



# The impact of initial social distancing measures on individuals' anxiety and loneliness depending on living with their romantic/sexual partners

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## Abstract

In response to the COVID-19 pandemic, large swaths of the U.S. were under stay-at-home orders, thus preventing many individuals from leaving their homes. While previous studies have shown that such orders can be detrimental to mental health, specific mental health outcomes, such as loneliness and anxiety, have yet to be fully explored, particularly among various living situation contexts (e.g., living alone, with romantic/sexual partners, without romantic/sexual partners). The current study explores this using a mixed-methods approach. Data were collected via Amazon's M-Turk (N = 85). Kruskal–Wallis tests revealed significant differences between the three groups with respect to loneliness. Statistically significant greater levels of loneliness were found in individuals living alone compared to those living with romantic/sexual partners and those living with non-romantic/sexual partners. No significant differences in **anxiety** levels were detected. Qualitative analysis revealed similar themes among all groups regarding anxiety. When asked about loneliness, however, those living alone shared more about feeling isolated, unwanted feelings of solitude, and how technology only mitigates a portion of these feelings. Those living with others and sexual partners shared desires to see friends and co-workers, yet not to the severity described by individuals living alone. Romantic/sex life themes are also discussed.

**Keywords** Anxiety · Loneliness · COVID-19 · Living situation · Social distancing

The 2019 coronavirus (COVID-19) disease caused by SARS-CoV-2 was declared a pandemic in early March 2020 by the World Health Organization (2020). In an attempt to slow the spread of the virus, countries across the globe began

issuing restrictive *stay-at-home orders*, preventing individuals from leaving their homes unless they were considered essential workers or getting necessities for survival (AJMC Staff, 2021). In the U.S., most states and localities were stay-at-home orders during the early part of the pandemic (Leffler et al., 2020). Although various elements of stay-at-home orders were implemented, common collection of orders were individuals to remain at home unless one needed to purchase essentials or were deemed a non-essential worker, a person needed to wear a mask to leave their home, and that person needed to maintain a minimum distance of six feet from all other individuals (Centers for Disease Control & Prevention, 2020a, 2020b). Practicing these orders became known as *social distancing*.

Social distancing orders and practices, while beneficial in preventing the spread of emerging infectious diseases, can have a detrimental impact on individuals' mental health (Mizumoto & Chowell, 2020). Indeed, people who live in countries that enacted social distancing policies during severe acute respiratory syndrome (SARS) and

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Zika outbreaks reported higher levels of loneliness, anxiety, and depression (DiGiovanni et al., 2004; Mak et al., 2009; Tucci et al., 2017). Emerging studies about the COVID-19 pandemic have begun to highlight similar mental health concerns, including loneliness due to isolation as well as anxiety due to constant media exposure about the negative impacts of the COVID-19 pandemic (Chen et al., 2021; Rossi et al., 2020; Spoorthy et al., 2020; Xiong et al., 2020) including in other countries besides the U.S. like Ethiopia (Simegn et al., 2021) and Portugal (Antunes et al., 2020).

Cullen et al. (2020) have postulated there will be an increase in mental health concerns in individuals who have not experienced any prior mental health concerns, as well as individuals currently diagnosed with mental health conditions. This increase will likely be due to the increase in isolation and loneliness individuals experienced during quarantine (Cullen et al., 2020; DiGiovanni et al., 2004). However, loneliness is a nuanced symptom that can be impacted by a myriad of issues, including whom one lives with and socializes with on a regular basis (Jeste et al., 2020). Research has not yet explored how living situation context (e.g., living with romantic/sexual partners, living alone) impacts the mental health of people who practice social distancing behaviors.

The current study sought to use a multi-methods approach to learn more about how living context influences levels of anxiety and loneliness. For the current project, with whom the participants lived was a main variable of interest. Specifically, we predicted that differences exist for loneliness levels depending on a person's living situation. Those who live alone will have the highest levels of loneliness, followed by those who live with others, and the lowest levels will be reported by those who live with their romantic/sexual partners. We also hypothesized that anxiety levels will be similar across living situations as most individuals will be concerned with their own and their loved ones' survival during the pandemic equally across groups.

## Methods

The current study was conceptualized and executed as a multi-methods design. The multi-methods research design approach allows for researchers to address potential shortcomings in both qualitative and quantitative designs (Creswell & Creswell, 2017). The quantitative approach of using instruments to measure the psychological constructs of anxiety and loneliness are well documented in previous research. However, for this specific study, using the addition of a qualitative portion provides researchers a more nuanced exploration of how specific living situations during lockdown procedures were perceived to impact anxiety

and loneliness levels. This is of unique importance as there are no known specific quantitative measures addressing the experience of loneliness and anxiety while in the midst of a pandemic.

Using Amazon's Mechanical Turk (MTurk), participants were recruited if they lived in the continental United States, were age 18 years or older, and had successfully completed previous tasks performed in MTurk. Individuals who participated in the study responded to the request posted on MTurk that stated, "Participants wanted to explore the impact that social distancing due to COVID-19 has on social and romantic relationships."

Data was collected online from April 19, 2020, to April 25, 2020, in which the U.S. 7-day moving average was 30,155 (7.7 per 100,000) new COVID-19 cases per day (Centers, n.d.; 2020, April 25). This time frame was chosen because it was when the majority of the U.S. was under some form of a *stay-at-home* order for their state due to the COVID-19 pandemic. Participants from Arkansas, Iowa, Nebraska, North Dakota, and South Dakota were excluded due to not having any type of stay-at-home order issued. Participants who accessed the link were presented with an informed consent. Those who consented to participate completed some brief demographic information, two brief measures on anxiety and loneliness, technology used to socialize with others, and open-ended questions about the impact of COVID-19 on their social and romantic lives. An initial total of 105 participants completed the questionnaire. Participants received a US\$3 credit to their MTurk account upon completion of the online questionnaire. All methods and procedures were approved by the Texas Tech University Institutional Review Board (#2020-303).

## Measures

### Participant Validation

Since participants were recruited from an online participant pool, instructional manipulation checks (IMC) were present in the questionnaire to ensure participants were thoughtfully responding to items and questions (Oppenheimer et al., 2009). Some examples of the IMCs included "Please list 3 colors," "Select the world apple from the following drop-down list," and "Select often" which was embedded in the anxiety measure.

### Brief Loneliness

Loneliness was measured using the UCLA Loneliness Scale with six items (ULS-6). The ULS-6 has a strong correlation with the full version of the UCLA Loneliness Scale ( $r=0.87$ ) and has a good reliability coefficient ( $\alpha=0.77$ ) (Nazzari et al., 2017; Neto, 1992, 2014). The alpha in the

current sample was 0.82, indicating good reliability. Participants rated items like “I lack companionship” on a Likert-type scale of 1 (Never) to 4 (Often). Higher scores indicate higher levels of loneliness.

### Brief Anxiety

Anxiety was measured using the PROMIS Anxiety Short Form available from the National Institute of Health Toolbox (Pilkonis et al., 2013). Sample items on the 8-item self-report measure include “I felt uneasy” and “I had sudden feelings of panic,” and were ranked on a Likert-type scale from 1 (Never) to 5 (Always). Higher scores indicate higher levels of anxiety. The measure has excellent reliability ( $\alpha = 0.95$ ; Pilkonis et al., 2013) and had similar reliability in our sample ( $\alpha = 0.92$ ). This brief measure of anxiety has demonstrably more reliable results in detecting problematic anxiety than the GAD-7 (Pilkonis et al., 2013).

### Open-Ended Impact Questions

Several open-ended questions prompted participants to share how the initial stay-at-home orders impacted individuals' lives. Questions focused on how the pandemic and stay-at-home orders impacted five domains in the following order: 1) home life, 2) social life, 3) romantic/sexual life, 4) level of anxiety, and 5) loneliness. For example, to assess the impact on a participant's romantic and/or sex life, the question read, “How has the pandemic impacted your romantic/sex life?” Similar questions were used for the social life and home life domains. To understand the nuances of how the outbreak of COVID-19 impacted individuals' anxiety levels, the following open-ended question was asked, “How would you describe how the current outbreak of coronavirus has impacted your level of anxiety?” A similar question was used to understand the nuances of loneliness (See Appendix).

### Qualitative Analysis

The data collected was analyzed using a lens that understand our truths are constructed through shared experiences and understandings, known as social constructivism (Lock & Strong, 2010). Using social constructivism as a guide, we followed the tenants of thematic analysis as outlined by Braun and Clarke (2006). The goal of the qualitative analysis was to provide more context and nuance to the results of how individuals experienced anxiety and loneliness in regards to the pandemic. Thematic analysis is an inductive approach, where researchers not only look for themes but how participants make meaning with a phenomenon (Braun & Clarke, 2006). The responses were read manually and in concordance with thematic analysis, as initial codes were organized

into larger clusters and then finally grouped into themes. Once completed, the themes were then named and defined.

### Reflexivity

All researchers lived in places where lockdowns were enacted by the state governments, therefore we recognize that our interpretations may intersect with our own lived experiences with anxiety and loneliness due to the pandemic. To that end, there were three coders who coded the data independently, noting categories, how these categories related to each other, and developing themes from the data. A minimum of two coders needed to agree on a theme in order for the theme to be present in the data set. Once the themes were set, exemplar quotes were chosen that best illustrate the themes.

### Data Analysis Plan

Participant were grouped into three categories: 1) those who live with their romantic/sexual partner(s), 2) those who live with other individuals (e.g., family, friends), and 3) those who live alone. A one-way Kruskal–Wallis test was conducted with a pairwise post-hoc analysis using SPSS version 26. A Kruskal–Wallis test was chosen over an ANOVA due to the smaller sample sizes in participants who lived alone or with other individuals. Participants were grouped based on significant differences found during the post-hoc analyses of any significant Kruskal–Wallis test.

## Results

### Participant Sociodemographics

Due to incorrect responses on the IMCs, 20 participants were removed from the current analysis, leaving the total sample at  $N = 85$ . The majority of participants identified as male (46, 54.1%), White, not of Hispanic Origin (73, 85.9%), having at least a college bachelor's degree (64, 75.3%), and heterosexual (77, 90.6%). The mean age of the sample was 40.1 years ( $SD = 13.5$ ) with a range of 19 to 70 years of age. The majority of the sample (58, 68.2%) identified currently being in some form of a committed relationship. Before the outbreak of COVID-19 in the U.S., 20 of 85 individuals endorsed working from home on a regular basis. During the outbreak, 14 continued to work outside of the home, 11 reported losing their jobs due to furlough or the company closing, 19 worked part-time from home, and 41 worked full-time from home. There were 39 participants (45.9%) who reported living with their romantic/sexual partner, 24 reported living with someone other than a romantic/sexual partner (28.2%), and 22 reported living alone (25.9%). The

mean scores on the anxiety measure by living situation (with romantic/sexual partner, with someone else, and alone) were 2.34 ( $SD = 0.95$ ), 2.28 ( $SD = 0.83$ ) and 2.48 ( $SD = 0.82$ ), respectively. The mean scores on the loneliness measure by living situation (with romantic/sexual partner, with someone else, and alone) were 2.01 ( $SD = 0.66$ ), 2.42 ( $SD = 0.72$ ) and 2.42 ( $SD = 0.69$ ), respectively.

## Quantitative Results

A one-way Kruskal–Wallis test was conducted for both anxiety and loneliness to determine if there was a difference among the three groups. For anxiety, the Kruskal–Wallis test did not reveal any significant differences between any of the three groups,  $H(2) = 0.89$ ,  $p = 0.64$ . However, for loneliness, the Kruskal–Wallis test did reveal significant differences between groups,  $H(2) = 6.23$ ,  $p = 0.04$ . Post-hoc analysis using Mann–Whitney pairwise comparisons revealed greater loneliness reported by individuals who lived alone ( $M = 2.42$ ,  $SD = 0.69$ ) compared to individuals who lived with their romantic/sexual partners ( $M = 2.02$ ,  $SD = 0.66$ )  $U(N_{alone} = 22, N_{partner} = 39) = 13.19$ ,  $p = 0.04$ . Comparisons also revealed greater loneliness reported by individuals who lived with other individuals ( $M = 2.41$ ,  $SD = 0.72$ ) compared to individuals who lived with their romantic/sexual partners  $U(N_{others} = 24, N_{partner} = 39) = 13.52$ ,  $p = 0.03$ . There was no difference in loneliness between individuals who lived with other individuals and those who lived alone  $U(N_{others} = 24, N_{alone} = 22) = 0.34$ ,  $p = 0.96$ .

## Qualitative Results

To help contextualize quantitative findings, open-ended comments provided by participants were thematically analyzed to determine common patterns that were communicated about participants' experience with the initial social distancing orders. Based on the quantitative results, participants' responses were grouped by individuals who lived with their romantic/sexual partners, and individuals who did not live with their romantic/sexual partners (a combined group of individuals who lived alone and those who lived with family, friend, or roommate). Explanation of themes as well as exemplar quotes are provided below.

### Anxiety

All participants shared concerns about their and others' exposure to COVID-19. A person living with their romantic/sexual partner voiced concerns about social and physical interactions with people, "I'm worried about people getting close to me while I'm working." Similarly, a person who did not live with their romantic/sexual partner noted their anxiety was "slightly more elevated, [as] I am a little more

paranoid of other people." Participants were not only anxious about how the pandemic is affecting or could affect their personal lives, but they were anxious about how COVID-19 is affecting or could be affecting others. A person who lives with their romantic/sexual partner shared their "anxiety has increased a lot" because they "have three sons in the medical field." A similar sentiment was reported by a participant who does not live with their romantic/sexual partner, "I am anxious about my family's health, my friends, and the citizens of the world." The finding that all participants, regardless of if they lived with or did not live with their romantic/sexual partner, were anxious about COVID-19 exposure to themselves and others might explain why there was not any significant differences between groups and anxiety scores.

### Loneliness

While both groups discussed feelings overall of increased loneliness, those who do not live with their sexual/romantic partners shared more about feeling alone, isolated, and not being able to see their romantic/sexual partners. One person shared, "I feel more lonely because I am not around people and I am single," and another person not living with their sexual/romantic partner shared, "It seems a bit lonelier, especially since I'm not able to see my partner." Even the use of technology to foster connection, while helpful, was not useful in reducing the feelings of loneliness. For example, a participant noted, "The outbreak has impacted my level of loneliness a great deal. Unless it is essential, I can no longer visit people in-person. Talking to people online or on the phone helps a bit but does not substitute for in-person contact."

Those who lived with their sexual/romantic partners almost uniformly shared their loneliness stemmed from not seeing their friends and co-workers and/or not being able to participate in social gatherings. This is demonstrated by a participant who shared, "It's definitely increased it [loneliness]. I can't go to the gym and talk with my buddies and since so many people are working from home at work, I can't really see them either." Another person succinctly put it as "I am not seeing as many people today as before." This lack of interaction with others outside of their romantic/sexual partners did cause loneliness, but it seems to not be as severe as those who do not live with their romantic/sexual partners based on the results of the ULS-6.

**Romantic/Sex Life** Interestingly, the expression of loneliness was present in the responses to questions about the impact that social distancing has had on participants' home life, social life, and romantic/sexual life. Individuals who lived with their romantic/sexual partners, when reflecting on their sex/romantic life, shared impacts ranging from having more sex or feeling more connected to having less sex or feeling

annoyed. This range in sentiments was more dependent on the needs of others in the household or work, energy levels, and overall mood of their sexual partner or themselves. A participant explained, “I am having more intimate relations with my husband, just out of sheer boredom. A benefit though is I haven’t been sleeping well, but when we have sex, I can sleep better.” Another participant explained how social distancing might have negative impacts on their romantic/sexual relationships, “It has hurt it because seeing too much of each other is unhealthy.”

Those who did not live with their sexual partners, however, almost universally described how their romantic/sex life has suffered because of the pandemic. One example is “I have not had sex for a few months now. I miss my girlfriend,” and another is, “I have been isolated at home so only communicate with my boyfriend via phone or text.” Some participants even shared how they no longer are actively seeking a sexual partner due to social distancing orders to slow the spread of the pandemic. One person stated, “I’m no longer going on dates with men I meet on Bumble [a dating app]. So I have no romantic/sex life now.” Finally, one person matter-of-factly stated, “That [sex] is completely out the window now for dating or going anywhere. Besides where can you go?”

**Social Life** A similar pattern was observed in the responses about the impact social distancing had on individuals’ social lives. Over 70% (18 out of 39) of individuals who lived with their romantic/sexual partners stated that there was either no change or very little change in their social life. Many of them commented that while they were unable to meet their friends in-person, they have virtual interactions with friends. For example, “We do Zoom chats and meetups so it’s fine.” These quotes demonstrate the concept shared by most individuals living with their romantic/sexual partners that while there is an adjustment to not seeing friends in-person, the overall impact of social distancing on their social life is minimal given the opportunities for virtual communication.

Those who lived alone, however, were direr in their communication about how social distancing impacted their social life. One person shared, “Have none now. I miss my friends.” Although those who lived alone did mention they virtually chat with others, they noted that they prefer in-person conversations than video or phone conversations. A participant elaborated that, “It’s essentially minimized my social life. I didn’t get to say goodbye to a lot of my friends and didn’t really have any closure. I still Facetime some of them still, but not nearly as much social engagement like prior to the virus.”

**Home Life** Mostly there were similarities shared about how social distancing had impacted a participant’s home life. Mainly, those who communicated an impact shared how they

were spending more time with individuals who lived in the home (e.g., kids, parents) or how they were spending more time on responsibilities around the home. For example, one person noted relational benefits, “I get to spend more time with my family so that has been a huge plus,” while another person noted recreational benefits, “My house is much more [sic] cleaner now.” However, one theme emerged in those who did not live with their romantic/sexual partner: loneliness and boredom. Even though it was not specifically asked about in the prompt about home life, individuals shared, “I live alone, so I’m lonely,” “I spend a lot more time home alone,” and, “I have been staying home most of the time without any social interaction, less fun.”

## Discussion

The purpose of the current study was to determine the impact that social distancing orders associated with the COVID-19 pandemic had on individuals’ reported anxiety and loneliness levels. We hypothesized that there would be no difference on reports of anxiety, as many individuals will be worried about the impact and threat of the novel coronavirus that causes COVID-19. Our hypothesis was supported. Regardless of living situation, individuals reported similar levels of anxiety on the brief anxiety measure. In exploring the qualitative responses, participants shared concerns about the health of their loved ones as well as concerns about contracting the virus from others. These themes did not differ based on living situation. The findings that during a pandemic participants have elevated levels of anxiety is consistent with previous research into other occurrences of highly contagious illness such as SARS, Zika, and Ebola (Blakey & Abramowitz, 2017; Mak et al., 2009; Tucci et al., 2017; Wong et al., 2007).

Our hypothesis about loneliness was partially supported. As predicted, individuals who lived with their romantic/sexual partner reported lower levels of loneliness compared to those who lived with others and those who lived alone. However, no significant differences in loneliness levels were detected between individuals who lived alone when compared to those who lived with other individuals (e.g., family members, friends). Although loneliness has been reported as a mental health concern when following social distancing orders during the COVID-19 pandemic (Hwang et al., 2020; Shrira et al., 2020) and emerging research has begun to highlight individuals who identify as single are more at risk for loneliness (Hoffart et al., 2020), this study is one of the first to begin to highlight what might be causing those who identify as single to be at an increased risk for higher levels of loneliness, specifically not being able to spend time with their romantic/sexual partner(s).

Before participants completed the survey measuring loneliness or were specifically asked about loneliness, they identified feeling lonely as having an impact on their lives. Individuals who did not live with their romantic/sexual partners when asked about the home life, social life, and romantic/sex life more readily, and unsolicited, identified feeling lonely in their responses when compared to those who did live with their romantic/sexual partners. Unique to our study was understanding the context of a participant's living situation. Regardless of whether they identified as single and living alone or single and living with other individuals like family members, friends, or roommates, they experienced the same levels of loneliness. Furthermore, even when not being asked specifically about loneliness, participants still discussed feelings of isolation and solitude in their home, social, or romantic/sexual aspects of their life.

### Limitations

As in all studies, our results and conclusions need to be considered within the confines of the limitations to the current study. First, data in the current study was obtained via self-report and conducted online. Since the data collected was during the initial lockdown due to COVID-19 (mid-April 2020), the team chose online data collection due to it being the most expeditious and contact-free method. Due to this method of data collection, researchers were unable to follow-up or clarify answers obtained from participants which limited understanding and elaboration of participants' responses. Even though multiple IMCs were in place to ensure the participants were thoughtfully responding to the items in the questionnaire (Oppenheimer et al., 2009), researchers cannot guarantee the validity of all participant responses (e.g., human bots). Also, individuals who participate in online studies are not necessarily representative of the U.S. population. Future research into the experiences of loneliness and anxiety during the COVID-19 pandemic would benefit from conducting interviews with individuals recruited through more traditional venues (targeted, posting of flyers, advertisements) to obtain a more diverse, representative sample of individuals.

The measures used, both the ULS-6 and PROMIS Anxiety Short Form as well as the open-ended questions, were not normed on a sample of individuals while currently experiencing a pandemic. Ideally, norming measures on a population sample helps ensure the measures are capturing the intended constructs the researchers are interested in exploring. The decision was made to forego scale validation on a pandemic population due the limited time that individuals would remain in lockdown and the desire to not rely on memory recall to assess participants' experiences with anxiety and loneliness during the lockdowns. Participants' COVID-19 diagnosis status and that of those whom

they lived with or next to was not assessed. Future researchers may want to inquire how either being diagnosed with COVID-19 or someone you live with or being in close proximity to being diagnosed may impact anxiety and loneliness.

For quantitative analysis, the sample size was small, which required the use of non-parametric statistics. A larger sample size would allow for parametric statistics to be used for analysis. The small sample size also impacts the generalizability from a quantitative perspective. However, from a qualitative perspective, the current study does offer generalizability (Smith, 2018). Specifically, the current study has naturalistic generalizability, which is when themes are representative of individuals' lived experiences (Smith, 2018; Stake, 1978). The themes derived from the participants statements are representative of their lived experience with social distancing during the COVID-19 pandemic. The study also has transferability, which occurs when the results of a study inform ideas and concepts used by others (Lewis et al., 2014; Tracy, 2010). Individuals who are single regardless of living situation, reported higher levels of loneliness, and this information can be incorporated into interventions during future social distancing orders to help reduce those experiences.

### Implications and Conclusion

The limitations notwithstanding, the findings about loneliness for individuals who do not live with their sexual/romantic partners can be useful in addressing loneliness for future social distancing measures. Combating loneliness during the COVID-19 pandemic requires changing the ways individuals connect socially with their families, friends, sexual/romantic partners, and other persons they care about. It is imperative that public health advisories include digital methods to help maintain social connectedness, belonging, and intimacy during social distancing orders (Owens et al., 2021) for individuals who may not live with their sexual/romantic partners and those who are living alone. This might require public health to collaborate with those in the technology and broadband industry to ensure equitable technology access. It might increase interdisciplinary collaborations to integrate mobile health (Mhealth) into public health interventions. For example, mental health scientists, therapists, and web/app developers could design an app for group-level interventions that could lead to other services that allow individuals to process the impact of loneliness as well as virtually find and connect with others who can relate to their experiences.

More importantly, people who are most vulnerable to the adverse effects of increased loneliness and isolation experienced during the COVID-19 pandemic must not be digitally excluded. Individuals who do not have a sexual/romantic partner may engage in risky or problematic coping behaviors to help reduce the negative emotionality associated with

loneliness. For example, individuals may engage in sexual risk behaviors (Hubach et al., 2012; Torres & Gore-Felton, 2007) or use alcohol and substances to combat the feeling of loneliness (Hochstatter et al., 2021; Horigian et al., 2020; Vanderbruggen et al., 2020). Such trends denote the importance of harm reduction programming, related to sexual health and substance use, which is responsive to the disadvantageous outcomes of staying home (e.g., feeling lonely, feeling bored, not interacting with others).

Concurrently, several journalists have begun documenting experiences of individuals who engage in sexual hookups during the pandemic, often citing loneliness and a need for connection as a driving force behind the behavior (Bonos, 2020; Newberry, 2020; Safronva, 2021). Some larger metropolitan health departments published guidelines for sexual behaviors during COVID-19 that included digital options like sexting and the use of video platforms like Zoom (Los Angeles County Department of Public Health, 2020; New York City Health Department, 2020); however, the national guidelines from the Centers for Disease Control did not include tips on digital intimate interactions (National Coalition of STD Directors & NASTAD, 2020). None of the guidelines mentioned viewing of internet pornography. While repeated viewing of internet pornography can be problematic (Wetterneck et al., 2012), occasional viewing can help reduce the negative emotionality of loneliness for individuals who live alone (Hesse & Floyd, 2019; Sharkey et al., 2020; Stark et al., 2017). Future research is warranted on the sexual experiences and expectations of adults during the pandemic. For example, qualitative inquiry could further expand and contextualize our understanding of actions individuals took to mitigate loneliness and mitigate other negative mental health outcomes. Such data could inform the development and tailoring of public health messaging related to COVID-19 and future epidemics.

## Appendix

### Open Ended Questions and Order of Measures/ Questions Presented

Now we will ask you to reflect briefly on how the recent Coronavirus/COVID19 pandemic has impacted your life in various areas. With that in mind.....

1. How has the pandemic impacted your home life?
2. How has the pandemic impacted your social life?
3. How has the pandemic impacted your romantic/sex life?  
Then the participant was presented with a brief anxiety measure, PROMIS Anxiety Short Form.
4. How would you describe how the outbreak of Coronavirus/COVID19 has impacted your level of anxiety?

Finally, the participant was presented with a brief loneliness measure, the ULS-6 and presented the following open-ended question:

5. How would you describe how the outbreak of Coronavirus/COVID19 has impacted your level of loneliness?

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