Who is lonely in lockdown? Cross-cohort analyses of predictors of loneliness before and during the COVID-19 pandemic

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Abstract

Background: There are concerns internationally that lockdown measures taken during the COVID-19 pandemic could lead to a rise in loneliness. As loneliness is recognised as a major public health concern, it is therefore vital that research considers the impact of the current COVID-19 pandemic on loneliness in order to provide necessary support. But it remains unclear who is lonely in lockdown?

Methods: This study compared socio-demographic predictors of loneliness before and during the COVID-19 pandemic using cross-cohort analyses of data from UK adults captured before the pandemic (UK Household Longitudinal Study, n=31,064) and during the pandemic (UCL COVID-19 Social Study, n=60,341).

Results: Risk factors for loneliness were near identical prior to and during the pandemic. Young adults, women, people with lower education or income, the economically inactive, people living alone, and urban residents had a higher odds of being lonely. Some people who were already at risk for being lonely (e.g. young adults aged 18-30, people with low household income, and adults living alone) experienced a heightened risk during the COVID-19 pandemic compared to usual (indicated by higher coefficients). Further, being a student emerged as a higher risk factor during lockdown than usual.

Conclusions: Findings suggest that interventions to reduce or prevent loneliness during COVID-19 should be targeted at those socio-demographic groups already identified as high-risk in previous research. These groups are likely not just to experience loneliness during the pandemic but to have an even higher odds than normal of experiencing loneliness relative to low-risk groups.
Introduction

There are concerns internationally that lockdowns and “stay-at-home” orders as a result of the COVID-19 pandemic could lead to a rise in loneliness \(^1\). Loneliness has itself been referred to as an epidemic, and is recognised as a major public health concern associated with heightened risk of mental and physical illness, cognitive decline, and all-cause mortality \(^2\). It has therefore been highlighted as vital that research considers the impact of the current COVID-19 pandemic on loneliness in order to provide necessary support \(^3\).

But a key question is who is lonely in lockdown? On the one hand, individuals who already experience loneliness may be feeling even more isolated as a result of social distancing measures. However, it is also possible that COVID-19 is meaning new groups are now at risk of loneliness. The pandemic has forced millions globally to curtail face-to-face contact and social activities, cut jobs and employment opportunities, restrict travelling, and limit outdoor activity. For many individuals, this will be a radical departure from their patterns of usual daily life, and they may find habitual coping mechanisms (such as meeting with others) disrupted, leading to a heightened risk of feeling that the emotional and social support available to them is insufficient to meet their needs. Therefore, this study compared socio-demographic predictors of loneliness before and during the COVID-19 pandemic using cross-cohort analyses of data captured before and during the pandemic.

Methods

To understand predictors prior to the pandemic, we used data from adults aged 18+ January 2017-June 2019 from Understanding Society: the UK Household Longitudinal Study (UKHLS), a nationally representative household panel study of the UK population (n=31,064). To understand predictors during the pandemic, we used data from the UCL COVID-19 Social Study; a large well-stratified panel study of the psychological and social experiences of adults in the UK during the COVID-19 pandemic (n=60,341). Both studies were weighted to be representative of the UK population (see Supplementary Material).

In both datasets, loneliness was measured using the three-item UCLA loneliness scale (UCLA-3) and covariates included age, gender, ethnicity, education, income, employment status, living status, and area of living, with variables harmonised between the two datasets.

Results

Following weighting, the samples were similar across all measures. Loneliness levels were higher in UCL COVID-19 Social Study than in UKHLS (see Supplementary Table 1), with 32.5% of people feeling lonely sometimes (28.6% in UKHLS) and 18.3% often (8.5% in UKHLS).
Table 1 Comparisons of the distribution of baseline loneliness between Understanding Society and UCL Covid-19 Social Study

|                      | Understanding Society (UKHLS) (2017-19) | UCL Covid-19 Social Study (Week 1) (21-27/03/20) |
|----------------------|----------------------------------------|-----------------------------------------------|
| UCLA-3: score 3      | 48.4%                                  | 34.0%                                         |
| UCLA-3: score 4      | 13.9%                                  | 13.8%                                         |
| UCLA-3: score 5      | 11.8%                                  | 12.9%                                         |
| UCLA-3: score 6      | 15.7%                                  | 17.0%                                         |
| UCLA-3: score 7      | 4.0%                                   | 7.6%                                          |
| UCLA-3: score 8      | 2.6%                                   | 5.9%                                          |
| UCLA-3: score 9      | 3.5%                                   | 8.8%                                          |
| **How often do you feel lonely** |                                       |                                               |
| Hardly ever/never    | 62.9%                                  | 49.2%                                         |
| Sometimes            | 28.6%                                  | 32.5%                                         |
| Often                | 8.5%                                   | 18.3%                                         |

Ordinary least squares regression analyses using the UCLA-3 show that risk factors for loneliness were near identical prior to and during the pandemic (Figure 1). Young adults, women, people with lower education or income, the economically inactive, people living alone, and urban residents had a higher odds of being lonely. Some people who were already at risk for being lonely (e.g. young adults aged 18-30, people with low household income, and adults living alone) experienced a heightened risk during the COVID-19 pandemic compared to usual (indicated by higher coefficients). Further, being a student emerged as a higher risk factor during lockdown than usual.

Discussion

The data compared are from different participants (albeit with harmonised measures across cohorts), and the COVID-19 Social Study is a non-random (albeit large, heterogeneous, well-stratified and weighted) sample so the results presented here cannot be taken as accurate prevalence figures. Nevertheless, these findings suggest that interventions to reduce or prevent loneliness during COVID-19 should be targeted at those socio-demographic groups already identified as high-risk in previous research. These groups are likely not just to experience loneliness during the pandemic but to have an even higher odds than normal of experiencing loneliness relative to low-risk groups. Such efforts are particularly important given rising concerns that loneliness could exacerbate mental illness and lead to non-adherence to government regulations.\(^4\,\!^5\).
References

1. Armitage R, Nellums LB. COVID-19 and the consequences of isolating the elderly. *The Lancet Public Health*. 2020;5(5):e256. doi:10.1016/S2468-2667(20)30061-X

2. Jeste DV, Lee EE, Cacioppo S. Battling the Modern Behavioral Epidemic of Loneliness: Suggestions for Research and Interventions. *JAMA Psychiatry*. Published online March 4, 2020. doi:10.1001/jamapsychiatry.2020.0027

3. Banerjee D, Rai M. Social isolation in Covid-19: The impact of loneliness. *Int J Soc Psychiatry*. Published online April 29, 2020:0020764020922269. doi:10.1177/0020764020922269

4. Okruszek L, Aniszewska-Staniczuk A, Piejka A, Wiśniewska M, Żurek K. Safe but Lonely? Loneliness, Mental Health Symptoms and COVID-19. PsyArXiv; 2020. doi:10.31234/osf.io/9njps

5. Cerami C, Santi GC, Galandra C, et al. *COVID-19 Outbreak in Italy: Are We Ready for the Psychosocial and Economic Crisis? Baseline Findings from the Longitudinal PsyCovid Study*. Social Science Research Network; 2020. Accessed May 5, 2020. https://papers.ssrn.com/abstract=3569868

![Figure 1 Coefficients and 95% confidence intervals from the regression model on loneliness](https://doi.org/10.1101/2020.05.14.20101360)
Declarations

Ethics approval and consent to participate
Ethical approval for the COVID-19 Social Study was granted by the UCL Ethics Committee. All participants provided fully informed consent. The study is GDPR compliant.

Availability of data and materials
Anonymous data will be made available following the end of the pandemic.

Competing interests
All authors declare no conflicts of interest.

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Authors’ contributions
FB, AS and DF conceived and designed the study. FB analysed the data and FB and DF wrote the first draft. All authors provided critical revisions. All authors read and approved the submitted manuscript.