

# Impact On Loneliness During the COVID-19 Pandemic Lockdown Based On Age and Household Size

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## *Author Note*

We have no conflicts of interest to disclose.

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## *Suggested bibliographic reference*

Cherry, A. B., Simler, A. B., Waldron, S., & Lonson, C. S. (2022). Impact on loneliness during the COVID-19 pandemic lockdown based on age and household size. *Psi Beta Journal of Research*, 2(1), 15-22. <https://doi.org/10.54581/ICKM7842>

## **Abstract**

During the COVID-19 global pandemic, individuals have had to learn to cope with isolation and adjust to new social protocols (Nooraie et al., 2021). In Washington state, a lockdown mandate was issued between March to May 2020 in response to a surge in COVID-19 cases (Washington Governor, 2020). This study aimed to analyze how King County residents experienced the lockdown and the impact it had on their daily activities, behaviors, and well-being. We examined the age and the dynamics within the household including household size and how they relate to the person's experience of loneliness. The UCLA Loneliness Scale (Appendix A; Russel et al., 1978) was distributed online through Qualtrics, an online survey provider. The participants were adults between the ages of 18-65 living in King County during the lockdown. We hypothesized (H1) that people living alone or in crowded households experienced the highest levels of loneliness during the COVID quarantine and (H2) that age groups experienced isolation differently, specifically loneliness increases with age. The results demonstrate a significant main effect for age. The largest differences in feelings of loneliness were found between the youngest age group (18-24) and the oldest age group (55-64), although it appears that overall loneliness decreased as age increased. No significant effects were found for household size which contradicts the findings of previous studies.

*Keywords:* COVID-19 pandemic, King County, loneliness, household size, age

During the COVID-19 global pandemic, individuals have had to learn to cope with isolation and adjust to new social protocols (Nooraie et al., 2021). In Washington state, a lockdown mandate was issued between March to May 2020 in response to a surge in COVID-19 cases (Washington Governor, 2020). This study aimed to analyze how King County residents experienced the lockdown

and the impact it had on their daily activities, behaviors, and well-being. We examined the age and the dynamics within the household including household size and how they relate to the person's experience of loneliness.

Different age groups are likely to experience different challenges in interpersonal relationships. For example, adolescents are more exposed to

exclusion because of the instability of their social networks, physical changes, and identity exploration (Barreto et al., 2021). On the other hand, the middle-aged population is vulnerable to loneliness related to working long hours to support their families, being single parents, and reduced social time due to work and caregiving commitments. Loneliness among older adults often emerges due to losing family members and friends. It has also been found that loneliness at higher ages is most likely established earlier in life (Dahlberg et al., 2018). Participating in few social engagements or having a lack of interpersonal connections earlier in life is correlated with feelings of loneliness later in life, which can be interpreted to mean those who are lonely earlier in life are more likely to continue to be lonely later in life.

During the implementation of the COVID-19 quarantine, people were ordered to follow stay-at-home orders resulting in increased time spent within their own residency (Washington Governor, 2020). Social isolation and solitary living are risk factors for loneliness (Gierveld, 1998; Matthews et al., 2016; Pinquart & Sörensen, 2001), and living alone has been associated with lower mental well-being (Jacob et al., 2019; Sundström et al., 2009). Studies examining the relationship between housing conditions and mental health during initial lockdowns have found mixed results (Groot et al., 2022; Kowal et al., 2020; Tomono et al., 2021). Youth living in denser households in Denmark had a decreased mental well-being than those of the same age living in non-dense households (Groot et al., 2022). Yet, in another study of participants from 26 countries, little association was found between the number of adults in the household and mental well-being (Kowal et al., 2020).

We aimed to investigate if the lockdown measures taken during the early stages of the COVID-19 pandemic led to a rise in loneliness. Loneliness has been associated with major public health concerns such as increased inflammation, heart disease, depression, high blood pressure, and Alzheimer's disease. (Griffin, 2010; Wolff, 2019).

It is therefore vital to research the impact that the current COVID-19 pandemic had on loneliness during the lockdown to better understand who was more vulnerable to loneliness and provide the necessary support (Joosten-Hagyea et al., 2020).

We hypothesized that (H1) people living alone or in crowded households experienced the highest levels of loneliness during the COVID quarantine and (H2) that age groups experience isolation differently, specifically that younger and older individuals are likely to be most lonely.

### **Method and Procedure**

This study observed participants' subjective feelings and behaviors as they occurred during the COVID-19 pandemic. The data collected for this research was based on an online survey distributed through Qualtrics. Approval from the Institutional Review Board (IRB) was attained prior to the distribution of the survey. Participants were asked for their informed consent at the beginning of the survey. Throughout the survey participants had the option to skip questions that may have caused distress, or to discontinue the survey at any time. No personal information was collected from this survey in order to maintain the anonymity of participants. All data were kept confidential. A debrief and support resources were included at the end of the survey.

### **Participants**

The survey was distributed to undergraduate psychology classes and faculty at Bellevue College and Seattle Central College as well as to the researchers' social circles via direct messaging (text message and email) and social media (Facebook, Instagram, and WhatsApp). Extra credit was offered as compensation to students; non-students received no compensation. Participants of the survey were residents of King County during the Washington State COVID pandemic lockdown (March through May 2020) and ranged in age from 18 to 65 years old (Washington Governor, 2020). A total of 252 responses were recorded, of which 48 incomplete responses were deleted, leaving a total of 204 which were included in this research (56 male,

135 female, four non-binary, and nine chose not to identify). Regarding the question on age, 199 participants responded providing the following breakdown: 115 (age 18-24), 37 (age 25-34), 29 (age 35-44), 13 (age 45-54), and 5 (age 55-64) (see Table 1). Regarding the question on household size, 203 participants responded providing the following breakdown: 18 (living alone), 154 (2-4 household members), and 31 (5-7 household members) (see Table 2).

### Measures

A revised version of the UCLA Loneliness Scale was used in the survey to assess loneliness felt during the pandemic lockdown (Appendix A; Russel, 1996; Russel et al., 1978). The UCLA Loneliness scale has been used widely and demonstrated both reliability and validity (Russell, 1996). Revisions to the scale included framing the questions and answers in past tense and adding an option of “I cannot remember.” An additional 16 questions examined the demographics of participants as well as their habits during the lockdown. Besides asking for the participant’s age and gender, the questions explored if, during the lockdown, participants lived with others, had pets, entered or exited romantic relationships; how participants acquired food (delivery, in-person); how often participants attended, virtually or in person, religious and non-religious gatherings and school or work.

**Table 1**

*Loneliness on the UCLA Loneliness Scale by Age*

What was your age during the quarantine lockdown between March and May in 2020?	<i>M</i>	<i>SD</i>	<i>N</i>
18-24	47.24	16.89	115
25-34	41.05	13.41	37
35-44	41.24	15.09	29
45-54	40.00	21.38	13
55-64	29.00	21.83	5
Total	44.29	16.79	199

## Results

### Age

A significant main effect was found for age,  $F(4, 194) = 2.82, p < .03$ . Post hoc comparisons using the Tukey LSD test indicated that the mean score for people aged 18-24 ( $M = 46.24, SD = 16.89$ ) significantly differed from people aged 25-34 ( $M = 41.05, SD = 13.41$ ) and 55-64 ( $M = 29.00, SD = 21.83$ ) in the amount of perceived loneliness. However, they did not differ significantly from people aged 35-44 ( $M = 41.24, SD = 15.09$ ) or 45-54 ( $M = 40.00, SD = 21.38$ ) (see Table 1; see Figure 1).

### Household Size

No significant main effect was found for household size,  $F(2, 200) = .29, p = .749$  (See Table 2)

## Discussion

Our original hypothesis predicted that (H1) people living alone or in crowded households experienced the highest levels of loneliness during the COVID quarantine and (H2) that age groups experience isolation differently, specifically that younger and older individuals are likely to be most lonely. The results from this study partially support our (H2) hypothesis in that younger individuals experienced the most loneliness during the COVID quarantine period. The older individuals included in this study, however, experienced the least amount of loneliness, contrary to our (H2) hypothesis. The results of this study do not support our (H1) hypothesis as the analysis found no relationship between loneliness and household size.

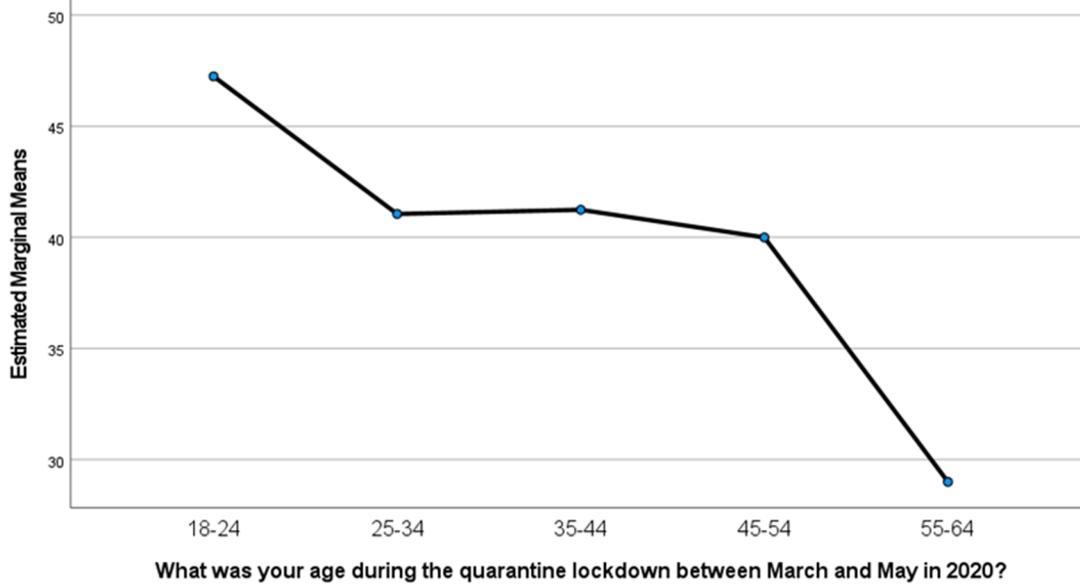
**Table 2**

*Loneliness on the UCLA Loneliness Scale by Household Size*

How many people including yourself lived in your household during the quarantine lockdown?	<i>M</i>	<i>SD</i>	<i>N</i>
I was living alone	43.22	14.10	18
2-4	43.86	17.06	154
5-7	46.26	18.01	31
Total	44.17	16.91	203

**Figure 1**

*Loneliness Distributed by age*



Although we hypothesized that loneliness would impact the youngest and oldest groups the most, only the youngest age group experienced the most loneliness. In this study, individuals in the oldest age group reported the least amount of loneliness during the COVID pandemic lockdown. The difference in loneliness levels found was largest between the youngest age group (18-24) and oldest age group (55-64), when compared to all other age groups. Other studies have shown that different age groups simply experience loneliness in different ways (Fried, 2020). It is possible that although the oldest age group experienced some feelings of loneliness, they may have life experiences that help them to overcome any extreme feelings of

loneliness. Having quality friendships is more common with an increase in age and such friendships are shown to reduce loneliness (Wolff, 2019). These quality friendships can still be maintained even from a distance with phone calls, video chats, and other technology used to connect with others.

The youngest age group (18-24) in this study reported the highest levels of loneliness during the lockdown. Considering that adolescents who have high usage of social media are significantly lonelier than those who do not, it is quite possible that the use of social media impacted this age group (Wolff, 2019; Ellis et al., 2020). We did not ask about social media usage in our study, which would be valuable to explore in future studies about loneliness.

Even for respondents who may have had some in-person interaction, such as with family members or roommates, feelings of loneliness are not necessarily reflected upon complete social isolation but rather the perception that one is alone or separated from their social network (Pantell & Shields-Zee-man, 2020; Laranjeira, 2021).

The second youngest age range (25-34) also reported high levels of loneliness, only second to the youngest group. It is possible this is due to similar reasons as the youngest group, with the difference in that the group is often in a transitory period of time where they are beginning to create families (getting married, having children) and starting careers which therefore may lead to different feelings of loneliness (Barreto et al., 2021).

The loneliness levels of the 35-44 and 45-54 age groups did report loneliness but their rates were not statistically significant. It would likely be beneficial to do further qualitative studies to better understand the differences in loneliness between age ranges, specifically during periods of social isolation.

In this study, no relationship was found between loneliness and household size. These findings contradict previous studies that have found that living alone as well as in dense households can negatively impact a person's well-being (Fuller et al., 1996; Tomono et al., 2021). It is possible that living alone may be a preference for many people in our sample in King County. Even for individuals who live with others, the quality of relationships between household members likely has a greater influence on loneliness than does the number of people living in the household (Pantell & Shields-Zee-man, 2020; Woznicki et al., 2021).

Although our study explored a wide span of age groups, ranging from 18 to 64 years old, participation appeared to decrease as age increased, resulting in only five participants from the oldest age group. The decline in the participation of older age groups participating in this study is likely due to the survey being distributed through community colleges and social circles of the researchers on social

media. It would be advantageous for future studies to explore alternative methods to attract more diversity of ages.

This study investigated the household size of participants, however, it would have been useful to understand the dynamics of their household, such as if they lived with parents, siblings, roommates, etc. One aspect that was not examined was socioeconomic status which may have had a major impact on feelings of well-being and loneliness during the lockdown. It would be helpful for future studies to look at the impact of the socio-economic status of participants and their households and how that relates to loneliness. We also did not include any questions on race which may be an area to include in future research to assess the diversity of participants included in the study.

This research was conducted approximately one year after people experienced the lockdown in Washington state. It is very possible that not all individuals remembered their feelings of loneliness during the lockdown or that they remembered them differently than how they actually may have felt (hindsight bias). Measurements about how individuals felt at the time of the survey, to use as a comparison measure to help eliminate hindsight bias, were not included in this study.

This research contributes to the growing need to explore the impact of loneliness during the COVID pandemic. The findings of this study point to significantly higher feelings of loneliness for youth (18-24), which presents an opportunity for future studies to explore actionable ways to help young adults cope with loneliness and navigate mental health challenges post the COVID-19 pandemic restrictions. Considering the low rates of loneliness in older ages (55-64), it is worth exploring what exactly helps these individuals to shield themselves from extreme feelings of loneliness and see if any connections can be made to those who struggle with loneliness.

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### Appendix A

#### Revised Version of UCLA Loneliness Scale

I was unhappy doing so many things alone.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember

I had nobody to talk to.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I could not tolerate being so alone.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I lacked companionship.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt as if nobody really understood me.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I found myself waiting for people to call or write.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

There was no one I could turn to.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I was no longer close to anyone.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

My interests and ideas were not shared by those around me.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt left out.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt completely alone.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I was unable to reach out and communicate with those around me.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

My social relationships were superficial.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt starved for company.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt no one really knew me well.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt isolated from others.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I was unhappy being so withdrawn.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

It was difficult for me to make friends.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

I felt shut out and excluded by others.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.

People were around me but not with me.

- I never felt this way.
- I rarely felt this way.
- I sometimes felt this way.
- I often felt this way.
- I cannot remember.