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Loneliness During Mass Social Distancing: An Exploratory Qualitative Study of Loneliness in College Students During the COVID-19 Pandemic

Madeline Williams
University of Kentucky, mraiw255@gmail.com

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Abstract

The COVID-19 pandemic has created a unique environment to study loneliness in college students. Loneliness has a deeply rooted history in psychology and sociology where both attempt to explain it as either a lack of physical contact, a discrepancy in one's actual quality or type of relationships and the quality or type of sought-after relationships, or as an emotional reaction to social factors. One way that psychologists have attempted to quantify loneliness is with the UCLA loneliness scale. Previous research has focused on the conceptualization and definition of loneliness, social stress theory regarding studying mental health, and the strength of interpersonal ties with a move to predominantly online communication. To build on this research, I conducted mixed-method research interviewing 16 students ages 19 to 24 and utilized the UCLA loneliness scale to inform my qualitative data. The interviews in this study address stress through major life events, chronic strains, and daily hassles known as social stress theory. They also discuss the strength of different relationships due to social distancing. My analysis demonstrates that many students define loneliness during the pandemic with different parts of existing academic theories. My findings suggest that, within social stress theory, the pandemic is a major life event that has resulted in other stressful events which in turn causes chronic strain as it persists—stress proliferation. My interviews also tend to highlight instability within online relationships potentially due to a lack of social cues or face-to-face context. Interventions based on these findings may include creating new online methods of community building for new and returning students, promoting safe outdoor activities, and establishing support groups aimed specifically at those who feel lonely or isolated.

Introduction

My interest in loneliness began with the wall that separated my roommate from me and the door that trapped me inside my ten by ten room. Many fellow freshmen described feeling distanced from others despite all of the events, organizations, and greek life available on campus. The University of Kentucky is one of many colleges that have moved from a more communal housing structure to one that promotes individualism and in turn loneliness. This connection between individualism and loneliness is not new, especially within America, as it was documented in Riseman's 1950 book *The Lonely Crowd: A Study of the Changing American Character*. Without the bonds created by sharing a small room with someone or a bathroom with the rest of your hall, college students are feeling alone on a campus of tens of thousands. That experience of feeling alone in a room full of people and the feeling of being physically isolated from others could be described as "loneliness." Feelings are such abstract concepts based on one's own life experiences that defining and measuring them has evolved and developed within the last fifty years.

In 1978, psychologist Dr. Daniel Russell developed the UCLA Loneliness Scale, which is now a staple in measuring loneliness within the field (Oshgan and Allen 1992, 382). According to the cognitive discrepancy model of loneliness, loneliness results from the difference between one's ideal relationships and actual relationships in terms of quantity, quality, and type (Perlman and Peplau:1981). In contrast, "a social needs model proposes that loneliness arises from actual deficits in social contact" (Archibald, Bartholomew, and Marx 1995: 296). Many scholars have studied loneliness in conjunction with depression, but it soon became clear that these were two separate phenomena that needed to be measured separately (Belcher 1974; Russell 1978; Solano 1980; Weiss 1987). Since the first scholarly research on loneliness, interest in it as a

phenomenon has spread to a variety of fields, including psychology, nursing, sociology, anthropology, geography, and criminology.

The farther back loneliness is traced the more interconnected with psychology and medicine it becomes. It became clear that the history of the study of loneliness, specifically in relation to the measurement and separation of loneliness from depression, was a complex web of scholars (Russel 1978; Weiss 1987). The study of loneliness started from a place of recognizing individualism as a new trait of the American culture (Riesman 1950) and evolved into a medical investigation with the attempt of solving it (Peplau 1955). In the 1970s many social psychologists began to construct scales to measure loneliness on the individual level and in turn, these scales were later used in recent larger-scale psychological studies (Diehl et al. 2018; Bruce et al. 2019). Loneliness is now a popular topic within many fields as seen by the roughly 70,000 results from a search of "loneliness" filtered for exclusively peer-reviewed journals on InfoKat, a library database, between 2000 and 2020. In September of this 2020, InMind Support held the second annual interdisciplinary conference on loneliness online (psychology, sociology, and culture studies).

Within the last few months, the world has changed more than anyone could have predicted. With cases of COVID-19 reaching into the millions, the way we go about our lives has had to reshape into a new understanding of "normal." How we go grocery shopping, how we visit family members, how we form new relationships, and how we research has required deft alterations to assume a state of relative stability. My personal experiences at the beginning of college spurred my interest in loneliness research. I wanted to understand how different housing types impacted one's level of loneliness, but the pandemic closed all of the dorms and sent us home. Many of my fellow University of Kentucky students and I spent our first weeks of social distancing writing final papers, studying for exams, and figuring out how to adjust to an online model of learning. After the last click of a submission button concluded my semester, there was finally time to look past my keyboard at the world outside, or rather, the lack of a social world outside. By that point, I had not seen my college friends in two and a half months. I had only left the house to get food and I finally had the opportunity to sit and realize the impact that COVID-19 was having on all of our social lives. In some ways, individuals my age had already adapted to communicating from afar with the rise of social media usage. In other ways, we were blindsided to many social consequences of living with our families, or alone, or in a completely different country. Many internships were moved online, study abroad trips were canceled, and summer jobs postponed in the hopes of shops and restaurants reopening at some point soon.

College students began to mourn the loss of their plans, their relationships, their freedom, and in some cases their loved ones due to COVID-19. In a world running on Zoom, Facetime, Snapchat, Instagram, Netflix, Tinder, Bumble, Hinge, and an infinite array of other social media applications, how well are we adapting to this new "normal"? How was and is the generation of instant communication handling social contact primarily through social media? Prior to the pandemic, 46% of people described feeling alone in a national survey (Cigna 2018:3). What are some of the mental health impacts, if any, and the pandemic's impact on the already high levels of loneliness? This rare phenomenon is a unique opportunity to study loneliness in a time of mass social distancing where many subjects are nonetheless easily reachable due to social media and other digital communications technologies.

In attempting to understand and study an emotion, scholars have created various and conflicting models that define loneliness. The pandemic provides a new perspective on the difference between that feeling of being alone amongst others and being physically isolated from others. As the majority of college students are physically isolated from others, this study could be compared with previous studies (Diehl et al. 2018) to build on scholars' understanding of the models' ability to better explain loneliness. There are both mental and physical health implications of loneliness that demonstrate how important it is to study this topic (Cacioppo, Fowler, and Christakis 2009; Hawkley and Cacioppo 2010).

Conducting research during a pandemic is not an ideal situation and as such adjustments had to be made to keep the participants and myself safe. I conducted 16 30-60 minute long interviews from August until October of 2020 using Zoom, Skype, and, in one instance, Discord. Subject recruitment took place online in the form of a social media post to various university affiliated subreddits and my own public social media accounts. The findings of this research indicate that the academic conceptualizations of loneliness are prevalent in various forms in my data, stress is playing a part in many of these students' lives, and that the stability of relationships has been impacted because of the online format.

This paper address previous theories on the definition of loneliness that depict it as a discrepancy in one's relationships, as a physical or social lack of interaction, and as an emotional reaction. Social stress theory is connected to the experiences of participants and their coping mechanisms. The literature section ends with an exploration of different theories related to the strength of interpersonal ties. The methodology section outlines the different steps of this research and the demographics of participants. The results section takes the three different sections from the theoretical background and applies them to the coded data from my interviews. These interviews highlight the prevalence of emotional, physical, and social aspects of loneliness. Physical isolation as an element of loneliness is especially discussed in the participants' interviews. These interviews go beyond the discussion of loneliness and discuss different types of stressors within their lives. A primary stressor, the COVID-19 pandemic, leads to secondary stressors that result directly and indirectly from the primary stressor. This concept is known as stress proliferation (Pearlin 1997) creates a cycle when examined in connection with mental health issues and loneliness.

Just as participants discussed stress alongside loneliness, they also talked about their online and offline interactions with others. They explain a phenomenon that I have described as "social blinders" where they have a difficult time assessing the context and availability of their friends. They also describe a lack of stability within their online relationships because of the friend's ability to log off at any point. This paper concludes by examining previously stated solutions and assessing their feasibility during the COVID-19 pandemic. It also presents a pandemic-friendly solution, based on past research, that universities can implement to assist with the loneliness that college students may be feeling.

Theoretical Background

The development of my research questions was informed by the academic definition and understanding of loneliness as described by Weiss (1974), Perlman & Peplau (1981), Archibald (1995), and more recently Yang (2019). These academics not only attempted to define loneliness, but in some cases, to measure and quantify it. As my research progressed it became apparent that the sociology of mental health and stress theory would play a large part in

understanding why people felt and continue to feel lonely. Once I began to code, it was clear that my data addressed aspects of the sociology of social networks, namely interpersonal ties. These theoretical frameworks assisted in formulating, restructuring, and understanding the experience of loneliness during the COVID-19 pandemic.

Defining and understanding loneliness

This section addresses four different definitions and categorizations of loneliness: Weiss' definition of loneliness, the cognitive discrepancy model, the social needs model, and loneliness as an emotional reaction. As described earlier, the study of loneliness has been rooted in a variety of fields with a particularly large foundation in psychology. However, the first theoretical framework used within this study is discussed by sociologist Robert S. Weiss in his book *Loneliness*. It defines loneliness as "a response to the absence of some particular type of relationship or, more accurately, a response to the absence of some particular relational provision" (1973:17). This definition shows the start of academic interest in not only understanding the life experience of loneliness but in defining what it is and its relation to relationships. Some scholars aimed to study the aspect of relationships and loneliness such as Perlman & Peplau (1981) and Archibald (1995). My study does not attempt to confirm nor refute the different theoretical frameworks, but rather to understand how or if each is represented in the data I collected. COVID-19 has created a distinctive environment that socially isolates a large portion of the world population. This environment is different from those that Perlman, Peplau, Archibald, and Russell observed and as such may lend itself to different parts of different theories.

Perlman and Peplau are credited with the creation of the cognitive discrepancy model of loneliness. This model "view(s) loneliness as a discrepancy between one's desired and achieved levels of social relations" (1981:32). During the pandemic, many relationships have had to adapt to the "new normal" and as such this framework may be an important part of conceptualizing loneliness. It defines loneliness by the quality and quantity of relationships and as such does not focus on the face-to-face or contact driven social needs model that Archibald subscribes to. Within Russel's 2012 article, he evaluated the cognitive discrepancy model and found that "[t]he results of this investigation provide mixed support for this cognitive discrepancy model of loneliness. There was no evidence of the predicted nonlinear relationship between the ideal-actual discrepancy measure for social activities and either satisfaction with social activities or loneliness" (18).

This leads to the social needs model that defines loneliness as "resulting from actual deficits in social contact and intimacy" (Archibald et al. 1995:296).This model is especially pertinent to this study because of social distancing, isolation, and the lack of physical contact. Archibald's theory of a lack of "social contact" is both a physical face-to-face general communication theory. However this conceptualization of loneliness is a direct contradiction of Weiss when he stated, "loneliness is caused not by being alone but by being without some definite needed relationship or set of relationships" (1974:17) showing that our understanding of loneliness is ever evolving. More recently, Yang's 2019 book *Loneliness A Social Problem* discussed a variety of theoretical frameworks that define loneliness and categorize it as an emotional reaction.

Social stress theory

Stress and loneliness are not often studied in conjunction with one another. It is clear from my interviews that stress is an important aspect of my participants' lives and is a part of the cyclical nature of loneliness. To address stress theory, it is important to understand how we define this term. As defined by Thoits in *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems*, stress theory asserts that "accumulations of social stressors can precipitate mental health problems" (2009:126). These stressors are broken down into major life events, chronic strain, and daily hassles where the first two have strong ties to depression when they are perceived as negative (Brown & Harris 1978; Ross & Mirowsky 1979; Thoits 1983, 1995, 2010b; Turner and Lloyd 1999; Turner, Wheaton, and Lloyd 1995;). Examples of major life events are a divorce, moving to college or, in the case of this study, a pandemic. Examples of chronic strain are chronic illness, poverty, long term, and persistent family issues or, as COVID-19 persists, the pandemic and social consequences of it. Examples of daily hassles within the pandemic are instances where one forgets a mask and has to go back home to get one, or needing to buy lotion because one's hands are drying out from using a hand sanitizer multiple times a day, or being unable to log onto your Zoom course because the application is having difficulties. These stressors can start to pile up and may be caused by an primary stressor that causes the " the expansion or emergence of stressors within and beyond a situation whose stressfulness was initially more circumscribed," (Pearlin 1997:223) a phenomenon known as "stress proliferation." This study also briefly addresses how college students are dealing with the stress of the pandemic with a variety of positive and negative coping mechanisms.

Interpersonal relationships

As the academic definitions of loneliness included in this paper focus on one's relationships, it is important to understand how relationships are impacted by COVID-19 and in turn how that impacts loneliness. In his 1973 article "The Strength of Weak Ties," Granovetter explains the connection between studying the strength of interpersonal ties at a dyadic level and a group or societal level. He categorizes these ties as strong, weak, or absent and this categorization and overall theory has been utilized in recent research with online communication (Grabowicz et al., 2012; Jones et al., 2013; Pénard and Poussing 2014). But now that the majority of communication is virtual, how does that impact the strength of friendships, family relationships, and partnerships? This study uses Granovetter's framework of strong, weak, or absent ties and literature built from this theory to explore the stability and strength of online relationships in a time dominated by them and an environment that has required them.

Methodology

The pandemic has had an impact on all demographics, but this study chose to focus on college students due to their extensive experience in communicating virtually and my personal knowledge of students' life experiences. My study consisted of University of Kentucky students between the ages of 19 and 25 who were taking undergraduate courses during the Spring 2020 semester. I chose this age group because I believed that this group was especially severely impacted by the sudden move-out in March and the vastly different Fall 2020 semester. The age requirement for the study was implemented because I believe that there may be a difference in life experiences for those who are coming out of high school, those who have previously graduated, and those who were in school during the beginning of the pandemic.

This study aims to understand how social interaction, communication, and mental health have changed due to the COVID-19 pandemic. Because the study does not aim to generalize this knowledge, the subject recruitment relied on advertising through public social media platforms rather than randomized recruitment. This advertising included a message through my Facebook and Twitter, where the audience was set to public, and public University of Kentucky related subreddits (r/wildcats and r/UniversityofKentucky). The social media messages contained a summary of the study in a designed digital flyer and provided a link to the interest survey that verified whether interested respondents were eligible for the study. Though this does offer the potential for the study to be overpopulated with students within my social network, I found that many of my participants came from Reddit or group messages where the message had been posted by someone else. I also found that the demographic distribution was beyond those of my own age (ranging 19-24 years old), gender (including men, women, and a gender nonconforming individual), and an array of majors. Subject recruitment began in early August 2020 and lasted until the first week of October 2020. This caught students both at the end of the summer and into the semester, which allowed me to explore if loneliness is persisting beyond the living situations prevalent during the summer such as living at home with family.

The social media message contained a link to an interest survey that determined if the respondents were qualified and willing to participate as well as providing the primary researcher with their contact information. If they were determined eligible and were selected, the participants were sent a link to the informed consent form over Qualtrics. After they fill out the informed consent form, the participant was asked to fill out the UCLA loneliness Scale over Qualtrics and to sign up for an interview slot with Doodle.com. The UCLA Loneliness Scale created by Russell et al. 1978 is cited as one of most widely used scales to quantify loneliness (Oshgan and Allen 1992).The latest and third version was released in 1996 with 20 questions whose answers were later scored to receive a score. My participants were asked to complete the online questionnaire to better inform their qualitative data from the interviews. This questionnaire was not completed during the interview because the presence of the interviewer could influence participants' answers.

After they completed the questionnaire, participants and I engaged in a semi-structured interview. These interviews lasted approximately thirty minutes to an hour and were conducted over a variety of platforms such as Zoom, Discord, but primarily Skype. The interview primarily followed the course of the conversation because this study aims to understand and document the students' experience of loneliness as well as also other social factors. I asked a variety of questions that attempted to discuss the participant's experiences during the pandemic. These questions were adapted to fit the conversation and explored topics from mental health to virtual communication to social support networks. Once finished, the researcher provided the participant with a link to mental health resources that the university has implemented during the COVID-19 pandemic. They were also sent a Target gift card via email to compensate them for their time.

These interviews were fully transcribed by an auto-transcription software, transcribe.wreally.com. These interviews were checked for errors and to make sure all the information in them complied with the participant's informed consent form. This included anonymizing them and including the pseudonyms of participants if requested. I utilized Atlas.Ti to code for emergent themes and existing theories.

Results/Discussion

After collecting and coding my data, I found certain connections and patterns related to the definition of loneliness, social stress theory, and interpersonal relationships. I also took the UCLA Loneliness Scale data and set it alongside the data I received from Dr. Daniel Russell. I reached out to Dr. Daniel Russell because I wanted to compare the larger scale use of his UCLA Loneliness Scale in "Loneliness in the United States: A 2018 National Panel Survey of Demographic, Structural, Cognitive, and Behavioral Characteristics" (Bruce 2018). I reached out to him because the statistics in Dr. Bruce's paper were not separated by gender and age collectively. Instead, they are sorted separately into tables of descriptive statistics. This section addresses how my data and the different theoretical frameworks are related as well as how my data can inform future research on the subject. It also explains how the UCLA Loneliness Scale research is used in conjunction with the qualitative data from my participants' interviews. All of this will aid in our understanding of loneliness and the many other variables that impact it.

UCLA Loneliness Scale

This research began as a mixed-method project aimed at using the UCLA Loneliness Scale to understand how lonely each participant was to better inform their qualitative data. After collecting the data, it became apparent that this study would be unable to use the data as previous studies have because of the small sample size. I went in knowing that the sample size would be no more than 20 participants; and as such, I knew that the data I collected using the scale would not be able to accurately reflect the entire population of undergraduate students at the University of Kentucky. Instead, this data may be able to show that the people I am interviewing fall within the range of what one would expect; and if they do not, it will work alongside the qualitative data to examine these differences.

In order to apply this data to my results, it is important to know the history and use of the UCLA Loneliness Scale. This scale was originally developed by Daniel Russell, Letitia Peplau, and Mary Lund Ferguson and discussed in their 1978 article "Developing a Measure of Loneliness." The article discusses their study of 239 participants at University of California-Los Angeles that utilized 25 questions from Sisenwein's original loneliness scale (1964). This UCLA Loneliness Scale contains statements such as "I am unhappy doing so many things alone," or "I lack companionship," or "people are around me but not with me." They asked participants to describe how well this statement fit them using a likert scale of often, sometimes, rarely, or never. As it is attempting to measure an emotion, the article showed the reliability of the test through the participant's scores and their self-reports of loneliness, the support of theoretical frameworks on the relationship between loneliness, anxiety, and depression, and the face validity of the 20 statements themselves (Russell et al. 1978:293). When I began researching how academics were measuring loneliness, I read Oshagan and Allen's article that compared three scales and acknowledged that the UCLA Loneliness Scale is the most widely used (1992:382).

My study used the latest version of the scale (Russell et al., 1996) and asked each participant to fill out the scale via the Qualtrics survey platform prior to their interview. By having both the qualitative and quantitative data, I am able to compare the results of the scale and the self-reported level of loneliness in the interview. My study contained 16 participants between the ages of 19 and 24 who identified as male, female, and using they/them pronouns with an average score of 50.56 (Table 2). The scoring of the scale is relative in that there is not a numeric threshold where one is labelled "lonely." Instead, I am able to compare this data to the

data from Bruce's 2018 national survey that found an average score of 47.87 (Table 1) for participants ages 18 to 25. Bruce's study and data were not portrayed in such detail that I could conduct specific demographic comparisons, so I emailed both Dr. Bruce and Dr. Daniel Russell. Dr. Russell was able to provide me with a table of descriptive statistics for 18-25-year olds that was sorted by gender. One of my currently unpublished works uses this data to better understand the relationship between loneliness and gender.

Table 1. UCLA Loneliness Scale results by gender provided by Dr. Daniel Russell through personal communication from Bruce et al.'s 2018 study

Statistic	Male	Female
N	604	1385
Mean	46.77	48.81
SD	10.44	10.57
SE	.42	.28
Range	20-74	20-80

Table 2. UCLA Loneliness Scale results by gender from this study's participants

Statistic	Male	Female	They/them
N	6	9	1
Mean	56.5	46.89	48
SD	7.48	8.28	N/A
SE	3.05	2.76	N/A
Range	47-69	38-60	48

My samples do not meet all of the conditions of inference as the sample size separated by gender is too small; therefore, I cannot run a test of significance and know that the results will be valid. While I cannot use this data for the purposes of generalizing, the data is still useful in demonstrating that there are some students at the university who are scoring higher than previous

averages for their age group and/or gender. This is especially prominent in the difference between male and female participants in my study and between previous male averages and the averages of my male participants. This calls for further research on how UCLA Loneliness Scale scores change over time, differ by gender, and are impacted by the COVID-19 pandemic.

Defining and understanding loneliness

When constructing interview questions, I made sure to include a particular emphasis on how the participant conceptualized loneliness. We discussed times both before and during the pandemic when they felt lonely, how they defined loneliness, how frequent the experience was, and how they identified it as loneliness as opposed to depression, sadness, or anxiety. I asked participants to define loneliness using their own words and experiences, and as such, they provided an array of definitions. These definitions do point to some patterns in the definition of loneliness as well as some aspects that impact loneliness.

Archibald's understanding of loneliness appears to be the most prevalent element in participants' definitions. He defines loneliness through "a social needs model [that] proposes that loneliness arises from actual deficits in social contact" (Archibald et al., 1995:296). This makes sense as I am asking participants to define loneliness during a pandemic where social distancing has now become the norm. This discussion of physical distance in relation to loneliness appears in some form in each of the participant interviews when asked for a definition or a description of an experience before or during the pandemic. While physical distance is the most frequently discussed element of loneliness, most if not all participants also describe the lack of an emotional companionship. Interviews show that both the social/physical and emotional aspects are both important even during a period of social distancing. Jessica provides an example of the physical element that would lean towards a more face-to-face interpretation of Archibald and Weiss' theories:

> "...loneliness is like not having people around to interact with and being by yourself. Some people probably enjoy that and probably wouldn't you know, they enjoy being by themselves and wouldn't consider that loneliness, but I'd say I'm a relatively extroverted person and so for me like not having people around is probably more lonely for me."

This came up in several interviews including Emily's, also a senior at the university, when she described loneliness as a lack of both a physical and an emotional presence.

> "I've felt it kind of just being like there's no one to be with me at the particular moment. And what I really need is kind of like a boost or just any type of interaction with somebody and it's just not happening. So I think loneliness is wanting company and wanting somebody that knows you well and it not being there."

As described above in Emily's statement, loneliness during the pandemic can go beyond the general lack of contact. It is a specific lack of a type of relationship, as theorized by Weiss,

who described loneliness as "a response to the absence of some particular type of relationship or, more accurately, a response to the absence of some particular relational provision" (1974:17). There is an overwhelming understanding of loneliness as a physical separation from their social support network, which one would expect in the middle of a pandemic, but that is not the only source cited. Many describe a lack of understanding in particular Michael, a senior at the university, alluded to this in his description saying:

> "You don't feel like you have a support group. Even if you do have a support group you feel like they are going to be able to understand what you're going through. It's not just a physical state of being but also a mental state of being because there's physical loneliness where you're isolated from others, but there's also the mental loneliness where you really don't have someone you can talk to who might understand you or support you and empathize with whatever you deal with."

There is a distinction between the physical and emotional elements of loneliness, but also an emphasis on having a strong bond with someone. Weiss describes this distinction between social and emotional loneliness (1974). In order for the person to feel fully supported by their social support group, they need to feel that they are listened to and understood on a variety of levels. Michael also found this particular aspect of loneliness to be difficult to describe to me going as far as to say that "it doesn't make a lot of sense."

> "I didn't feel like there's someone I could reach out to and accurately explain my feelings too. Like I knew I had friends and support group, but I felt like my specific feelings might not be, I don't know how to explain it, I didn't feel like I could explain these well to them and get something you know, like I didn't feel I'm sorry. I'm trying to think of a word like it doesn't make a lot of sense."

Perlman and Peplau's cognitive discrepancy model (1981) was not as prevalent in this dataset. This may be due to a more universal similarity in relationships due to the worldwide move to quarantine or social distance. There are few current models of ideal relationships that one could aspire to have. For example, David, a sophomore at the university, provided an example of their model in an anecdote about a time prior to the pandemic:

> "I mean there was like one group of people who played D&D together, and although like I don't really play D&D so, but I thought that it was really cool that they just went out and had fun in the common area. I thought that would be really cool to have people to just, you know, hang out whenever basically."

In a time where many individuals are staying home, some ideal relationships may include having roommates if living alone, living with one's significant other if single or separated from

them, or seeing those breaking social distancing rules to interact outside. Two participants, Jessica and Sarah 2, describe an example of some of this comparison that may factor into their definitions of loneliness. Jessica described living alone in an apartment after living with a few roommates prior to the pandemic. She talked about being unable to meet with her family members, such as her grandparents and immunodeficient friends, due to COVID-19. Sarah 2 graduated in the spring of 2020 as the pandemic forced students off campus. She lived with her parents for a while before leaving the state for work with her boyfriend. Sarah 2's new state did not follow as strict rules as Kentucky and there was an acknowledgement that loneliness may be different depending on where one lives. She explained that "the loneliness that I felt in Kentucky is very different than the loneliness that I feel in Florida" and that she would "look out my window and in the parking lot, there will be people hanging out and so like gazing longingly out the window at like the friends I don't have...." She describes a difference in the social norms surrounding mask wearing in Florida and those in Kentucky. I believe that lack of social integration may stem from a sense of anomie, as described by Durkheim, "reality seems valueless by comparison with the dreams of fevered imaginations" (1897/1951:256). As the routine social norms are uprooted due to the pandemic, some may have a hard time feeling connected to the current state of society and may feel detached.

Loneliness appears most frequently as one's lack of a physical or emotional relationship with others. One of the interviews discusses an underrepresented aspect of the experience of loneliness--one's experience with themself. Although Sarah 2 lives with her boyfriend in an apartment after graduating from the university in the spring, she acknowledges that social distancing has provided her with the space to reflect on living with herself.

> "I think it's just feeling like you're the only constant in your life and not even knowing if you can really trust yourself to be that constant either. That was a hard part. [It] was figuring out that I wasn't even sure if like I was enough to keep myself company."

This was discussed in connection to the definition of loneliness and poses some potential research questions. What happens to one's relationship with themself while they are lonely? Does loneliness provide an environment for self-growth or deterioration? How does this internal experience impact the perception of external experience? Another interview participant shed some light on this. Jonathan described not only feeling as if he lacked companionship; but rather, that he felt excluded from society as a whole. Jonathan comments on this feeling of separation from society:

> "I would describe loneliness as half of your brain falls off the face of the Earth and says you don't want to feel better. You don't want people....You do not share in the collective human experience what these people are striving for you don't get to be part of that and you don't deserve to feel companionship during times of loneliness."

His definition of loneliness also points to another important part of loneliness: the feeling that it is perpetuated through a cycle. Many participants describe a history with diagnosed and undiagnosed anxiety, depression, and bipolar disorder. Loneliness' relationship with feelings of depression and anxiety has already been addressed in previous literature (Russell et al 1978). Later, in the results section, I examine the cyclical relationship between loneliness and depression through major life events and chronic strain. After laying out the different elements of the definition of loneliness from my participants' perspective, it is important to understand how they relate to many academic conceptualizations of loneliness. This study does not attempt to define loneliness or disprove or approve any particular existing theory; instead, it aims to understand how COVID-19 has impacted the representation of each theoretical definition.

Social stress theory

Out of all of the years to discuss stress, 2020 seems to be the opportune moment. With a pandemic, an impactful United States election, social movements all over the world, bushfires in Australia, major waves of job loss or being furloughed, or being forced to move out, it would be hard not to say that everyone is somewhat stressed. College students have a unique experience during this pandemic as one could argue that they deal with different stressors than their parents or even siblings only a couple of years older than them. As described by Thoits in *A Handbook for the Study of Mental Health*, major life events can be defined as "major changes in people's lives that require extensive behavioral adjustments. They hypothesized that having to readjust one's behavior substantially or repeatedly could overtax one's ability to cope or adapt, thus leaving one more vulnerable to physical illnesses, injury, or even death" (Thoits 2009:128). COVID-19 has absolutely required almost every individual to make "extensive behavioral adjustments" especially students whose schools shut down or moved online during the middle of the spring semester.

These students and their professors were forced to adjust to a new online mode of teaching that required great adjustments such as the move to discussion boards, online lectures, and Zoom class meetings. There were so many more variables floating around than before such as one's access to consistent and strong internet, changes in work schedules, moving back home with parents or living alone, learning in a different physical environment, losing internships or co-ops, and the list goes on. As a student, academics are one of the most important elements of your life and that is demonstrated as it appears in almost every participants' answer to the question "what major elements of your life have changed due to the COVID-19 pandemic?"

Though academics are a large stressor, participants describe a variety of pandemic-related and non-pandemic-related stressors. James scored a 69 on the UCLA Loneliness scale as opposed to the average 18-25 male score of 46.77 (Table 1) (Russell D., personal communication, September 14, 2020). Does this mean that he is lonely? Not necessarily. While my interview questions focused on loneliness it was not the major topic of his interview; instead, unlabeled stress makes up the majority of his interview. He talks about dealing with political differences at home, frustration with paying full tuition for online courses, a feeling that the quality of his education was lower, a relatively isolated living situation, complete absence of in-person contact with friends during quarantine, having a difficult time with social media, some poor mental health, and tense race dynamics with his Republican parents as a multiracial half black and half white individual. The culmination of these stressors led to the deletion of his social media:

> "I just decided enough was enough and that I needed a break because digesting bad over social media on top of you know, dealing with being in my house all the time. I was just going to go crazy. So, I deleted Facebook and Twitter just for my own clarity."

The different stressors are not all related to COVID, such as the political differences and race dynamics at home, but many are the consequences of the major event that is the pandemic. It leads to this breaking point where he is unable to fully cope causing him to take control of his interaction with online content. This experience of breaking down due to a combination of stressors is present in many interviews. Jessica describes a similar situation except she quits her job instead of social media. She was working in a stressful environment where some customers refused to follow mask wearing guidelines, one of her family members had a non-COVID related medical emergency, and needed to take care of another family member while one was in the hospital but was unable to because of the pandemic. Other participants struggled with a variety of stressors, such as Hannah, who worried about her immunocompromised grandmother; Bailey, who has had to deal with working in a COVID unit at a hospital and studying full-time, Amy who taught young children and had to make the move to online teaching; Don, who travelled a long way away to live with his mother; and Thomas, who was frustrated with housing expenses at the university.

Focusing in on the COVID related stress, a theme emerged when coding the data that demonstrated what Pearlin called stress proliferation or " the expansion or emergence of stressors within and beyond a situation whose stressfulness was initially more circumscribed." (Pearlin 1997:223). This proliferation, described in my interviews, stems from the pandemic, a major life event and primary stressor, which has created new and different types of stressors. These stressors are not temporary, and they are ever multiplying. As students, such as Thomas, started the semester, they were met with issues such as being unable to recoup their housing costs. However, there are some students who did not describe the same experience or level of stress, even though they are in similar situations with stress equal to or greater than those who hit a breaking point. Rayleigh had moved back in with her dad over the summer and stayed predominantly isolated until she returned to campus. She talked about being able to build a stronger relationship with her father. Pearlin looks at "stress-buffering functions of resources" (Aneshensel 2015:170) which is also a key part of the stress proliferation theory. Essentially, these are the resources that different people have that assist in their ability to cope with stress and prevent it from proliferating or causing them to reach a breaking point. Social support is one type of resource that Thoits has studied regarding stress.

We know that depression is tied to stressful life events (Kendler 1998), stress can proliferate from a primary stressor that can be a major life event that causes other stressors (Pearlin 1997), and that loneliness is described by participants as a lack of social support and is connected to depression/anxiety (Diehl et al. 2018:10). This may create a cycle of loneliness, stress, and poor mental health that perpetuate all of these factors in one's life. In fact, Cacioppo et al. suggested the possibility of a cycle created by loneliness where one is less likely to reach out and interact with others, shrinking their social support group and deepening the cycle (2017). This may also be exacerbated by the current online mode of communication, for which

participants described some issues with social cues and an instability within their relationships with others. However, COVID-19 related stressors are not the only stressors impacting students.

This stress proliferation must also be seen in connection with stressors outside of the pandemic such as the political climate at the time of the interviews. These interviews were conducted as the U.S. presidential election was approaching, racial tension was heightened, and protests in Portland were met with the national guard. James talks about stress from social media and its consequences:

> "Actually during the pandemic I deleted my Twitter and Facebook because, you know, for my hometown they allowed the people that I was friends with had a lot of opinions that were a little bit skewed because this was around the time that the black lives matter protest was going on. And so, there was a lot of a lot of rhetoric coming from them. At least I felt like they weren't really giving things a fair viewpoint."

These students saw these events unfold before them everywhere they looked, as news stations aired videos of police brutality and protests. Yes, they may be the most well-informed generation, but is there a negative impact on their mental health from being exposed to violence, hate, and anger so frequently? Johnathan describes the relationship between social media and stress in his interview:

> "It's really strange because just about everybody these days is for the most part spending like way too much time on social media and stuff, but for quarantine specifically that can be a good or a bad thing. Staying in touch with people is always a positive, but like for some people, it makes them feel like a lot better to really constantly stay in touch with their friends and all that stuff and then for some people being on social media just kind of really puts a lot of strain on them."

Like James, Megan and other participants described a decreased use or deletion of social media due to the stress it caused them. Sarah 2 and Emily talked about cleaning as a way to control their personal environment in a time when many things are uncertain. Uncertainty is another topic discussed by many participants as a stressor related to both the pandemic and politics. Many of the coping mechanisms described previously may be ways to control one's personal environment but also to elicit control in a society where normally stable things such as health, social interactions, and social institutions are no longer consistent or predictable. This unique and stressful year asks us to contemplate the role of stress in relation to not only loneliness and depression, but how it impacts other parts of our lives. It forces us to take mental health seriously and consider the ramifications that it has beyond the individual. How does stress impact us on a societal level? How do we solve it? Can we even solve stress? As explored by Pearlin and Thoits, social support may be one way to assuage the stress that many people experience. It is important to understand the strength of our interpersonal relationships in order to deal with stress.

Interpersonal relationships

As social distancing mandates continue to change and adapt throughout the United states and the world, many individuals are moving to a primarily online form of communication. The social support systems that many had in person have had to change and adapt to fit the circumstances. Thoits described social support as "a key social asset, consisting of emotional, informational, or practical assistance from other people. Support can be received from other people or simply perceived to be available if needed" (2009:130). Social support consists of one's relationships; Granovetter's 1973 article focuses on different types of relationships labelled strong, weak, or absent ties and their importance or strength in social networks.

Other literature took this theory and applied it to online, mixed-mode, and in person relationships to compare their quality (Antheunis et al. 2012). They found that "for the quality of the friendship it does not matter how people met their friends, online versus offline, as long as the friendship also migrate to offline settings" (Antheunis et al. 2012:Article 6). What does this mean for the quality of one's relationships? Emily described the quality of her relationships during the summer months at home:

> "So I think having a handful of friends that I've not seen at all since like February or longer, a lot of them, [it] has been difficult and feeling kind of like 'have people forgotten what I am or who I am?' because I think it's harder still to connect with even all of this. As many offers as you can make to do something virtually with someone there's just kind of some of it that doesn't cut it and there's places that you can't go with people. Yeah, I think it's been very hard and I feel like friendship is just kind of like not a thing that's happening for me right now, not so much."

Sarah 1 also described the quality of her relationships while living at home during the summer, but she also discussed an element of it related to participants' definitions and descriptions of loneliness--understanding. She talked about how her friends in closer proximity are not able to understand her on an academic level as "they aren't Engineers. They can't help me with this, but that's okay." The friends that are engineers are living far away from her or that they are unavailable due to work commitments. Explaining that her family is also unable to understand her on an emotional level, Sarah 1 said, "I guess they can't empathize is a good way to put it, if I'm using those words right, because they can say 'I'm sorry feeling this way. I hope you feel better,' but they don't really understand and there's not really a lot they can say." Sarah 1 scored a 43 on the UCLA Loneliness scale, which is below the previous average of 48.81 for 18-25-year-old females in Bruce's study (Russell D., personal communication, September 14, 2020). Bruce's data was not displayed in the original articles with the intention of this kind of comparison. I believe that displaying my data and Bruce's data is still important despite my inability to generalize my data. It can add to the qualitative data already collected on each participant to show that different experiences impact individuals differently.

More recently, Nowland et al. connected Antheunis et al.'s study to loneliness and social media usage in order to understand how building online relationships can reduce loneliness (2018). Their study found that "...there is evidence that the withdrawal and passivity of social

behaviors that are evident offline in lonely people are also evident in online interactions and lonely people are more likely to displace offline relationships and social activities with online ones" (Nowland et al. 2018:82). Emily's description of social interactions does match with their study's findings; however, Thomas described an almost opposite behavior when talking about online communication:

> "You know, you can see someone's online on Skype or on Discord or you can see that they're tweeting but those are your only real indicators that they might be available. It's harder to have the cues on when people are available unless you see them actively available....you can be a little bit more pushy like I'm guessing you're not asleep because you're playing this game right now I'm calling you. Whereas with friends that I have in real life, I don't want to disturb them if they're working. I don't want to disturb them if it seems like they're busy because I wouldn't want to be disturbed in those cases."

He explains that there is a lack of social cues in online communication that indicate someone's availability; however, he is more inclined to call and reach out to people who he sees are online. Playing a video game, tweeting, or using Discord shows Thomas that his friends are online and in turn "available." Because someone is online and other people can see it, does that mean that people are inviting others to communicate with them? More research could focus on this idea of being "available" while posting or being online. This interview may also indirectly touch on hegemonic masculinity as defined by Bird through competitiveness, emotional detachment, and the sexual objectification of women (1996:121). These adjectives are not directly present in Thomas' description but others, such as being assertive, may come into play here. Thomas is willing to assume that because his friends are online that they are available, so he is willing to be more assertive in starting online interactions. An unpublished article of mine addresses this topic of masculinity and experiences of loneliness in more depth. Future research may investigate how masculinity has been impacted by the pandemic, how a prolonged online environment is related to masculinity, and if the pandemic creates a "crisis of masculinity" (Kimmel 2005). A lack of social cues, as previously discussed, seems to spark different reactions where Hannah finds it to have a more negative impact on her online interactions:

> "...I feel like texting it is a lot different than talking about in person because in person you have like the body language and like you can act things out and you don't see the people, you know, like getting excited about it or you know, like just there's just an element missing from it."

She describes some of the things we miss out on when using online, as opposed to offline, communication. There are social cues such as body language, tone, or emotion that is left out when texting or video chatting, almost as if there are social blinders that prevent one from fully understanding important social cues that provide context for conversations. Jessica describes how unstable one's relationships can feel because of a lack of social cues:

"And I'd like the physical like physically being there in person with somebody. [It] makes it feel more like concrete, you know versus being online where it's like, yeah I know you're there but at any moment you could just hop up and dip like…."

There is a distinct feeling that her relationships are not as stable online as they once were because the other person can "...hop up and dip…." There may be more indicators of when someone is "available" online but that does not mean that the interactions one has with them may be as stable as they were in person. This may be due to the lack of social cues and the implementation of social blinders which shield one from body language, tone, or emotion. Emojis have developed to express emotion and tone in online settings such as texting or Zoom calls. As offline events are cancelled or adjusted due to the pandemic, ghost events held online, such as wine nights as described by Sarah 2 and Jessica, have taken their place. Further research could see if these ghost events are able to live up to the real events and how our expectations can impact them. A few participants did express any explicit "withdrawal" or "passivity" as Antheunis et al.'s study, such as Emily and Sarah 1, but these two participants scored differently on the UCLA loneliness scale and had vastly different living situations at the time of the interview. Others, like Thomas, were more assertive in starting online interactions potentially due to a variety of other factors such as hegemonic masculinity. This showcases the idea of loneliness as a social reaction (Yang 2019) that differs person to person and impacts how they differently interact with others online.

Implications and Conclusion

This study included 16 18-25-year-old college students at the University of Kentucky who were taking undergraduate courses during the spring 2020 semester. I am a 20-year-old undergraduate student at the university which means that I would technically qualify for this study. While I fit the subject recruitment criteria, I deliberately worked to prevent this from impacting my data collection or coding and analysis. I am passionate about the topic because of my experiences and others with loneliness, but this study aimed to understand loneliness in an age group where many do not expect it to be found. The pandemic created unique circumstances for people of all demographics, but it placed a particular strain on college students.

We began hearing about COVID-19 around the beginning of the new semester with professors explaining a potential shift to a hybrid or online class format. It did not seem real until two of my friends and I left in mid-March to spend our spring break in an Airbnb. Covington, Kentucky, felt like a deserted town in an old western film. It was almost eerie walking the Purple People Bridge with distinctly fewer people, cold overcast weather, and the distant hum of a radio station floating from speakers in Covington as we walked towards Newport, Indiana. University of Kentucky students were informed that we would need to completely move out of our dorms after previously assuming we would be back in a week or two. After returning home, my sister and I drove to my dorm to pack all my belongings up and hurriedly throw them in the back of my mom's car. As of the start of my spring break, Kentucky had 16 confirmed cases; by the time I had moved out eleven days later there were 248 cases, and as of November 21st, the CDC and Kentucky Cabinet for Family and Health Services have reported a total of 155,908 positive cases in Kentucky.

This study aims to understand loneliness during the pandemic. Through my interviews, I found that loneliness does not exist in a void. Both my data and previous literature (Diehl et al. 2018:10; Kendler 1998; Pearlin 1997) show that stress, depression, anxiety, social support, and others contribute to the experience of loneliness. My college participants attempted to define loneliness and demonstrated that the academic definitions are represented in different ways. Their different definitions show that during the COVID-19 pandemic definitions of loneliness are not limited to physical isolation; instead, they include emotional absence or a lack of someone whom they feel understands them. This need for emotional connection and understanding also translates into participants' online communications. Participants' both agreed and disagreed with previous literature's results that indicate that people who are lonely are less likely to be assertive in interactions (Nowland et al. 2018:82). Some participants also described a lack of stability in online communications due to a lack of social cues and indications of availability. Each student in this study described several different elements of stress in their lives as well as the coping mechanisms they utilize. The COVID-19 pandemic acts as a primary stressor in many of their lives that have further stress inducing consequences, leading to stress proliferation. This pandemic related stress proliferation stacks on top of stress related to occupations, politics, race dynamics, and social media.

My study captures a few experiences over the course of two months during one of the most tumultuous years in recent U.S. history, which means that it is a mere snapshot of what is happening around the world. These limitations raise the question of what my research brings to the academic table with a small sample size of some college students at the University of Kentucky, especially when some studies "did not find a large increase in loneliness despite the social distancing measures undertaken to contain the outbreak. Even when physically isolated, the feeling of increased social support and of being in this together may help limit increases in loneliness" (Luchetti 2020:1). The dynamic of this year is ever changing, so while this study may have not found a large increase in loneliness, we cannot confidently claim that it is not present due to the pandemic. Loneliness and mental health are important topics beyond the effects of the pandemic. In fact Cacioppo et al. study results "suggest that loneliness appears in social networks through the operation of induction (e.g., contagion) rather than simply arising from lonely individuals finding themselves isolated from others and choosing to become connected to other lonely individuals (i.e., the homophily hypothesis)" (2009:985). Though loneliness is inherently a socially isolating experience, it impacts groups of people and spreads like a contagion. "At least two in five surveyed sometimes or always feel as though they lack companionship (43%), that their relationships are not meaningful (43%), that they are isolated from others (43%), and/or that they are no longer close to anyone (39%)" (Cigna 2018:3).

Many see loneliness as a mental health problem but there are physical implications especially for young adults. "Loneliness has been shown to exhibit a dose–response relationship with cardiovascular health risk in young adulthood" (Hawkley and Cacioppo 2010:220). " In an illustrative study, Caspi et al. (Caspi, Harrington, Moffitt, Milne, & Poulton, 2006) found that loneliness in adolescence and young adulthood predicted how many cardiovascular risk factors (e.g., body mass index, waist circumference, blood pressure, cholesterol) were elevated in young adulthood, and that the number of developmental occasions (i.e., childhood, adolescence, young adulthood) at which participants were lonely predicted the number of elevated risk factors in young adulthood" (Cacioppo et al. 2009, 978). Both Hawkley et al. (2010) and Cacioppo et al. (2009) include a long list of further physical implications for a variety of demographics in their

articles. The prevalence of physical effects showcases the need to study loneliness in college students as there are many negative implications of loneliness. All groups are impacted by loneliness and its consequences, but young adults are specifically at risk. It has become such an important topic that the prime minister of the United Kingdom appointed a "Minister of Loneliness" in 2018 to deal with the high rates of solidarity and isolation (Bruce et al. 2018:1123).

The current Minister of Loneliness, Baroness Diana Barran, released the "Loneliness Annual Report January 2020" in conjunction with the Right Honorable Nicky Morgan that outlines some strategies they have used and newer proposals. Their report discusses efforts to reduce the stigma surrounding loneliness, proposed policies in government aimed at tackling loneliness, and additions to the academic and public knowledge of loneliness. Other academics have offered solutions, such as programs that increase physical activity and cooperative learning (Diehl et al. 2018), "interventions to reduce loneliness in our society may benefit by aggressively targeting the people in the periphery to help repair their social networks" (Cacioppo et al. 2009:989), building social support networks (Klinenberg 2016), and face-to-face interactions (Bernardon 2011). Unfortunately, COVID-19 has made it difficult to promote programs that utilize physical activities such as sports teams and face-to-face gatherings. Though the move to online interactions has helped academics propose online solutions to loneliness. "To reduce social loneliness levels, campus outreach programs may need to encourage both face-to-face student interactions through social gatherings, as well as make use of online social networking, which is emerging as a way for students to engage in informal interactions (e.g., Madge, Meek, Wellens, & Hooley, 2009)" (Bernardon 2011:49).

I believe that it would be beneficial for universities to provide counseling programs and resources specifically targeting those who feel lonely, isolated, or alone. They could create online group sessions focused on helping students connect and build relationships in a world where online interactions are now the norm. This would also help many students with the loneliness they may have felt before COVID-19 and afterwards. When defining loneliness, some of my participants described a lack of understanding that I feel could be present in social support group programs created specifically for those who feel lonely. Hopefully, this intervention would also work to stop the cycle of loneliness described earlier in this article. Many participants stressed the importance of focusing on mental health and other areas because of the pandemic such as Michael:

> "I think mental health is going to have to be an issue we focus on a lot in the next couple of months and even the next few years, because I have a feeling the rates of depression and anxiety and loneliness of course have gone through the roof. Besides these mental health areas, it's going to have a more profound impact on everything. It's gonna affect how we interact with others in business environments and political environments and we're going to see those effects for a long time."

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