C. (2007). Exposure to hurricane-related stressors and mental illness after Hurricane Katrina. *Archives of General Psychiatry, 64*, 1427-143.
- Gardner, S.K., Miller, K., Barker, M.J., Loftin, J., Erwin, M., & Maurin, K. (2007). Student affairs and Hurricane Katrina: Contextual perspectives from five institutions of higher education in New Orleans. *NASPA Journal, 44*(1). <https://doi.org/10.2202/0027-6014.1762>
- Glaw, X., Inder, K., Kable, A., & Hazelton, M. (2017). Visual methodologies in qualitative research. *International Journal of Qualitative Methods, 16*(1). <https://doi.org/10.1177/1609406917748215>
- Gurukkal, R. (2020). Will COVID 19 turn higher education into another mode? *Higher Education for the Future, 7*(2), 89-96. <https://doi.org/10.1177/2347631120931606>
- Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual Studies, 17*, 13-26.
- Hébert, T.P. (2018). An examination of high-achieving first-generation college students from low-income backgrounds. *The Gifted Child Quarterly, 62*(1), 96-110. <https://doi.org/10.1177/0016986217738051>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020, March 27). The difference between emergency remote teaching and online learning. *Educase Review*. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Inkelas, K.K., Daver, Z., Vogt, K., & Leonard, J.B. (2007). Living-Learning Programs and first-generation college students' academic and social transition to college. *Research in Higher Education, 48*, 403-434. <https://doi.org/10.1007/s11162-006-9031-6>
- Ironson G., Wynings C., Schneiderman N., Baum A., Rodriguez M., Greenwood D., . . . Fletcher, M.A. (1997). Posttraumatic stress symptoms, intrusive thoughts, loss, and immune function after Hurricane Andrew. *Psychosomatic Medicine, 59*, 128-141.
- Kessler R.C., Galea S., Gruber M., Sampson N., Ursano R., & Wessely S. (2008). Trends in mental illness and suicidality after Hurricane Katrina. *Molecular Psychiatry, 13*(2008), 374-384.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd ed.). Thousand Oaks, CA: Sage.
- Lee, J. (2020). Mental health effects of school closures during COVID-19. *The Lancet*, advance online publication. [https://doi.org/10.1016/S2352-4642\(20\)30109-7](https://doi.org/10.1016/S2352-4642(20)30109-7) [PubMed], [Google Scholar]
- Lorenzo, G. (2008). The Sloan semester. *Journal of Asynchronous Learning Networks, 12*(2), 5-40. Retrieved from <https://files.eric.ed.gov/fulltext/EJ837474.pdf>

- McCarthy, C. (2020). Support first-generation college students through struggles triggered by national crisis. *Student Affairs Today*, 23(4), 1–5. <https://doi.org/10.1002/say.30760>
- Meyer, K.A., & Wilson, J.L. (2011). The role of online learning in the emergency plans of flagship institutions. *Online Journal of Distance Learning Administration*, 14(1). Retrieved August 25, 2020, from <https://www.learntechlib.org/p/52628/>
- Murphy, M.P. (2020). *COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy*. Contemporary Security Policy.
- Nenko, Y., Kybalna, N., & Snisarenko, Y. (2020). The COVID-19 Distance learning: Insight from Ukrainian students. *Revista Brasileira De Educação Do Campo*, 5, 1-19. Retrieved from <https://sistemas.uft.edu.br/periodicos/index.php/campo/article/view/8925/16759>
- Orbé, M.P. (2008). Theorizing multidimensional identity negotiation: Reflections on the lived experiences of first-generation college students. In M. Azmitia, M. Syed, & K. Radmacher (Eds.), *The intersections of personal and social identities. New Directions for Child and Adolescent Development* (vol. 120, pp. 81–95).
- Pain, H. (2012). A literature review to evaluate the choice and use of visual methods. *International Journal of Qualitative Methods*, 11, 303–319.
- Peteet, B., Montgomery, L., & Weekes, J.C. (2015). Predictors of imposter phenomenon among talented ethnic minority undergraduate students. *The Journal of Negro Education*, 84(2), 175–186.
- Pink, S. (2012). *Advances in visual methodology*. Sage Publications.
- Rabiger, M. (2009). *Directing the documentary* (5th ed.). Focal Press/Elsevier.
- Reed, M. (2020, May 13). Should showing faces be mandatory? *Inside Higher Ed*. Retrieved August 30, 2020, from <https://www.insidehighered.com/blogs/confessions-community-college-dean/should-showing-faces-be-mandatory>
- Rose, G. (2016). *Visual methodologies: an introduction to researching with visual materials* (4th edition.). SAGE Publications Ltd.
- Rosenthal, A., & Eckhardt, N. (2016). Writing, directing, and producing documentary films and digital videos. In *Writing, Directing, and Producing Documentary Films and Digital Videos*. Southern Illinois University Press.
- RTI International. (2019). *First-generation college students: Demographic characteristics and postsecondary enrollment*. [Infographic]. Washington, DC: NASPA. Retrieved from <https://firstgen.naspa.org/files/dmfile/FactSheet-01.pdf>
- Schwartz, S., Kanchewa, S., Rhodes, J., Gowdy, G., Stark, A., Horn, J., . . . Spencer, R. (2018). “I’m having a little struggle with this, can you help me out?”: Examining impacts and processes of a social capital intervention for first-generation college students. *American Journal of Community Psychology*, 61(1-2), 166-178.
- Shugart, S. (2013). The challenge to deep change: A brief cultural history of higher education. *Planning for Higher Education*, 41(2), 7-17.
- Sturken, M., & Cartwright, L. (2018). *Practices of looking: An introduction to visual culture*.
- Thomas, M.E. (2009). *Auto-photography*. Columbus, OH: The Ohio State University.
- Tate, K.A., Caperton, W., Kaiser, D., Pruitt, N.T., White, H., & Hall, E. (2015). An Exploration of First-Generation College Students’ Career Development Beliefs and Experiences. *Journal of Career Development*, 42(4), 294–310. <https://doi.org/10.1177/0894845314565025>
- Toutkoushian, R.K., Stollberg, R.A., & Slaton, K.A. (2018). Talking 'bout my generation: Defining "first-generation college students" in higher education research. *Teachers College Record*, 120(4), 1.
- Trellis Company. (2020, July 30). *Supporting first-generation college students through a pandemic*. [Webinar]. Trellis Company. Retrieved from <https://www.trelliscompany.org/portfolio-items/supporting-first-generation-college-students-through-a-pandemic/>
- Van, D., McLaws, M., Crimmins, J., MacIntyre, C., & Seale, H. (2010). University life and pandemic influenza: Attitudes and intended behaviour of staff and students towards pandemic (H1N1) 2009. *BMC Public Health*, 10(1), 130. Retrieved from https://sonoma-primo.hosted.exlibrisgroup.com/permalink/f/ci6aka/TN_proquest733787359

- Wiederhold, B.K. (2020). Connecting through technology during the Coronavirus disease 2019 pandemic: Avoiding “zoom fatigue”. *Cyberpsychology, Behavior and Social Networking*, 23(7), 437–438. <https://doi.org/10.1089/cyber.2020.29188.bkw>
- World Health Organization. (2015, June 21). *What is the pandemic (H1N1) 2009 virus?* Retrieved August 19, 2020, from https://www.who.int/csr/disease/swineflu/frequently_asked_questions/about_disease/en/
- Zawacki-Richter, O. (2020). The current state and impact of Covid-19 on digital higher education in Germany. *Human Behavior and Emerging Technologies*. <https://doi.org/10.1002/hbe2.238>
- Zheng, F., Khan, N.A., & Hussain, S. (2020). The COVID 19 pandemic and digital higher education: Exploring the impact of proactive personality on social capital through internet self-efficacy and online interaction quality. *Children and Youth Services Review*, 119, 105694. <https://doi.org/10.1016/j.chilyouth.2020.105694>