

The Gender Gap in Mental Well-Being During the Covid-19 Outbreak: Evidence from the UK

Ben Etheridge and Lisa Spantig

Department of Economics
University of Essex

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Non-Technical Summary

The Covid-19 pandemic has caused large disruption to much of the population across the globe, and along many dimensions. Early evidence suggests this disruption has negatively and substantially affected mental well-being. This same evidence suggests that the effects on well-being have been felt unequally, and have been noticeably born by women.

In this paper we use rich and representative longitudinal data to document a large decline in mental well-being after the Covid outbreak in the UK. Consistently with the existing evidence, we show a disproportionate decline for women, twice as large as for men.

We then explore the reasons behind this differential impact. We relate changes in well-being at the individual level with various changes in circumstance. These include financial, family and health situation, among other factors. Accordingly we shed light on which of the particular dimensions of disruption are affecting well-being to the largest degree.

We find that declines in well-being during the pandemic are strongly associated with family responsibilities, financial circumstance, and with age: the young have been much more strongly affected than the old. In terms of explaining the gender gap, we find a quantitatively important role for social factors. Having a larger social network before the pandemic is strongly associated with *larger* well-being declines after the pandemic's onset. Women reported more close friends before the pandemic than men, and higher loneliness than men after the pandemic's onset.

The implications for policy are noteworthy. Our results are suggestive of the strongly adverse and unequal effect of social distancing. Our results can therefore inform debates at a time when policy makers must weigh up many competing objectives. In particular, our results suggest that lockdown is impacting mental well-being of women less through its effect on the labour market or wider economy, and more through the direct loss of social interaction.

The Gender Gap in Mental Well-Being During the Covid-19 Outbreak: Evidence from the UK*

Ben Etheridge[†], Lisa Spantig[‡]

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Abstract

We document a decline in mental well-being after the onset of the Covid-19 pandemic in the UK. This decline is twice as large for women as for men. We seek to explain this gender gap by exploring gender differences in: family and caring responsibilities; financial and work situation; social engagement; health situation, and health behaviours, including exercise. Differences in family and caring responsibilities play some role, but the bulk of the gap is explained by social factors. Women reported more close friends before the pandemic than men, and increased loneliness after the pandemic's onset. Other factors are similarly distributed across genders and so play little role. Finally, we document larger declines in well-being for the young, of both genders, than the old.

JEL Classification: I10, I14, I18, I30

Keywords: Mental well-being, Gender, Covid-19

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[†]University of Essex. E-mail: bsethe@essex.ac.uk

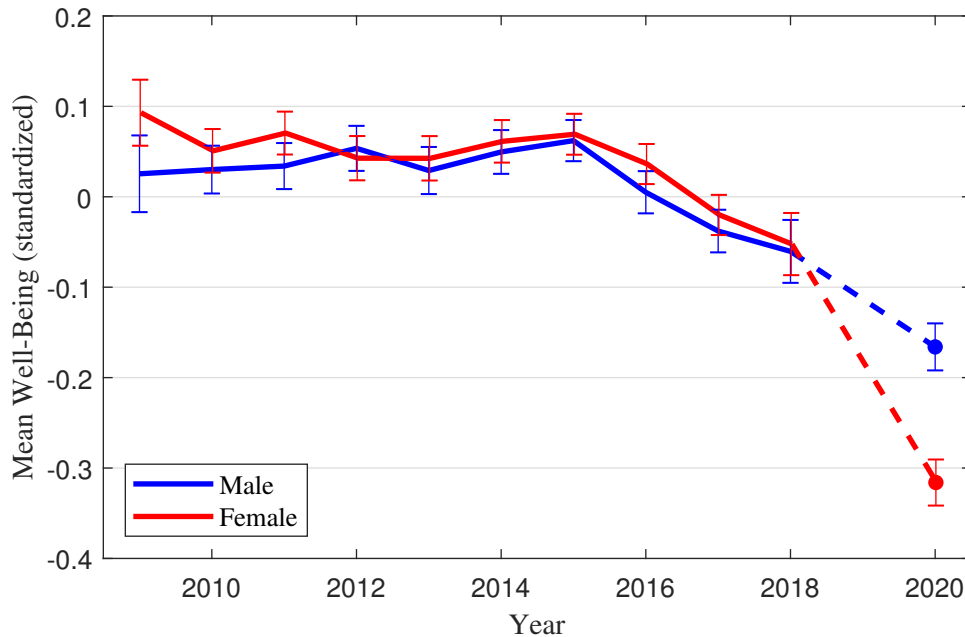
[‡]University of Essex. E-mail: lisa.spantig@essex.ac.uk

1 Introduction

The Covid-19 pandemic has caused large disruption to much of the population across the globe, and along many dimensions. Early evidence suggests this disruption has negatively and substantially affected mental well-being (Adams-Prassl et al. 2020b; Davillas and Jones 2020). This same early evidence suggests that the effects on well-being have been felt unequally, and have been noticeably born by women.¹

We document a large decline in mental well-being after the Covid outbreak in the UK. To show this, figure 1 displays average well-being by gender over time, including after the pandemic’s onset. It shows a large drop after onset, and, consistently with the existing evidence, a disproportionate effect on women. In terms of magnitudes, women score 0.25 standard deviations less on average than in 2018, a very large decline. In this paper, we use rich representative data from the UK Household Longitudinal Survey to explore the reasons behind this differential impact. We relate changes in well-being at the individual level with various changes in circumstance. These include financial, family and health situation, among other factors. Accordingly we shed light on which of the particular dimensions of disruption are affecting well-being to the largest degree.

Figure 1: Mental Well-Being Before and During The Pandemic



Notes: Data from UKHLS waves 1-9 and Covid module. Data for 2019 are collected mainly in wave 10, which is not yet publicly available. Figure shows standardized and inverted Likert score, obtained from 12 questions in the General Health Questionnaire. See section 2 for more details. Profiles de-meaned across years by gender. Sample consists of all those responding to the Covid module, whether or not they responded to previous waves. Error bars are 95% confidence intervals.

¹In addition to the papers mentioned above see further the dedicated literature review below.

The UK has been one of the countries most affected by the Covid pandemic. At its peak in mid-April, the 7-day moving average of official daily deaths was 950 (14 per million per day), among the highest rates in the world. Meanwhile, the data we examine were collected only a little afterwards, when the death rate was around 800 per day.² At this time the ‘lockdown’ was in full force, with social distancing observed on all observable metrics.³ Indicators of economic activity were sharply negative.⁴ At the same time, all the main policy tools relating to the economy, such as the UK Job Retention (‘furloughing’) Scheme, were already well established.⁵

Our empirical analysis proceeds as follows. We first show how changes in mental well-being differ by circumstance and gender. We find that those with high childcare duties have shown noticeable deteriorations in well-being, with women more affected than men. Similarly we find large declines in well-being reported by those in a tough financial situation. On the other hand, declines in well-being are not substantially larger for those reporting job loss or furloughing. This result stands in contrast to the literature, which typically finds that unemployment is one of the most important contributory factors to negative well-being overall (L. Winkelmann and R. Winkelmann 1998). It therefore perhaps indicates the beneficial effects of the unusual labour market policies in place at the time. Elsewhere, we find some differences in impacts according to health situation and according to health behaviours.

Most importantly, we find a strong correlation between declines in well-being and social factors. The declines in well-being are particularly large for those who report often feeling lonely, and similarly, those who report an increase in loneliness since their last pre-Covid interview. To investigate this further we here make additional use of the background data collected before 2020. Interestingly we find that those who previously reported fewer friends are less affected by the pandemic, presumably because they are not so impacted by the social distancing policies imposed. Alongside the findings on social effects, we also show that those aged between 16 and 30, both men and women, have been much more negatively affected than older individuals.

Our main empirical exercise is to examine which of these factors explains the gender gap in well-being on aggregate. Here we focus on *differential exposures* across women and men. For example, even though the young have been more affected than the old, the gender composition across age categories is balanced, and so gender differences in well-being cannot be explained by age. Likewise, women and men have born adverse financial outcomes similarly, and so the gender gap is not explained by this factor. To explain the gap, we find some role for family time use and childcare. Childcare is a mentally straining activity, and women spend more time with their children than

²The data were collected from April 24th. See Section 2. Death rates obtained from <https://www.worldometers.info/coronavirus/country/uk/>, accessed on June 4th 2020.

³See, for example, the cross-country tracker of policy responses in Hale et al. 2020.

⁴For example, over the weekend during which most of our data were collected the FTSE 100 stock market index stood at 5750 points, 25% below its level at the beginning of the year.

⁵The UK Job Retention Scheme was introduced on March 20, 2020. All the other main schemes were introduced at a similar time, including the Self-Employed Income Support and Mortgage Relief Schemes, among others.

men. However, the majority of adults do not have young children, and so the role of this factor overall is necessarily limited. In fact, most important are social factors. Women report more friends in previous years, and they currently report higher levels of loneliness. Given that these factors are strongly related to declines in well-being they are crucial in explaining differential impacts by gender.

In terms of implications for policy, our results are suggestive of the strongly adverse and unequal effect of social distancing. Our results can therefore inform debates at a time when policy makers must weigh up many competing objectives. In particular, our results suggest that lockdown is impacting mental well-being less through its effect on the labour market or wider economy, and more through the direct loss of social interaction. Meanwhile, and although we don't address this issue in as much detail, policy makers should also note the unequal effects by age. The fact that youths have shown deteriorating mental well-being is further evidence of an adverse effect of policies rather than, say, the virus itself, given the widespread reporting that the young are not as affected by the disease.

After a review of the literature the paper proceeds as follows. We describe the data in Section 2. In Section 3 we show the gender-specific distributions of well-being scores, constructed using the General Health Questionnaire (GHQ). We next present gender-specific correlations of variables that have been suggested or shown to affect mental well-being. We then evaluate to what extent these variables can help explain the gender gap in mental well-being that has arisen in the UK during the pandemic. Section 4 concludes. Appendix 4 contains a greater description of the GHQ questionnaire as well as additional tables discussed in the analysis.

Related Literature

Shortly after the outbreak of Covid-19 international organizations and researchers started to warn about not only the immediate physical, but also the psychological effects of the pandemic (Holmes et al. 2020; World Health Organization 2020). Based on a review of existing evidence Brooks et al. (2020) conclude that quarantine is negatively related to a variety of psychological factors, including (post-traumatic) stress symptoms and anxiety. Indeed, Fetzer et al. (2020a) causally show that higher perceived mortality and contagiousness increases anxiety related to economic outcomes.

Early Covid-related studies have started to disentangle the channels through which well-being and mental health are being affected. Results from google trends analyses suggest that lockdowns can have severe mental health implications with search terms loneliness, worry and sadness increasing under lockdowns in different countries (Brodeur et al. 2020; Knipe et al. 2020; Tubadji et al. 2020). Other research suggests that a more nuanced view is necessary: Fetzer et al. (2020b) show that mental well-being temporarily *increases* with lockdowns and relate this to the fact that many individuals perceived the early government responses to be inefficient and are thus relieved when

lockdowns are imposed. Evidence from Germany suggests that mental health (measured by calls to the largest helpline) worsened just after the lockdown and started easing with the third week of lockdown (Armbruster and Klotzbuecher 2020). The authors discuss that the decline in mental health is not driven by financial worries or fear of the disease, but is due to higher levels of loneliness and anxiety. Contrary to this, and using Swiss helpline data, (Brühlhart and Lalive 2020) find an increase only in calls directly related to the pandemic (i.e. elderly persons calling and calls related to fear of infection). Early results from a UK stakeholder survey at the very beginning of the pandemic (Cowan 2020) reveal that many concerns regarding mental health revolve around anxiety, isolation and access to support. Further worries concern the impact of the pandemic on family and relationships. The report hints at differential concerns: women report being more worried about isolation, social distancing and mental health. Importantly, women are not only more likely to be concerned about their mental well-being, they are also more likely to be affected by anxiety (Remes et al. 2016) in general. Evidence from previous economic downturns suggests that such events affect mental health of men and women differently (Chang et al. 2013; Dagher et al. 2015).

Even early in the pandemic, it became clear that the crisis would have differential health and economic impacts on different socio-economic groups (e.g. Alon et al. 2020; Benzeval et al. 2020; Dingel and Neiman 2020). Adams-Prassl et al. (2020a) collect two independent waves of survey data in late March and early April in the UK, US and Germany. They find that women in the UK and the US (though not in Germany) are 5 percentage points more likely to have lost their jobs than men and are 5 percentage points less likely to be able to work from home. Additionally, women spend significantly more time taking care of children and homeschooling, even if they are still employed and able to work from home. For those who still work, there is no gender difference in the likelihood of experiencing a fall in income. A closer look within the household is offered by Andrew et al. (2020) who conducted a survey of UK families around early May with time use data collected from both parents. They document that mothers and fathers in two opposite-gender households are differentially affected by the lockdown. These differences in economic outcomes and time use during the lockdown appear to be natural candidates to explain the gender gap in mental well-being.

The main drawback of many of these early studies is that they rely on bespoke surveys, which are typically cross-sectional. We use rich data from an established longitudinal survey (University of Essex 2019) that allows the analysis of 1) within-person changes, 2) time trends before the outbreak of the pandemic and 3) different individuals in the same household. As such, our work is most similar to Davillas and Jones (2020), who use the same data to us. While they document large heterogeneity in mental well-being effects during the pandemic, they do not investigate in detail the contributory factors to these differential impacts.

More generally, all this work fits into longer-term literatures on the relationships between well-being and the various contributory factors discussed here. For example it is established that mental well-being is negatively affected by bad economic outcomes. Using quarterly British data from

2002-2016, (Janke et al. 2020) estimate that a one percent increase in the employment rate leads to a 4.2% reduction in mental health conditions.

Equally all aspects of health have been shown to be impacted by social isolation (House et al. 1988). Consequences of isolation are not limited to a reduction in physical health, but also include anxiety and depressive symptoms (Holt-Lunstad et al. 2015). Importantly, perceived isolation (loneliness) is an additional, even more important risk factor, independent of objective social isolation (Cacioppo et al. 2015). Loneliness, similar to objective social isolation, can have consequences on both physical (Leigh-Hunt et al. 2017) and mental health (Cacioppo et al. 2011). Regarding subjective well-being specifically, loneliness has been shown to have a moderately strong association (VanderWeele et al. 2012). Even though closely related and similarly impacting well-being, loneliness needs to be conceptually distinguished from social support networks (Golden et al. 2009). We thus include both the number of close friends as a proxy for social support networks and loneliness in our analyses.

More broadly, our work relates to an established literature that addresses gender gaps in well-being over time. For example Stevenson and Wolfers 2009 address the ‘paradox’ of declining women’s happiness in the U.S. against the background of increasing success of women across a range of economic and social spheres. In fact we similarly find a persistent gender gap in well-being scores across all waves of UKHLS. It should be noted, however, that in our analysis we difference out all individual heterogeneity in reporting and focus on the *extra* effect of the Covid outbreak. Overall, and in the context of this literature, our work is therefore informative about the role of differences in social needs and social engagement in the production of mental well-being across genders.

2 Data

We use the Covid-19 module from the UK Household Longitudinal Survey (UKHLS), administered monthly from April 2020. The current dataset uses the Covid module’s first wave and will be updated once new waves become available. The interviews used here were conducted in the 7 days from Friday April 24, with 75% of interviews completed by Sunday April 26. We merge these data with waves 1-9 of the ‘parent’ UKHLS (also known as ‘Understanding Society’), a large-scale national survey administered yearly from 2009.

The UKHLS Covid April wave was conducted entirely over the internet. The underlying sampling frame consists of all those who participated in the UKHLS main survey’s last two waves. To conduct the fieldwork, the sample was initially contacted using a combination of email, telephone, postal and SMS requests. From the underlying sampling frame, the response rate was a little under 40%. To adjust our analysis for non-response, therefore, we use the survey weights provided. In addition, to allow for the fact that many respondents are related either through primary residence or through the extended family, we also cluster all regressions at the primary sampling unit level. For a further

discussion of the Covid module and underlying UKHLS design see Social and Research 2020, ISER, 2020.

The main variable of interest is mental well-being. Our measure is derived from the Likert index that sums 12 questions from the General Health Questionnaire (GHQ-12). The GHQ battery asks questions regarding, for example, the ability to concentrate, loss of sleep and enjoyment of day-to-day activities. Importantly, the questionnaire asks participants to evaluate their well-being with respect to ‘usual’ and thus induces a reference point against which respondents use to evaluate their current feelings. This feature distinguishes our measure from other measures of mental well-being such as the WHO 5-question module used e.g. in (used e.g. in Adams-Prassl et al. 2020b) or the PHQ9 depression questionnaire (adopted e.g. in Fetzner et al. 2020b) that ask about occurrence of specific feelings or behaviors over the last two weeks. While the latter measures have been shown to reflect the cognitive dimension of well-being, our measure captures affective well-being (see e.g. Diener et al. 1985). The GHQ-12 from this survey has been widely used, both in psychological (e.g. Bridger and Daly 2019) and other social sciences research (e.g. Clark et al. 2019; Davillas et al. 2016; Davillas and Jones 2020; Powdthavee et al. 2019). Importantly the GHQ questionnaire has been administered in all waves of UKHLS in exactly the same form. For precise details on the GHQ questionnaire see Appendix 4.

Each component of the GHQ is scaled from 0 (least distressed) to 3 (most distressed). The Likert score is obtained by summing these scores to yield a total score between 0 and 36. We standardize this score across all waves and invert so that, in our analysis, lower scores indicate lower well-being. To remove individual factors in reporting style, we typically use differences of this measure from wave 9. It should be noted that wave 9 data were collected mainly in 2017, but also, to a lesser extent, in 2018 and 2019. We treat all these data as uniformly ‘pre-Covid’ and do not adjust for differences in interview timing.

We make use of the extensive background information collected in the Covid April wave, as well as the prior UKHLS surveys. In the Covid module, participants were asked a battery of questions about their current experiences. These include questions on employment, on health, on caring responsibilities, on time use and childcare, as well as self-assessments of financial situation and feelings of loneliness. From previous waves of UKHLS we make particular use of a specific module conducted in wave 9 on social networks. This module contains detailed self-reports on the quantity, intensity and nature of friendships. Our measure of gender is self-reported sex, copied over from UKHLS wave 9. For this measure, participants are asked to identify as male or female. While, in principle, this field could be left blank, in practice all individuals are assigned into these binary categories.⁶ The number of full Covid interviews after adjusting for survey weight scaling is 13,743.

⁶Previous waves of UKHLS have fielded questions about gender identity. However, these questions focus more on sense of self rather than allowing explicitly for a non-binary categorization. We therefore do not explore this information in the current analysis.

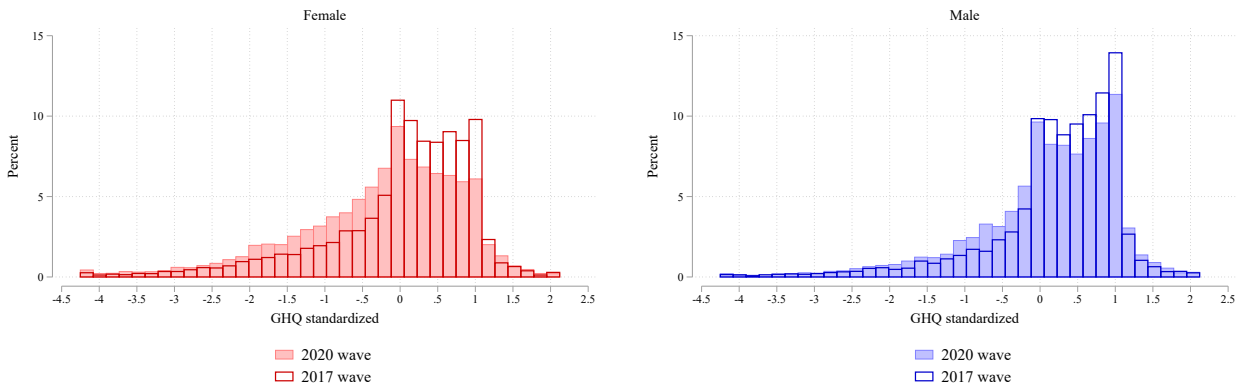
The adjusted number of interviews for which full information is available on all measures, including relevant measures from wave 9, is 12,250.

3 Results

3.1 Distribution of Well-Being by Gender

Using only the wave before and the first wave during the pandemic, we take a closer look at the widening of the gap. For this, and the rest of the paper, we standardize our measure of well-being across waves and gender. Figure 2 shows which percentage of participants scored which value on the well-being scale. For example, the left panel shows scores for women, where solid bars indicate values in 2020 and transparent bars show values in wave 9 (mostly in 2017). A solid bar being larger than a transparent one implies that a larger fraction of participants scored this value in 2020 than in wave 9. For example, for women, there is a decrease in the percentage of respondents who score zero and just above and an increase in those who score below zero. These distributions suggest that the increase in the gender gap is not driven by a specific group of individuals, e.g. those who had great or very bad mental health before the pandemic. It rather suggests that a wide spectrum of individuals is affected. In the following, we will explore the gap more rigorously and discuss how factors mentioned in the introduction, such as economic concerns, differences in time use and changes in social interactions contribute to these patterns.

Figure 2: Distributions of Mental Well-Being Before and During the Pandemic, by Gender



Notes: Data from UKHLS wave 9 and Covid module. Figure shows standardized and inverted Likert score, obtained from 12 questions in the General Health Questionnaire. See text for more details.

In the following, we will use changes in subjective well-being by taking the first difference in measures (using Wave 9 and the first Covid-19 wave) within individuals. This holds constant any individual differences in reporting style. We find that about 54 percent of respondents have worse mental well-being in 2020 than in wave 9. Sixty-one percent of those are women. 11 percent of respondents

do not see a change in their well-being and 34 percent have better well-being in 2020 than in wave 9. The composition of these latter two groups across genders is roughly balanced.⁷

3.2 Declines in Well-Being by Gender and by Salient Factors

We now present correlations of a variety of background characteristics with the change in subjective well-being from wave 9 to the Covid-19 wave. We do this separately for women and men. We start with factors that relate to the situation within the household. Alon et al. (2020) discuss that the closure of schools and daycare facilities is likely to affect women more than men and that these effects are likely to be stronger than effects relating to employment. For the UK, Andrew et al. (2020) show that mothers in households with two opposite-gender parents bear a disproportionate share of household responsibilities. We therefore examine whether changes in well-being are related to caring duties, child care and time spent doing housework. Accordingly, table 1 shows the change in well-being by gender and when individuals are grouped according to their current time use. Columns 1 and 4 show that when splitting respondents by the time they are currently spending on child care, all of these groups face on average worse well-being in 2020. Notably, there appears to be no significant difference in average well-being changes between those currently with moderate childcare duties (1 to 15 hours per week), and those with no childcare duties whatsoever. Only those with substantial child care duties of over 15 hours are significantly worse off. Across genders, women with substantial child care duties seem to be particularly hard hit.

Importantly, table 1 includes all respondents, with and without children. We show the proportions of the sample making up each category in Figure A.1, which we use extensively in this and subsequent discussions. The figure indicates that 70 percent of those with substantial child care responsibilities are women.⁸ However, it also shows clearly that the overwhelming majority of both women and men do not perform any childcare at all. This is, of course, because most adults do not have young children (the precise proportion without children is not shown). These proportions should be born in mind when attempting to explain the gender gap in well-being in the aggregate. Even if well-being is negatively impacted by substantial childcare duties, and women perform a larger share of childcare duties, it seems unlikely that childcare alone can explain the gender gap overall.

Columns 2 and 5 examine the relationship between changes in well-being and time currently spent on housework. Again, all three groups face on average worse mental health in 2020 and this is true for both genders. However, the decrease in well-being seems to be declining further with more house work for women, but not for men. We also note imbalances in how many men and women fall into each of the three categories: 39 percent of men report doing housework for less than six hours, whereas only 20 percent of women are in the same situation (top center graph in Figure A.1). Over half of all surveyed women report substantial housework (more than ten hours per week), while only

⁷Fifty-two percent of those without a change and forty-four percent of those with better well-being are men.

⁸14 percent of all women fall in this category, as do 8 percent of all men.

Table 1: Well-Being by Gender: Family, Time Use and Caring

	Female	Female	Female	Male	Male	Male
Child Care: 0 hrs	-0.24*** (0.02)			-0.12*** (0.02)		
1 to 15 hrs	-0.22*** (0.06)			-0.13** (0.05)		
> 15 hrs	-0.44*** (0.05)			-0.26*** (0.06)		
House Work: < 6 hrs		-0.13*** (0.04)			-0.13*** (0.03)	
6 to 10 hrs		-0.28*** (0.03)			-0.13*** (0.03)	
> 10 hrs		-0.32*** (0.02)			-0.14*** (0.03)	
Caring duties: No			-0.25*** (0.03)			-0.13*** (0.02)
Yes			-0.29*** (0.02)			-0.14*** (0.02)
Observations	7235	7237	7237	5243	5242	5242
Adjusted R^2	0.056	0.056	0.053	0.021	0.019	0.019

Notes: Data from UKHLS wave 9 and Covid module. Table reports grouped means of outcome variable, which is the individual change in standardized and inverted GHQ Likert score. See text for details. Standard errors clustered at the primary sampling unit and presented in parentheses. Covid survey weights used in all computations. Child care and house work hours from self-reported time use in the previous week. Caring duties variable is from self-report on responsibilities of caring for somebody outside the current residence in the previous 4 weeks.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

29 percent of men fall into the same category. Columns 3 and 6 show the correlation of changes in well-being with caring for others outside of the household. Both those who care for others and those who don't face on average worse well-being in 2020. Again, we note a gender imbalance in caring responsibilities: 51 percent of women report caring for others while this number is 45 percent for men (top right graph in Figure A.1).

Much of the current literature has focused on economic impacts of the pandemic. How are these economic factors related to changes in subjective well-being? Table 2 shows the relationship of changes in well-being by gender and various indicators of financial position. Columns 1 and 4 show group means for a subjective measure asking how well respondents are getting by.⁹ We use this measure as a summary of the complex impacts of loss of earnings and other incomes, as well as changes in expenditure patterns induced by the pandemic. We note a similar pattern as in

⁹Respondents are asked 'How well would you say you yourself are managing financially these days? Would you say you are...', and then given 5 options: 'Living comfortably'; 'Doing alright'; 'Just about getting by'; 'Finding it quite difficult', and 'Finding it very difficult'.

Table 1, where all subgroups face a decline in well-being on average, irrespective of gender. Not surprisingly, we see a stronger average decline for those who report a worse subjective financial situation. The majority of respondents are ‘living comfortably’ or ‘doing alright’ (76 percent of women and 79 percent of men) and only a small fraction finds their situation ‘quite’ or ‘very’ difficult (six percent of each gender; see also middle left graph in Figure A.1). Columns 2 and 4

Table 2: Well-Being by Gender: Finances and Work

	Female	Female	Female	Male	Male	Male
Finances: Comfortable	-0.19*** (0.02)			-0.05** (0.02)		
Doing alright	-0.26*** (0.03)			-0.13*** (0.02)		
Just about getting by	-0.39*** (0.05)			-0.19*** (0.05)		
Quite difficult	-0.37*** (0.12)			-0.36*** (0.11)		
Very difficult	-0.62*** (0.20)			-0.71*** (0.25)		
Bills: Up to date		-0.26*** (0.02)			-0.12*** (0.02)	
Behind with some		-0.41*** (0.09)			-0.36*** (0.12)	
Behind with all		-0.44 (0.72)			-0.21 (0.29)	
No job loss			-0.26*** (0.02)			-0.13*** (0.02)
Job loss or furlough			-0.34*** (0.05)			-0.16*** (0.05)
Observations	7233	7209	7238	5239	5223	5243
Adjusted R^2	0.058	0.054	0.053	0.030	0.021	0.019

Notes: Data from UKHLS wave 9 and Covid module. Table reports grouped means of outcome variable, which is the individual change in standardized inverted GHQ Likert score. See text for details. Standard errors clustered at the primary sampling unit and presented in parentheses. Covid survey weights used in all computations. Finances score is from self-report of present financial situation: variable ‘finnow’. Lateness of bill payments is from self-report: variable ‘xpbills’.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

show similar patterns for bill payments, a more objective measure of financial situation. Here, the average decline in well-being for those who are behind with all bills is not statistically significant for either women nor men, likely because the numbers affected are very small ($N = 18$ and 19 , respectively). In columns 3 and 6 we turn to furloughing and job loss, which is usually a strong predictor of subjective well-being (L. Winkelmann and R. Winkelmann 1998). Perhaps because of the unusual labour market policies in place, there is little difference in well-being between those

who have lost their job and the rest. Examining the fraction of women and men who lost their job or were furloughed, we do not see a difference between gender (fifteen percent for both genders; middle right graph in Figure A.1). Overall, we note that in terms of the financial measures used here, women and men do not appear to be very differently affected. It is thus again unlikely that financial measures can help explain a large share of the gender gap documented in Figure 1.¹⁰

Perhaps the most immediate consequence of the pandemic has been social distancing induced by the lockdown policy. We therefore examine the role of social relationships and loneliness, which have been associated with subjective well-being in a predominantly psychological literature (for a review see e.g. Cacioppo et al. 2015). Table 3 shows social factors and their correlation with changes in well-being. In contrast to the previous tables, in which we document a decline in well-being for all groups, different levels of loneliness are differently related to changes in well-being: for respondents who currently state they never feel lonely (71 percent of men and 55 percent of women), the loneliness variable is not correlated with well-being (see Columns 1 and 4).¹¹ However, for those who report being lonely, the correlation between loneliness and well-being changes is strongly increasing in the level of reported loneliness. While this pattern holds for both genders, the fraction of women affected is higher. Thirty-four percent of women sometimes feel lonely and eleven percent often feel lonely, while these numbers are lower for men (23 and 6 percent, respectively; see also bottom left graph in Figure A.1).

A useful feature of UKHLS is that we can examine background characteristics from before the onset of the pandemic. We therefore make use of a special module conducted in wave 9 on social connectedness. Here we examine the role of the number of close friends, stated pre-Covid. *A priori*, it is not clear how the number of close friends would relate to subjective well-being during the pandemic and in particular the lockdown. On the one hand, one might hypothesize that a strong social network can help one cope with such a difficult situation, thus leading to a positive correlation between number of friends and well-being changes. On the other hand, related to the above discussion of loneliness, being more connected might lead to increased feelings of loneliness when facing physical distance measures and lockdowns. Columns 2 and 4 suggest that the latter explanation applies: individuals with more close friends face larger declines in well-being. This is true for both genders, and again, women are slightly disproportionately affected: 64 percent of women report more than three close friends while only 2 percent report no friends at all; for men the respective proportions are 61 percent and 4 percent. Finally, returning to loneliness, we check whether the declines in well-being are associated with some persistent loneliness trait or reported changes in this variable. The results are shown in columns 3 and 6. Those that report less loneliness show substantially *higher* well-being, while, consistently with columns 1 and 4, those that report an increase in loneliness are substantially less happy.

¹⁰Note however, that particular subgroups of women, such as mothers in households with two opposite-gender parents or single mothers appear to be economically worse off (Andrew et al. 2020; Benzeval et al. 2020).

¹¹Note this is not explained by a lack of power: Figure A.1 indicates that the proportion of individuals in this category is large.

Table 3: Well-Being by Gender: Social Factors

	Female	Female	Female	Male	Male	Male
Lonely: Never	-0.03*			0.00		
	(0.02)			(0.02)		
Sometimes	-0.42***			-0.36***		
	(0.03)			(0.04)		
Often	-1.02***			-0.83***		
	(0.08)			(0.12)		
Close friends: 0		0.10			0.03	
		(0.11)			(0.08)	
1 to 3		-0.23***			-0.08***	
		(0.03)			(0.03)	
4 to 6		-0.30***			-0.17***	
		(0.03)			(0.03)	
> 6		-0.32***			-0.18***	
		(0.03)			(0.03)	
Lonely: Less			0.24***			0.23***
			(0.04)			(0.05)
Same			-0.20***			-0.09***
			(0.02)			(0.02)
More			-0.91***			-0.78***
			(0.04)			(0.06)
Observations	7237	7160	7234	5242	5161	5236
Adjusted R^2	0.124	0.056	0.153	0.077	0.022	0.110

Notes: Data from UKHLS wave 9 and Covid module. Table reports grouped means of outcome variable, which is the individual change in standardized inverted GHQ Likert score. See text for details. Standard errors clustered at the primary sampling unit and presented in parentheses. Covid survey weights used in all computations. Loneliness score is from self-report in Covid module: variable ‘sclonely’. Number of close friends is from the social networks module conducted in wave 9, with total count of close friends grouped into bins. Third and sixth columns use change in loneliness variable (sclonely) from wave 9.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

We investigate additional correlations of well-being changes with medical and health factors, health behaviors and key demographics. These are presented in Appendix tables A.1, A.2 and A.3, respectively. Broadly, we see negative average changes in well-being for all groups and similar patterns for both genders. Regarding medical vulnerability we do not see a clear pattern: while those who experienced Covid symptoms and those who have received help appear to display larger decreases in well-being, those who were asked by the NHS to stay at home do not appear to be particularly less happy. Regarding health behaviors (shown in Table A.2), the most notable finding is that not being able to eat healthy meals is associated with significant declines in well-being for women. In contrast, exercising does not appear to influence changes in well-being to a large extent.

We present correlations with key demographics in Table A.3. Interestingly, being in a couple seems only to have comparatively benefitted men. Columns 2 and 5 show that those with children face slightly larger declines in well-being than those without. Most notable, however, are results by age (columns 1 and 4). Youths of both genders face a substantially larger decline in well-being than older individuals. This finding is particularly noteworthy, given that overall the young are comparatively more affected by the policy response to Covid than by Covid itself.

3.3 Explaining the Gender Gap

We showed in the previous subsection that women have fared worse than men across many categorizations. However, for other categorizations, we showed that women and men in similar groups have both shown large declines, but that women are more likely to fall into the groups whose well-being has worsened more (e.g. working more than six hours in the household or experiencing loneliness more often). We now explore the extent to which these differential exposures can help explain the gender gap in well-being shown in Figures 1 and 2.

Table 4 shows the results of an exercise in which we add increasing sets of controls to a linear regression to see how the gender gap can be explained. Column 1 presents the raw gap in subjective well-being changes, where we regress the dependent variable on a gender dummy only. The negative coefficient shows that women experienced a 0.14 standard deviations larger decline in mental well-being during the pandemic than men. This is comparable to Adams-Prassl et al. (2020b) who calculate the gender gap in mental health in US states with and without the lockdown but without access to a panel dimension.¹²

Columns 2, 3 and 4 include as controls the variables discussed in Tables 1, 2 and 3, respectively. Column 2 controls for factors related to time use within the household, as well as caring responsibilities. These factors narrow the initial estimate of the gender gap by 0.03 standard deviations, or 22 percent. This finding is in contrast to Adams-Prassl et al. (2020b) who conclude that caring responsibilities do not play a large role. On the other hand controlling only for financial and work-related factors in Column 3 only decreases the gender gap by 4 percent. This is in line with our discussion above that the fraction of women and men experiencing financial problems is very similar. This is also consistent with Adams-Prassl et al. (2020b) who discuss that the gender gap is not explained by realized economic impacts. Next, we explore the role of social factors. Loneliness and the number of close friends close the gap by 67 percent, leaving only 0.05 standard deviations of the initial gap unexplained. This finding accords with the discussion above, in which we showed that women stated a larger number of close friends before the onset of the pandemic, and higher levels of loneliness after.

¹²More precisely, Adams-Prassl et al. (2020b) do not present an estimate of the gender gap without additional control variables. The gender gap in well-being in states without a lockdown is estimated to be 0.21 standard deviations, whereas the gender gap is 0.14 standard deviations larger in states with a lockdown.

Table 4: Gender Gap in Subjective Well-Being

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	-0.143*** (0.023)	-0.111*** (0.025)	-0.138*** (0.023)	-0.048** (0.023)	-0.129*** (0.023)	-0.030 (0.025)	-0.147*** (0.021)
Controls:							
Family & Caring		X				X	
Financial & Work			X			X	
Social				X		X	
Medical					X	X	
Health Behaviour					X	X	
Demographic					X	X	
HH Fixed Effects							X
Observations	12252	12250	12252	12252	12252	12250	8758
Adjusted R^2	0.004	0.011	0.012	0.078	0.026	0.103	0.420

Notes: Data from UKHLS wave 9 and Covid module. Dependent variable is individual change in standardized inverted GHQ Likert score. See text for details. Sample in columns (1) to (6) is all individuals aged 16 and over with full interviews. Sample in column (7) comprises individuals in households with multiple interviews only. Covid survey weights used in all regressions. Standard errors clustered at the primary sampling unit and presented in parentheses. Column (1) includes a gender dummy and a constant, but no other controls. Family controls are an interaction of the presence of children with: a cubic polynomial in hours of housework; cubic polynomial in hours of childcare; a dummy for caring responsibilities. Financial controls are categorical variables for: self-reported financial situation; whether having trouble paying bills; having experienced job loss, or having been furloughed. Social controls are categorical variables for the number of close friends declared in wave 9, and self-reported loneliness. Medical controls are categorical variables for: having Covid symptoms either in the past or present; receiving external care from outside the house; being shielded or pregnant. Health behaviour controls are indicators for: being a smoker; drinking alcohol regularly; exercising vigorously or moderately at least 3 times a week; being able to eat nutritious meals. Demographic controls are age categories interacted with: presence of children; being in a couple; having elderly people in the home.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Next, we include medical factors, health behaviors and demographic characteristics in combination. As discussed, some of these factors, notably age, are strongly related to declines in well-being. But, as also discussed, these factors are unlikely to explain the gender gap because they are similarly distributed across men and women. In total we find these factors explain about 10 percent (Column 5). When including all controls in Column 6, we can explain the gender gap to the extent that the coefficient on the female dummy becomes statistically indistinguishable from zero. Overall, including all controls reduces the gender gap by around 80 percent.

In the final column we exploit a useful feature of the data, whereby all individuals in a residence are interviewed. Here we regress the dependent variable on the gender dummy and a set of household fixed effects. We do this only on households with more than one full interview. Before discussing the result, we report (but do not show) that the coefficient on the gender dummy for this reduced sample in the basic specification is similar to that in column 1. Column 7 shows that the household fixed effect has a large explanatory power for well-being, indicated by the high R^2 . On the other hand the fixed effects do not bring down the gender coefficient at all. As perhaps to be expected,

this finding indicates that the gender gap is not explained by household effects: women are not overly represented in households that are doing worse during the pandemic.

4 Conclusion

Early studies produced since the onset of the Covid-19 pandemic have found deteriorating mental well-being, particularly apparent for women. Using rich data we document a similar finding for the UK. We add to these existing studies by showing that much of the gender gap in well-being can be explained by gender differences in social factors and increased feelings of loneliness. We also show that gender differences in family-related time use and caring responsibilities appear to play a role.

The implications for policy are noteworthy. Our results are suggestive of the strongly adverse and unequal effect of social distancing. Our results can therefore inform debates at a time when policy makers must weigh up many competing objectives. In particular, our results suggest that lockdown is impacting mental well-being less through its effect on the labour market or wider economy, and more through the direct loss of social interaction.

References

- Adams-Prassl, Abi, Teodora Boneva, Marta Golin, and Christopher Rauh (2020a): “Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys”.
- (2020b): “The Impact of the Coronavirus Lockdown on Mental Health: Evidence from the US”.
- Alon, Titan, Matthias Doepke, Jane Olmstead-Rumsey, and Michele Tertilt (2020): “The impact of Covid-19 on gender equality”. *Covid Economics* (4), pp. 62–85.
- Andrew, Alison et al. (2020): “How are mothers and fathers balancing work and family under lockdown?”
- Armbruster, Stephanie and Valentin Klotzbuecher (2020): “Lost in lockdown? Covid-19, social distancing, and mental health in Germany”. *Covid Economics* (22), pp. 117–153.
- Benzeval, Micheala et al. (2020): “The Idiosyncratic Impact of an Aggregate Shock: The Distributional Consequences of COVID-19”.
- Bridger, Emma and Michael Daly (2019): “Cognitive ability as a moderator of the association between social disadvantage and psychological distress: Evidence from a population-based sample”. *Psychological Medicine* 49 (9), pp. 1545–1554.
- Brodeur, Abel, Andrew Clark, Sarah Fleche, and Nattavudh Powdthavee (2020): “Assessing the impact of the coronavirus lockdown on unhappiness, loneliness, and boredom using Google Trends”.
- Brooks, Samantha K. et al. (2020): “The psychological impact of quarantine and how to reduce it: rapid review of the evidence”. *The Lancet* 395 (10227), pp. 912–920.
- Brühlhart, Marius and Rafael Lalive (2020): “Daily Suffering: Helpline Calls during the Covid-19 Crisis 1”.

- Cacioppo, John, Stephanie Cacioppo, John Capitanio, and Steven Cole (2015): “The Neuroendocrinology of Social Isolation”. *Annual Review of Psychology* 66 (1), pp. 733–767.
- Cacioppo, John, Louise Hawkley, Greg Norman, and Gary Berntson (2011): “Social isolation”. *Annals of the New York Academy of Sciences* 1231 (1), pp. 17–22.
- Chang, Shu Sen, David Stuckler, Paul Yip, and David Gunnell (2013): “Impact of 2008 global economic crisis on suicide: Time trend study in 54 countries”. *BMJ* 347, pp. 1–15.
- Clark, Ben, Kiron Chatterjee, Adam Martin, and Adrian Davis (2019): “How commuting affects subjective wellbeing”. *Transportation*.
- Cowan, Katherine (2020): “Survey results: Understanding people’s concerns about the mental health impacts of the COVID-19 pandemic”.
- Dagher, Rada K., Jie Chen, and Stephen B. Thomas (2015): “Gender differences in mental health outcomes before, during, and after the great recession”. *PLoS ONE* 10 (5), pp. 1–16.
- Davillas, Apostolos, Michaela Benzeval, and Meena Kumari (2016): “Association of adiposity and mental health functioning across the lifespan: Findings from understanding society (The UK household longitudinal study)”. *PLoS ONE* 11 (2), pp. 1–19.
- Davillas, Apostolos and Andrew M. Jones (2020): “The Covid-19 pandemic and its impact on inequality of opportunity in psychological distress in the UK”.
- Diener, Ed, Robert A Emmons, Randy J Larsen, and Sharon Griffin (1985): “The Satisfaction With Life Scale”. *Journal of Personality Assessment* 49 (1), pp. 71–75.
- Dingel, Jonathan and Brent Neiman (2020): “How Many Jobs Can be Done at Home?” *NBER Working Paper* 26948.
- Fetzer, Thiemo, Lukas Hensel, Johannes Hermle, and Christopher Roth (2020a): “Coronavirus Perceptions And Economic Anxiety”.
- Fetzer, Thiemo et al. (2020b): “Perceptions of an Insufficient Government Response at the Onset of the COVID-19 Pandemic are Associated with Lower Mental Well-Being”.
- Golden, Jeannette et al. (2009): “Loneliness, social support networks, mood and wellbeing in community-dwelling elderly”. *International Journal of Geriatric Psychiatry* 24, pp. 694–700.
- Hale, Thomas, Anna Petherick, Toby Phillips, and Samuel Webster (2020): “Oxford COVID-19 Government Response Tracker”. *Blavatnik School of Government Working Paper* 31.
- Holmes, Emily A. et al. (2020): “Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science”. *The Lancet Psychiatry* 7, pp. 547–560.
- Holt-Lunstad, Julianne, Timothy Smith, Mark Baker, Tyler Harris, and David Stephenson (2015): “Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review”. *Perspectives on Psychological Science* 10 (2), pp. 227–237.
- House, James, Karl Landis, and Debra Umberson (1988): “Social relationships and health”. *Science* 241, pp. 540–545.
- Janke, Katharina, Kevin Lee, Carol Propper, Kalvinder Shields, and Michael A Shields (2020): “Macroeconomic Conditions and Health in Britain: Aggregation, Dynamics and Local Area Heterogeneity”. *IZA Discussion Paper* (13091).
- Knipe, Duleeka, Hannah Evans, Amanda Marchant, David Gunnell, and Ann John (2020): “Mapping population mental health concerns related to COVID-19 and the consequences of physical distancing: a Google trends analysis”. *Wellcome Open Research* 5 (May), p. 82.
- Leigh-Hunt, N. et al. (2017): “An overview of systematic reviews on the public health consequences of social isolation and loneliness”. *Public Health* 152, pp. 157–171.

- Powdthavee, Nattavudh, Anke Plagnol, Paul Frijters, and Andrew Clark (2019): “Who Got the Brexit Blues? The Effect of Brexit on Subjective Wellbeing in the UK”. *Economica* 86 (343), pp. 471–494.
- Remes, Olivia, Carol Brayne, Rianne Van Der Linde, and Louise Lafortune (2016): “A systematic review of reviews on the prevalence of anxiety disorders in adult populations”. *Brain and behavior* 6 (7), e00497.
- Social, Institute for and Economic Research (2020): “Understanding Society: COVID-19 Study”, SN: 8644, 10.5255/UKDA-SN-8644–1.
- Stevenson, Betsey and Justin Wolfers (2009): “The paradox of declining female happiness”. *American Economic Journal: Economic Policy* 1 (2), pp. 190–225.
- Tubadji, Annie, Frederic Boy, and Don J. Webber (2020): “Narrative economics, public policy and mental health”. *Covid Economics* 20, pp. 109–131.
- University of Essex, Institute for Social and Economic Research and NatCen Social Research, Kantar Public (2019): “Understanding Society: Waves 1-9, 2009-2018”.
- VanderWeele, Tyler, Louise Hawkey, and John Cacioppo (2012): “On the reciprocal association between loneliness and subjective well-being”. *American Journal of Epidemiology* 176 (9), pp. 777–784.
- Winkelmann, Liliana and Rainer Winkelmann (1998): “Why are the unemployed so unhappy? Evidence from panel data”. *Economica* 65 (257), pp. 1–15.
- World Health Organization (2020): *Mental Health and Psychosocial Considerations During COVID-19 Outbreak*. Tech. rep. March.

Appendix

A Additional Tables and Figures

Table A.1: Well-Being by Gender: Medical/Health Factors

	Female	Female	Female	Male	Male	Male
Symptoms: No	-0.25*** (0.02)			-0.12*** (0.02)		
Yes	-0.37*** (0.06)			-0.23*** (0.05)		
Vulnerable: No		-0.28*** (0.02)			-0.13*** (0.02)	
Yes		-0.13 (0.09)			-0.14* (0.08)	
Receiving help: No			-0.24*** (0.02)			-0.10*** (0.02)
Yes			-0.32*** (0.03)			-0.22*** (0.03)
Observations	7238	7238	7238	5243	5243	5242
Adjusted R^2	0.054	0.054	0.053	0.021	0.019	0.023

Notes: Data from UKHLS wave 9 and CoViD module. Table reports grouped means of outcome variable, which is the individual change in standardized inverted GHQ Likert score. See text for details. Standard errors clustered at the primary sampling unit and presented in parentheses. CoViD survey weights used in all computations. ‘Symptoms’ comes from self-reported presence of symptoms since the onset of the pandemic. ‘Vulnerable’ takes value “yes” either if the individual has received an NHS letter requesting they should stay at home (‘shielded’) or the individual is pregnant. ‘Help’ is a self-report of whether the individual has received care from outside the house, either from family or not.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A.2: Well-Being by Gender: Health Behaviours

	Female	Female	Female	Male	Male	Male
Alcohol: No	-0.23*** (0.03)			-0.15*** (0.03)		
Yes	-0.29*** (0.02)			-0.13*** (0.02)		
Exercise: No		-0.24*** (0.03)			-0.17*** (0.03)	
Yes		-0.29*** (0.02)			-0.11*** (0.02)	
Healthy Meals: No			-0.70*** (0.16)			-0.33* (0.18)
Yes			-0.25*** (0.02)			-0.13*** (0.02)
Observations	7238	7238	7236	5243	5243	5238
Adjusted R^2	0.053	0.053	0.057	0.019	0.020	0.020

Notes: Data from UKHLS wave 9 and Covid module. Table reports grouped means of outcome variable, which is the individual change in standardized inverted GHQ Likert score. See text for details. Standard errors clustered at the primary sampling unit and presented in parentheses. Covid survey weights used in all computations. Alcohol variable uses self-report of whether respondent has drunk any alcohol in previous 4 weeks. Exercise variable is based self-report of whether the individual has either done moderate exercise or vigorous exercise on three days in the previous week. Healthy meals variable is based on self-report of whether the individual was able to eat health food in the previous week: variable 'lacknutr'.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

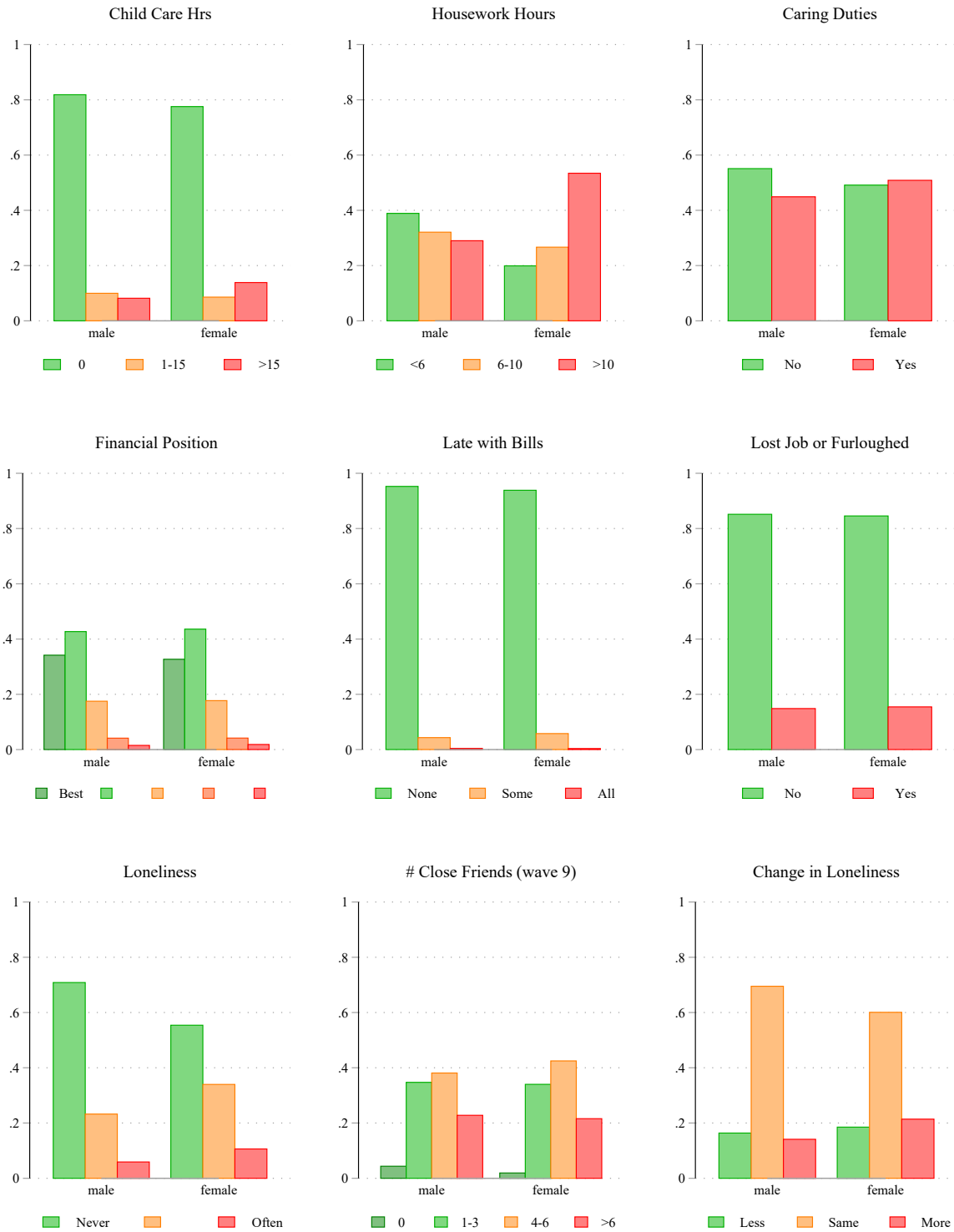
Table A.3: Well-Being by Gender: Demographic Factors

	Female	Female	Female	Male	Male	Male
Age: 16 to 29	-0.47*** (0.06)			-0.33*** (0.07)		
30 to 49	-0.30*** (0.03)			-0.12*** (0.03)		
50 to 69	-0.18*** (0.02)			-0.07*** (0.02)		
Over 70	-0.22*** (0.03)			-0.13*** (0.03)		
Couple: Yes		-0.26*** (0.02)			-0.11*** (0.02)	
No		-0.28*** (0.03)			-0.20*** (0.04)	
Children: No			-0.24*** (0.02)			-0.12*** (0.02)
Yes			-0.33*** (0.04)			-0.19*** (0.04)
Observations	7238	7238	7238	5243	5243	5243
Adjusted R^2	0.059	0.053	0.054	0.026	0.021	0.020

Notes: Data from UKHLS wave 9 and Covid module. Table reports grouped means of outcome variable, which is the individual change in standardized inverted GHQ Likert score. See text for details. Standard errors clustered at the primary sampling unit and presented in parentheses. Covid survey weights used in all computations.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A.1: Proportions by Type and Gender



Notes: Data from UKHLS wave 9 and Covid module. Variables are the same as those presented in tables 1, 2 and 3. For each variable, figure reports proportions of the sample taking each value, by gender. For more details see footnotes to the referenced tables, and text.

B Description of GHQ-12 Questionnaire

As discussed in section 2 our measure of mental well-being comes from the Likert scale derived from the 12-question GHQ questionnaire. The GHQ questions are listed below. The Likert scale is obtained by recoding so that the scale for individual variables runs from 0 to 3 instead of 1 to 4, and then summing, giving a scale running from 0 (the least distressed) to 36 (the most distressed). The questionnaire is administered to everyone.

In our analysis we standardize this variable across gender and wave to have a mean of zero and a standard deviation of one. We then multiply by -1 to obtain a scale that runs from negative (more distressed) to positive (less distressed).

Wording of the questions:

ghqa [GHQ: concentration]: The next questions are about how you have been feeling over the last few weeks. Have you recently been able to concentrate on whatever you're doing?

1. Better than usual 2. Same as usual 3. Less than usual 4. Much less than usual

ghqb [GHQ: loss of sleep]: Have you recently lost much sleep over worry?

1. Not at all 2. No more than usual 3. Rather more than usual 4. Much more than usual

ghqc [GHQ: playing a useful role]: Have you recently felt that you were playing a useful part in things?

1. More so than usual 2. Same as usual 3. Less so than usual 4. Much less than usual

ghqd [GHQ: capable of making decisions]: Have you recently felt capable of making decisions about things?

1. More so than usual 2. Same as usual 3. Less so than usual 4. Much less capable

ghqe [GHQ: constantly under strain]: Have you recently felt constantly under strain?

1. Not at all 2. No more than usual 3. Rather more than usual 4. Much more than usual

ghqf [GHQ: problem overcoming difficulties]: Have you recently felt you couldn't overcome your difficulties?

1. Not at all 2. No more than usual 3. Rather more than usual 4. Much more than usual

ghqg [GHQ: enjoy day-to-day activities]: Have you recently been able to enjoy your normal day-to-day activities?

1. More so than usual 2. Same as usual 3. Less so than usual 4. Much less than usual

ghqh [GHQ: ability to face problems]: Have you recently been able to face up to problems?

1. More so than usual 2. Same as usual 3. Less able than usual 4. Much less able

ghqi [GHQ: unhappy or depressed]: Have you recently been feeling unhappy or depressed?

1. Not at all 2. No more than usual 3. Rather more than usual 4. Much more than usual

ghqj [GHQ: losing confidence]: Have you recently been losing confidence in yourself?

1. Not at all 2. No more than usual 3. Rather more than usual 4. Much more than usual

ghqk [GHQ: believe worthless]: Have you recently been thinking of yourself as a worthless person?

1. Not at all 2. No more than usual 3. Rather more than usual 4. Much more than usual

ghql [GHQ: general happiness]: Have you recently been feeling reasonably happy, all things considered?

1. More so than usual 2. About the same as usual 3. Less so than usual 4. Much less than usual