

Analysis of Loneliness and Participation in Recreational Activities, Spirituality, Work, and School in East King County, Washington during the COVID-19 Lockdown

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Suggested bibliographic reference

Zubair, M. (2022). Analysis of loneliness and participation in recreational activities, spirituality, work, and school in East King County, Washington during the COVID-19 lockdown. *Psi Beta Journal of Student Research*, 2(1), 49-59.
<https://doi.org/10.54581/JJJC1614>

Abstract

Over the course of the COVID-19 Pandemic, researchers have examined how people adjusted to the conditions of social isolation. As a follow-up to those studies, it was investigated if, in King County Washington State, there was a correlation between people's new level of participation in work/school, religious, or recreational activities during the March-May 2020 lockdown (in comparison to pre-pandemic levels) and how lonely they felt during that time. Two hundred fifty-two King County residents (aged 18 - 65 years old) were surveyed over the internet. They were asked about their level of participation in work/school, religious, and non-religious recreational activities, whether the activities were conducted in-person or virtually, and if the amount of participation was more or less than before the pandemic. Participants were collected through snowball sampling, starting with immediate friends, families, and colleagues. Based on previous studies, it was predicted that participants who engaged in religious and recreational activities would feel significantly less lonely, while those who had engaged in work and school activities would feel significantly lonelier. The only significant difference that was present was regarding recreational activity; people who participated at the same level of recreation as they had before the pandemic were significantly less lonely than those who participated in recreation at greater or lesser levels during the pandemic. This finding is important because it suggests that a balanced amount of recreation can alleviate loneliness and its impacts on factors such as depression, anxiety, poor mental functioning, decreased motivation, etc. This study also illustrates the importance of maintaining routines that lessen loneliness.

Keywords: Recreation, Loneliness, Virtual, COVID-19, Social Isolation

In response to the COVID-19 pandemic in 2020, social isolation measures and restrictions took place in various countries to lessen the spread of the virus and follow science-backed guidelines such as limiting social contact with others – which have been proven in research to be extremely

effective, especially when comparing states and countries that refuse to follow social isolation guidelines to those that do (Erwin, 2021). However, one of the biggest unintended risks of social isolation measures and restrictions was putting people at increased risk for loneliness (Li, 2021;

Williams, 2020). Loneliness is when one is unable to meet desired social goals, regardless of if one is surrounded by others or not (Luchetti, 2020). Loneliness has already risen within the last 43 years at similar rates between Asians, Europeans, and Americans (Kara-Yakoubian, 2022) and its impacts include poor family functioning, poor economic/education efficiency (Williams, 2020), anxiety, difficulty with cognitive tasks (Wei, 2020), depression, self-harm (Bird, 2021), decreased motivations, decreased well-being, and withdrawal from activities and people that bring joy (Telyani, 2021).

Recreational, Religious, School, and Work Activities during the first COVID-19 lockdown

During the first COVID-19 Lockdown in March-May 2020, certain activities such as outdoor exercise and international tourism decreased (Fatmi, 2020) and sedentary behavior and over-use of depressants - such as binge-watching TV or alcohol respectively – increased (Estedlal, 2021; Rhodes, 2020). However, others reported that social isolation gave them more time for hobbies (Maryann, 2020), with 41% of people in a study developing new hobbies and 45% improving relationships (Williams, 2021). Recreational activities that helped alleviate feelings of loneliness and improved mental health included watching movies on TV, listening to radio programs or podcasts, engaging in creative writing, arts and crafts, games, or physical activities like walking, swimming, indoor cycling, martial arts or yoga, horseback riding, and so on (Eklund, 2022). Video apps such as Zoom and Facetime helped rekindle social interaction among distant friends and family (Cairns, 2020).

Malaysian Christians, Muslims, and Buddhists reported that there was stress in adapting to social distancing practices as in-person religious rituals/gatherings increased the chances of contracting COVID-19 (Ting, 2021). In another study, a quarter of Americans reported an increase in faith during the Pandemic (Defranza, 2021). Religiously engaged people see maintaining faith as the key to living a positive and healthy life (Eklund, 2020).

Studies have found that religiously active people experienced better resilience, and mental well-being, especially in times of great trauma or distress (Arslan, 2021).

While studies suggest distanced/virtual learning does come with advantages that in-person learning lacks, students also faced disadvantages such as difficult socio-economic conditions and lacking a good learning environment at home (Cairns, 2020). Thus, researchers warn that the quality of one's learning during COVID-19 could heavily impact work readiness and relationship quality for students once they graduate (Tomasik, 2021). Increased loneliness for students also contributed to anger and loss of concentration (Telyani, 2021). Loneliness and Social isolation also heavily impacted teachers' ability to connect with their already unmotivated students (Telyani, 2021).

Most workers and organizations had no prior direct experience with remote learning, save for a minority who were rich, tech-savvy, and financially secure (Wang, 2021). If one worked in health, education, community, government, sales, or services (i.e., postal, restaurants, caregiving, waste management) the amount of time spent away from home increased during the pandemic, in contrast to those working in other fields such as the technology industry (Fatmi, 2020). Many working parents had to take on teacher roles while the schools ceased in-person learning (Tomasik, 2021). However, more self-disciplined people demonstrated that they were less prone to procrastinate, had effective work performance, and maintained a better work-family balance than less self-disciplined people (Wang, 2021). When social support was present on work-provided social platforms, loneliness among co-workers could be significantly alleviated, but not to the degree of in-person interactions (Wang, 2021).

Washington and King County During COVID-19

There have been more than 1,409,099 confirmed COVID-19 cases and 11,397 confirmed deaths by COVID-19 in Washington State (Tracking..., 2022). However, most of the research on COVID-19 and social isolation was conducted outside of Washington State. Therefore, this study explored COVID-19's psychological impact on recreational, religious, educational, and work activities within Washington State. We also examined levels of loneliness using a modified version of the UCLA Loneliness Scale in the King County area of Washington State during the State's first social isolation lockdown between March and May 2021. The following results were hypothesized for our study; (H1) People who participated in non-religious/recreational activities equal to or more than they did pre-pandemic will feel less lonely; (H2) People who participated in religious activities equal to or more than they did pre-pandemic will feel less lonely; (H3) People who engaged in work and school activities equal to or more than they did pre-pandemic will feel lonelier.

Method and Procedure

Participants

We used the Qualtrics XM program to host our online survey. Participants included adults ages 18-65 years old, residing in King County, Washington during the March-May 2020 lockdown (Governor, 2020). We started by inviting staff and students at Bellevue Community College and Seattle Central College, then followed up with our family, friends, and local communities through social media (Facebook, Instagram, WhatsApp). We encouraged all participants to share the survey with other people with whom they had connections. A total of 252 people responded to the survey, and 48 responses were deleted due to incomplete responses or failure to meet the criteria desired for the sample. The remaining sample included 204 total participants (56 male, 135 female, four non-binary, nine who refused to identify).

Materials

There were three sections of the survey. The first section focused on gathering demographic information, such as if the participant was a King County resident from March through May 2020. Additional demographic questions included the participant's gender, age group, and pronouns. If the participant's responses did not match the age and resident qualifications for our desired sample, they were prevented from completing the rest of the survey. Section one of the survey also asked participants for their informed consent in analyzing and publishing their responses.

The survey's second section focused on four types of activity (religion, recreation, work, and school) and how much time the participant partook in these activities either digitally or in person from March through May 2020. Participants were given a second item where they could provide further detail their level of participation. For example, participants responded to the question, "How much did you participate in religious/spiritual activities during COVID-19 through video?" This question was followed by, "Did you participate in this activity more, the same amount, less than the same amount, or not at all during/before the pandemic?" If a participant did not participate in a certain activity, they were instructed to skip ahead to another item.

The third section utilized the modified UCLA Loneliness scale to assess the participants' feelings they experienced during the pandemic lockdown. This scale is a reliable and valid measure across various samples and past research on the scale has identified correlations between loneliness and other psychological factors such as depression and affiliative tendencies (Russell, 1978, See Appendix A). In the second and third sections, participants were given the option to reply "I don't remember" since we were asking participants to recall experiences that happened a year ago and we did not want to encourage participants to guess or be dishonest in their responses.

Procedure

After the IRB had approved our study in November 2022, data collection took place between November 2021 and January 2022. There was no time limit to the survey; we encouraged participants to take as much time as needed to recall their activities and behavior between March and May 2020. The survey was designed to be welcoming and open, as the questions could potentially bring up memories of negative experiences of the first lockdown, social isolation, and the early days of the COVID-19 pandemic. We made the survey accessible by providing mobile and computer versions. We also restricted the number of items so participants could easily complete the survey within 10 minutes. Participants were invited to share the survey with others who fit the desired sample population. As an incentive to complete the survey, student participants were offered extra credit for participation, while non-students were informed of the benefit their participation would provide to their community.

Results

The first univariate analysis of variance was conducted to examine the differences in loneliness between people who did not participate in non-religious/recreational activities (birthdays, happy hour, graduations, etc.; $n = 69$), those who participated less than before the lockdown ($n = 87$), those who participated the same amount as before the lockdown ($n = 12$), and those who participated in more non-religious/recreational activities than before the lockdown ($n = 9$). A significant difference was found between groups, $F = (3, 173) = 3.90$, $p = .01$. Bonferroni post hoc analyses indicated that loneliness was higher in participants who increased participation ($M = 37.22$, $SD = 9.76$) and who decreased participation ($M = 47.09$, $SD = 17.41$) in non-religious/recreational activities from before the lockdown, while compared to participants who engaged approximately the same amount as before the lockdown ($M = 31.67$, $SD = 13.39$), $F = (3, 173) = 15.43$, $p = .015$.

A second univariate analysis of variance was conducted to examine the difference in loneliness between people who did not participate in religious/spiritual activities (prayer, gatherings, meditation, etc.; $n = 128$), those who decreased their religious/spiritual activities during the lockdown ($n = 23$), those whose religious/spiritual activities remained the same ($n = 17$), and those who increased their religious/spiritual activities during the lockdown ($n = 12$). No significant difference in loneliness was found between these groups, $F = (4, 198) = .90$, $p = .482$.

The last univariate analysis of variance was conducted to examine differences in loneliness between people who did not work/attend school during the lockdown ($n = 18$), those who attended school remotely more than half the time (on zoom, teams, etc.; $n = 129$), and those who attended work/school in-person more than half the time ($n = 57$). No significant difference in loneliness was found between these groups, $F = (2, 201) = 2.30$, $p = .10$.

Discussion

Our first hypothesis - (H1) People who participated in non-religious/recreational activities equal to or more than pre-pandemic would feel less lonely was supported. More specifically, people who participated in recreational activities during the March-May 2020 lockdown at the same level as they had before the pandemic were less lonely than people who had increased or decreased participation in those activities before the pandemic (see Table 1 and Figure 1). Our other hypotheses, (H2) People who participated in religious activities equal to and more than pre-pandemic would feel less lonely, and (H3) People who engaged in work and school activities equal to and more than pre-pandemic would feel lonelier, were not supported. There were no significant differences found in people's level of loneliness when they participated in religious, work, or school activities. Thus, our hypotheses were only partially supported by the results.

Regarding participation in recreation (H1), our results suggest that if one's level of recreation is maintained and neither decreased nor increased, the level of loneliness will not rise. Regarding participation in Religion and Work/school (H2 and

H3), we did not find significant differences. This is perhaps due to so much uncertainty and complexity regarding work (Wang, 2021), school (Telyani, 2021), and religion (Ting, 2021), making it difficult

Table 1

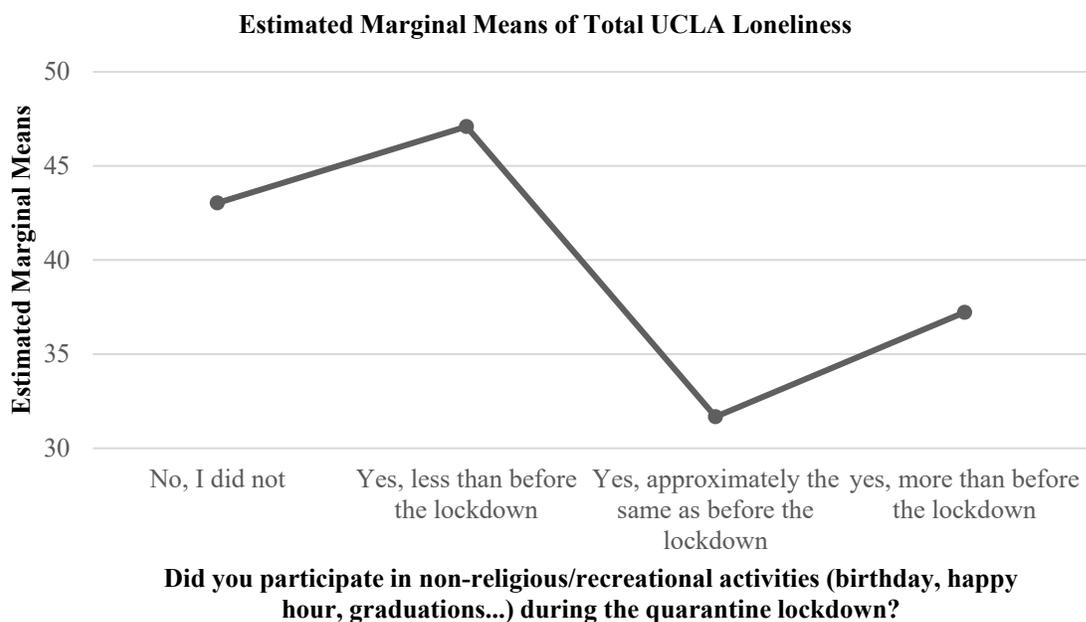
Mean level of loneliness between groups participating in non-religious recreational activity

Dependent Variable: Total UCLA Loneliness

Did you participate in non-religious/recreational activities (birthday, happy hour, graduations...) during the quarantine lockdown?	<i>M</i>	<i>SD</i>	<i>N</i>
No, I did not	43.03	16.10	69
Yes, less than before the lockdown	47.09	17.41	87
Yes, approximately the same as before the lockdown	31.67	13.39	12
Yes, more than before the lockdown	37.22	9.76	9
Total	43.96	16.78	177

Figure 1

Comparison of level of Non-religious Recreational Activity and level of Perceived Loneliness



to identify significant loneliness differences in loneliness within each area of life. Meanwhile, previous studies have found that participating in recreational activities helps improve mental well-being and alleviates feelings of loneliness in the face of uncertainties, even during the COVID-19 pandemic (Eklund, 2022). Though this suggests that increased recreation leads to decreased loneliness, our finding was that when people increased their level of recreation, they reported feeling lonelier compared to those who had maintained their level of recreation. A plausible explanation for this could be that having too much free time can result in lower subjective well-being (Sharif, 2021). An increase in recreational activities can also involve depressants, drug use (Estedlal, 2021), or sedentary behavior like watching TV (Bird, 2021). Such activities are associated with the development of a negative self-image and relationship conflicts, which in turn may bring about more loneliness.

Thus, we can interpret our findings as follows. First, people who participated in the same amount of recreational activity as they had before the pandemic may have felt fewer of the negative effects of this huge lifestyle challenge; they were able to carry on as usual. Next, people who spent more time than before on recreational activities may have felt discord to a greater degree. Having spent more time than usual on recreational activities in response to COVID-19 challenge may also have been dealing with unemployment (Rhodes, 2020), difficulty learning, socioeconomic challenges, the risk of contracting COVID-19, and the risks of their loved ones contracting the virus (Maryann, 2020). They may have been struggling to meet demands from both work and school (Wang, 2021). Since our study also asked if people participated in birthdays, happy hours, graduations, and similar events as part of recreational activities, it can be assumed the more one participated in these things the more one would experience bittersweetness for how things had changed so much; people had to ponder whether or not to follow social guidelines (Erwin, 2021). In-person participation increased

the risks of contracting and spreading COVID-19 (Erwin, 2021) and virtual participation lacked the closeness and intimacy present in in-person work (Wei, 2020). No participation at all could have led to feeling alone and left out. Furthermore, having too little recreational time probably increased stress, while having too much time increased boredom (Sharif, 2021). This imbalance increased the difficulty for people to process all these factors while trying to meet relationship goals. Loneliness can increase if relationship goals are not met (Luchetti, 2020). It is recommended that people in King County be mindful of how much or how little they devote to their recreational activities, for the sake of their mental well-being.

Some limitations of our study included hindsight bias while recalling an event two years ago and the challenge of struggling to remember traumatic events. A shortcoming in this study is the failure to gather data on race, income, or occupation; we felt that asking for personal information would deter people from completing the survey. Analysis of H2 and H3 may have lacked significant differences due to the small sample size. Future studies could replicate this survey and focus on the elderly, children, and people living outside of King County, Washington.

Table 2*Mean level of loneliness between groups participating in Religious/Spiritual Activities*

Dependent Variable: Total UCLA Loneliness

Did you participate in religious/spiritual activities (prayer, gatherings, mediation...) during the quarantine lockdown?	<i>M</i>	<i>SD</i>	<i>N</i>
I do not remember	53.33	20.50	3
No, I did not	44.99	17.26	128
Yes, but less than before the lockdown	46.30	16.50	23
Yes, approximately the same as before the lockdown	38.24	16.96	17
Yes, more than before the lockdown	43.17	14.92	12
Total	44.55	17.02	183

Table 3*Mean level of loneliness between groups participating in Attending Work/School*

Dependent Variable: Total UCLA Loneliness

Did you work/attend school during the quarantine lockdown?	<i>M</i>	<i>SD</i>	<i>N</i>
No, I did not work/attend school during the lockdown	42.11	14.10	18
Yes, I worked/attended school REMOTELY more than half the time (on zoom, teams)	46.06	16.98	129
Yes I worked/attended school IN PERSON outside of the home more than half the time (at a work/school site)	40.53	17.01	57
Total	44.17	16.87	204

Figure 2

Comparison of Religious/Spiritual Activities and level of Perceived Loneliness

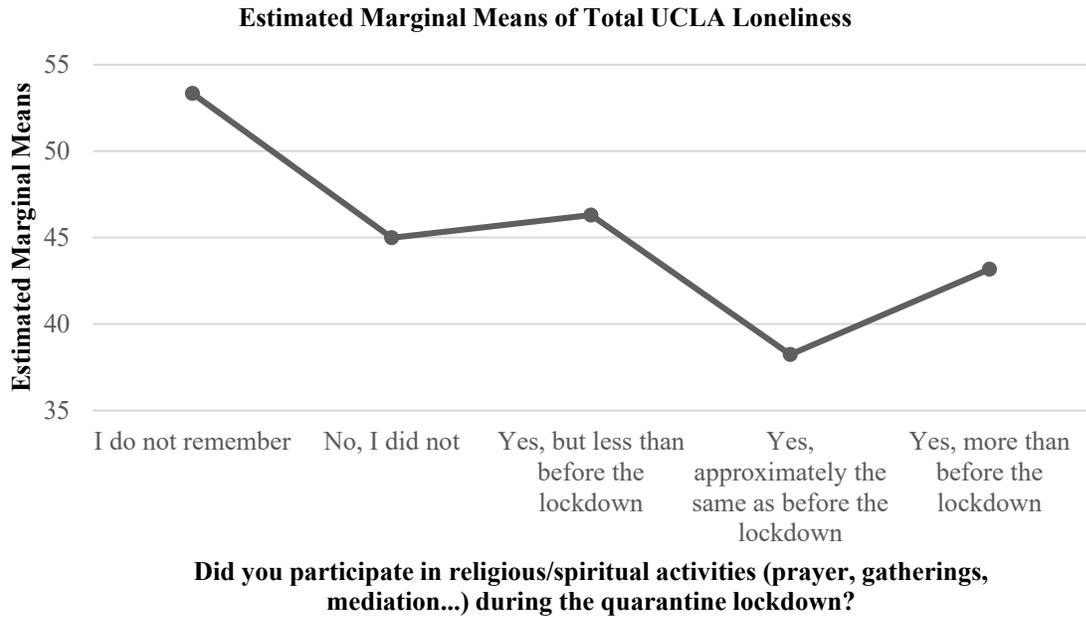
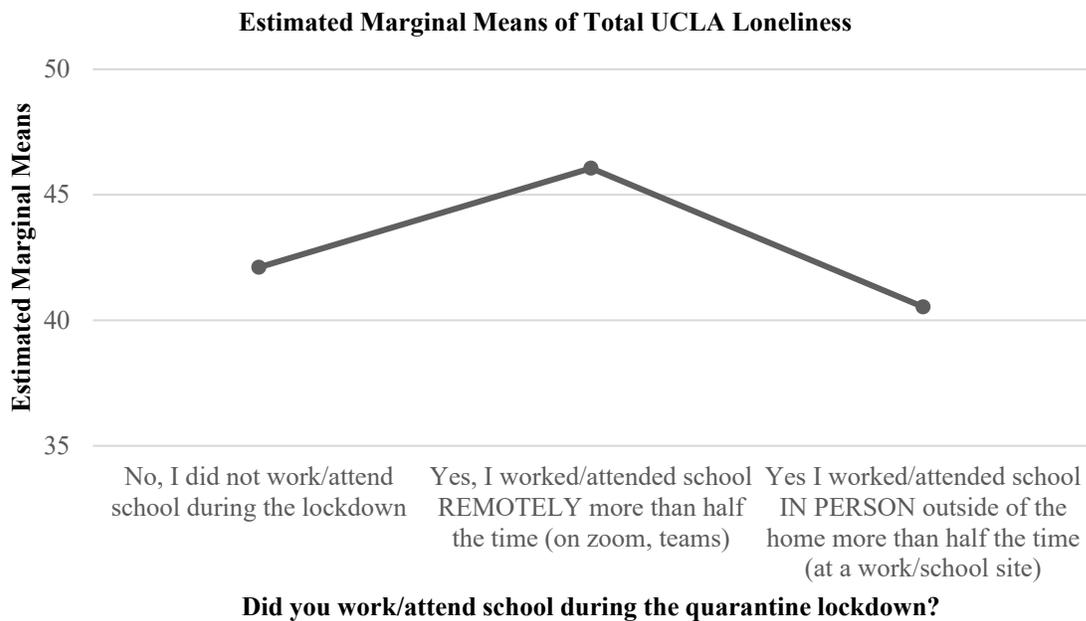


Figure 3

Comparison of Attending Work/School and level of Perceived Loneliness



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Appendix A

Modified UCLA Loneliness Survey

Please answer the following questions according to how you felt during the quarantine LOCKDOWN between MARCH and MAY in 2020.

- 1) I was unhappy doing so many things alone.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 2) I had nobody to talk to.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 3) I could not tolerate being so alone.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 4) I lacked companionship.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 5) I felt as if nobody really understood me.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 6) I found myself waiting for people to call or write.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 7) There was no one I could turn to.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 8) I was no longer close to anyone.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 9) My interests and ideas were not shared by those around me.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember
- 10) I felt left out.
 - a. I never felt this way
 - b. I rarely felt this way
 - c. I Sometimes felt this way
 - d. I often felt this way
 - e. I cannot remember