CUT HOURS, NOT PEOPLE: NO WORK, FURLOUGH, SHORT HOURS AND MENTAL HEALTH DURING THE COVID-19 PANDEMIC IN THE UK

Brendan Burchell, Senhu Wang, Daiga Kamerāde, Ioulia Bessa and Jill Rubery

CUT HOURS, NOT PEOPLE:
NO WORK, FURLOUGH, SHORT HOURS AND MENTAL HEALTH DURING THE COVID-19 PANDEMIC IN THE UK

Brendan Burchell
University of Cambridge
bb101@cam.ac.uk

Senhu Wang
University of Cambridge
sw768@cam.ac.uk

Daiga Kamerāde
University of Salford
d.kamerade-hanta@salford.ac.uk

Ioulia Bessa
University of Leeds
I.Bessa@leeds.ac.uk

Jill Rubery
University of Manchester
jill.rubery@manchester.ac.uk

July 2020

Abstract

The unprecedented shock to the UK economy inflicted by government measures to contain the Coronavirus (COVID-19) risked plunging millions of workers into unemployment as businesses were forced to close or scale back activity. To avoid that cliff edge, and the predictable damage to both workers mental health and to the viability of the closed down businesses, the government also introduced the Coronavirus Job Retention Scheme (CJRS) that allowed for the furloughing of workers. Even so the number of people claiming benefits as unemployed has soared above 2 million for the first time since 1996 and others have been working significantly reduced working hours. The first and second waves of Understanding Society COVID-19 Study provide an early opportunity to examine how far these changes in employment status, work hours and involvement in furlough job retention scheme are related to the likelihood of having mental health problems, measured by 12-item General Health Questionnaire. Our findings confirm that leaving paid work is significantly related to poorer mental health, even after controlling for the household income and other factors. In contrast having some paid work and/or some continued connection to a job is better for mental health than not having any work at all. Those who remain part-time employed before and during the COVID-19, those who are involved in furlough job retention scheme or transition from full-time to part-time employment are all found to have similar levels of mental health as those who continued to work full-time. Results also show that overall women's mental health has deteriorated much more than men's when compared to Wave 9 (2017-2019) of Understanding Society.

Both short working hours and furlough job retention schemes can thus be seen to be effective protective factors against worsening mental health. However, the key issue is now how to move beyond the furlough scheme. A v-shaped bounce back is not on the horizon and many sectors will at most move into partial activity. So, the need to avoid a huge further leap in unemployment is just as vital with all the risk to mental health that that would entail. These findings point to the need to move towards sharing work around more equitably, including introducing a shorter working week for all (except in those sectors under extreme pressure) in order to minimize the risk to mental health and well-being if those on furlough are now pushed into unemployment.

An earlier version of this paper was circulated in June 2020 which included just the April 2020 data. This version is dated 21 July and incorporates the May UKHLS COVID-19 data. The results and conclusions of both papers are similar.

Further information about the Centre for Business Research can be found at
www.cbr.cam.ac.uk

1. Introduction: the COVID-19 pandemic and the UK labour market

The COVID-19 crisis initiated new types of dynamics that required employees to adjust to new standards and governments to introduce new policies during the lockdown. As part of workforce adjustments, many employees started working from home with the same number of hours, whilst others were working with reduced hours. Many employees in certain occupations, identified as key workers, increased their hours significantly. Whether overworked, underworked or working through different patterns, employees' psychological state and mental health was stress-tested under such unprecedented circumstances. This paper builds on earlier work on shorter working hours and their effect on mental health and psychological wellbeing (Kamerāde et al 2019). In particular, the paper explores the impact of employment status (employed/not in paid work) and reduced working hours on psychological wellbeing and mental health during the COVID-19 outbreak and in the onset of the crisis that followed.

Mapping the effect of COVID-19 on employment in the UK is onerous due to the paucity of available data (Bell and Blanchflower, 2020). For the period between early March and early June, UK's main data source was the Office of National Statistics (ONS), whereas in other countries multiple agents collected data on COVID-19, employment and wellbeing. From March to May 2020 to reduce - or even avoid if at all possible- mass unemployment, the UK government introduced the Coronavirus Job Retention Scheme (CJRS). Initially covering 6.3 million jobs, one fifth of the workforce were furloughed (21 per cent) (CIPD, 2020) and the scheme ended up dealing with more than 9 million workers when it closed at the end of May, with new workers still joining at the beginning of June 2020 (Strauss and Pickard, 2020). Despite the protection offered by the scheme, half of the employees being furloughed felt that the scheme was not contributing adequately to job security, expressing constant concerns over whether they would actually return to work after the furlough period or whether the scheme would become a leeway to restructuring and consequently additional job losses (CIPD, 2020).

Alternative policies included reduced working hours, where employees were asked to work fewer working hours or to work under different patterns. These included lay-offs and short-time working. The former referred to an employee being off from work for at least one working day. The latter referred to workers asked to cut down working hours. Reduced hours prevailed not only in the UK, but globally with a reported decline in working hours reaching around 10.7 per cent relative to the last quarter of 2019 globally and with USA and Europe presenting the largest losses of

1

working hours and activity (ILO, 2020).Both lay-offs and shorter working hours were more pronounced among social groups disproportionally affected by the COVID-19 crisis, notably young workers and women (Strauss and Pickard, 2020; ILO, 2020). At the same time pay is reported as falling in real terms and hiring has collapsed, with vacancy numbers being at an all-time low in May 2020 (Strauss, 2020).

Although the CJRS scheme was apparently designed to be relatively comprehensive by allowing those on all types of contracts to be included and even for some already dismissed to be brought back and furloughed, the decision whether to use furloughing or dismissal was left up to employers. Support for the self-employed was announced later and was more delayed so that during April and beginning of May 2020 two million workers (employed and self-employed) applied for unemployment benefits. This number reached almost 3 million beginning of June, while more than 600,000 have dropped out of payroll since the start of the lockdown (Strauss, 2020). With fears over an increase in unemployment in light of a wave of redundancies starting after summer 2020, the majority of employees emphasized the high job insecurity currently characterising the job market. With the darkest scenario, the CIPD (2020) indicated that 22 per cent of workers expressed concerns of losing their job in the imminent future, while 38 per cent of furloughed workers feel that job losses upon return prevail, shedding light on the implications potential of imminent unemployment prospects have on psychological wellbeing.

In line with recent research on unemployment, underemployment and overemployment and wellbeing that illustrates that the underemployed have higher levels of wellbeing than the unemployed, but lower levels than full-time and part-time workers, it is implied that the more the actual hours differ from preferred hours the lower is a worker's well-being with being more pronounced in the case of no work at all (Bell and Blanchflower, 2020). In a similar vein, and consistent with Wood and Burchell (2018) who argue that unemployment can have detrimental effects on mental health, it is an imperative to examine the effect of no paid work and of fewer hours of work on mental health during the COVID-19 crisis.

To examine such effects the study draws on the COVID-19 United Kingdom Household Longitudinal Study (UKHLS). The survey covers the changing impact of the pandemic on the welfare of UK individuals, families and wider communities. Participants complete one survey a month, which includes core content designed to track changes, alongside variable content adapted each month as the coronavirus situation develops, including physical health, employment, childcare responsibilities, hours worked, earnings and questions on mental health. The first

COVID-19 wave was collected during April 2020 and was released at the end of May. More waves of UKHLS based on the COVID -19 questionnaire are currently collected and expected to be released soon. The paper begins by considering theory and existing empirical evidence on employment, unemployment, reduced hours and mental health. It then explains the data and methods used in the study before presenting the results and discussing policy implication of this study.

2. Unemployment, short hours and mental health

Research linking unemployment to a whole raft of social and psychological problems has a long tradition in the social sciences. Many of the findings have been replicated so widely across time (going back to the 1920s), and across countries that they can be stated with little controversy. Although there are few randomised controlled trials on unemployment or re-employment there are plenty of longitudinal studies that leave little doubt about the direct causal relationship between unemployment and mental health. There are, as with so many phenomena, great individual differences between those who thrive without paid work, and those who suffer extreme psychological hardship, but when dealing with averages, the findings tend to be very predictable. There are a number of meta-analyses and summaries of thousands of individual studies (for instance Wood & Burchell, 2018; Paul & Moser, 2009).

Unemployment causes a large deterioration in mental health. This is true for both general measures of common symptoms of mental health problems (such as depression and anxiety) or more general measures of positive and negative emotions or for more specific measures such as self-esteem or life satisfaction. The effect sizes are larger than most other common stressors such as divorce, and (unlike most other stressors), the effects of unemployment hardly wear off as long as an individual remains unemployed. Unemployment effects both men and women with about the same ferocity. Not all jobs provide the same protection against unemployment. There are almost certainly some jobs that are so bad that they are worse for the average individual than being unemployed. For instance, jobs where an individual is continually bullied, or jobs that are extremely precarious (for instance, some zero hours contracts), are not good for mental health, but these are thankfully a small minority of jobs in the UK – average jobs, or even a bit below average-quality jobs, are much better for mental health than no job.

The reasons for this dependency on employment for mental health are slightly more controversial. The most obvious cause that comes to mind is the loss of income, and the financial strain and poverty that usually accompanies the loss of a wage and the

reliance on benefits or unemployment insurance instead. Rather surprisingly this loss of income accounts for only a very small proportion of the worsening of mental health, and this seems to be true whether in countries with relatively generous unemployment benefits (e.g. Nordic countries) or countries with less developed welfare systems.

Marie Jahoda's socio-environmental model of employment (1992) is the most influential of the models that is designed to account for the effect of unemployment on mental health. This theory goes back to studies in Austria in the Great Depression but has been highly influential in contemporary debates too (Selenko, Batnic and Paul 2011). Jahoda claimed that rather than the manifest reason for working – the wage – it was the accidental or latent consequences of working that were responsible for the psychological benefits of working. Jahoda listed five such benefits -- time structure; enforced activity; social contact outside of the family; collective purpose; and status/ identity (Jahoda, 1982). Many other more recent psychological models can be seen as refinements of Jahoda – for instance, by adding to this list (Warr, 1987), making more nuanced differentiations between good jobs and bad jobs (Warr, 1999) or adding individual differences in psychological and economic needs (Nordenmark and Strandt, 1999). There are alternative theoretical frameworks, but these are better considered as complementary to Jahoda. For instance, Fryer (2013) emphasises the importance of employment in empowering individuals to plan their lives, unlike unemployment and precarious jobs that frustrate attempts to plan for the future.

A more recent line of research is highly relevant here in rising above the simple dichotomy of employment and unemployment. Kamerāde et al (2019) asked the question as to how many hours of work are needed to provide the mental health benefits of employment. Again, the results of that study were rather surprising. The threshold for good mental health was about one day a week – above that, it seemed to make little difference to individuals' wellbeing if they worked eight hours or 48 hours a week – the mental health varied little, and in all categories the mental health was markedly better than those with zero hours a week, either due to unemployment or to economic inactivity. That original work was performed on UK panel data and has been replicated in data from all EU countries (Wang et al, 2020). These findings might be highly relevant to the catastrophic labour market changes that have taken place in the period from March to May 2020 as the COVID-19 pandemic has changed the working lives of millions of workers. They strongly suggest that avoiding exclusion from paid work should be a top priority as a policy, but they also suggest that there may be a very plausible way of doing this with relatively little damage to the mental health of the nation, through short-time

working. Although this has hardly been used as a policy in the UK, it has a strong tradition in other European countries. While the UK's innovation was to bring in the furlough scheme, many European countries pioneered short time work subsidies either instead of or alongside measures for furloughed workers (ETUC, 2020).

The aim of the study presented here is to examine how changes in employment status, work hours and involvement in furlough job retention scheme between pre-pandemic period (January/February 2020) and the lockdown period (April 2020) are related to workers' mental health. Our main research question in this paper is whether those who experience either furloughing or a reduction in their working hours retain levels of mental health similar to employees, or experience drops the levels of mental health more normally associated with those not in paid work.

3. Methods

3.1 Data and sample

To examine how working reduced hours during pandemic is related to mental health, we used data from the first and second waves of the UK Household Longitudinal Study (UKHLS), or otherwise called the Understanding Society COVID-19 Study (University of Essex, Institute for Social and Economic Research, 2020) collected in April and May 2020. Understanding Society COVID-19 survey used stratified and clustered sampling to provide high-quality and nationally representative panel data of the United Kingdom households. The survey consists of an online questionnaire but those without internet access were interviewed by telephone by trained interviewers. The overall response rates were 41.2% and 40.2% respectively. For this study we excluded those under 18 and above 65, those who were self-employed at January/February and/or April 2020, or those who transitioned from not having paid work to employment, or experienced increase in working hours. We also excluded respondents who were retired and longstanding sick/disabled in wave 9 of UKHLS (in 2017-2019). As a result, the analytic sample for April 2020 was 7,149 and for May 2020 6,216 respondents. To adjust for complex survey design and unequal non-response rates, we used weighting in all analysis.

3.2 Measures

Mental health was measured using the 12 items from General Health Questionnaire (GHQ-12), a validated scale widely used in the community or non-clinical settings to measure the levels of general psychiatric disorders (Aalto et al., 2012; Goldberg

and Williams, 1988). There were 12 questions about respondents' depressive, anxiety symptoms, sleeping problems confidence and overall happiness etc., which were measured on a four-point scale (0 'less than usual', 1 'no more than usual', 2 'rather more than usual', and 3 'much more than usual'). The answers to the 12 questions were then summated to obtain a GHQ-12 Likert score (0-36) - higher scores reflect increased psychiatric morbidity, that is worse mental health (Goldberg and Williams, 1988).

Employment status was our key independent variable. We combined information from retrospective questions about employment status in January/February, the questions about employment status in April 2020 to capture changes in employment status and work hours, and created six categories: 'left paid work', 'remained out of paid work', 'furloughed under COVID-19 job retention scheme', 'remained part-time employed (1-34 hours per week)', 'from full-time to part-time employed', and 'remained full-time employed (35-48 hours per week)'.

Household income was measured as an ordinal variable consisting of four categories: 'lowest quartile', 'second quartile', 'third quartile' and 'highest quartile', with lowest quartile being the reference category. In addition, we controlled for a number of *demographic and health covariate*s including gender, age groups ('18-30', '31-40', '41-50' and '51-60'), whether live with a partner and presence of children ('no children', 'children aged 0-4', and 'children aged 5-15'). We also controlled for whether respondents have longstanding illness (yes, no) or experienced COVID-19 related symptoms ('no', 'ever had COVID-19 related symptoms' and 'currently have Covid-19 related symptoms). Because the United Kingdom consist of four countries, we create a four-category variable for *country of residence*: England, Wales, Scotland and Northern Ireland. For more details about distribution of each variable, see Table A1 in Appendix.

4. Statistical analyses

First, we report the descriptive statistics of the sample. Second, we run multiple regression models to account for covariates. Ordinary Least Squares (OLS) regression models were specified for the GHQ-12 Likert score. We apply these to the April 2020 wave and repeat it for May 2020, as indicated below.

Results based on April 2020 wave

Using Understanding Society COVID-19 April survey data, we found that during early COVID-19 period, around 3% of the sample left paid work, 13% remained out

of paid work, 19% were furloughed under COVID-19 job retention scheme, 17% remained part-time employed, 6% transitioned from full-time employment to part-time employment, and 41% remained full-time employment (for more descriptive statistics for the key variables see Table A1 in Appendix).

According to Table 1, people who left paid work or remained out of paid work had poorer mental health than those who remained full-time employed. However, those who were furloughed, remained part-time employed and transitioned from full-time to part-time employed had similar levels of mental health to those who remained full-time employed. These patterns remained similar for men and women. An exception was that men who remained out of paid work had similar levels of mental health to men who moved from full-time to part-time work.

Table 1. GHQ-12 mental health scores by employment status and gender (April 2020 wave)

| Employment status	Pooled	Men	Women
Panel A	GHQ-12 Likert scores: Means (SD)		
Left paid work	14.77 (7.57)	14.45 (7.9)	14.97 (7.37)
Remained out of paid work	13.83 (6.66)	11.95 (5.47)	14.61 (6.95)
Furloughed under Covid-19 job retention scheme	12.18 (6.17)	10.83 (5.37)	13.23 (6.53)
Remained part-time employed (1-34 hours)	13.05 (6.01)	11.17 (5.4)	13.33 (6.05)
From full-time to part-time employed	12.56 (6.02)	11.85 (5.7)	13.02 (6.18)
Remained full-time employed (35-48 hours)	12.05 (5.30)	11.17 (4.87)	12.97 (5.57)

Notes
Higher score represents poorer mental health
Standard deviations are in parentheses. ANOVA F-tests show that GHQ-12 scores differ significantly by the employment status in the pooled and gender-specific samples ($p < 0.001$).

Table 2. Ordinary Least Squares regression models predicting GHQ-12 Likert psychiatric disorder scores based on April 2020 wave

	Pooled Model 1	Model 2	Men Model 3	Model 4	Women Model 5	Model 6
Employment status (Ref. = Remained full-time employed)						
Left paid work	3.09**	2.60**	3.44*	2.99*	2.87*	2.40
	(1.02)	(1.01)	(1.34)	(1.33)	(1.41)	(1.37)
Remained out of paid work	1.17**	0.65	0.58	0.23	1.77***	1.18*
	(0.36)	(0.40)	(0.54)	(0.59)	(0.46)	(0.51)
Furloughed under Covid-19 job retention scheme	0.07	-0.21	-0.28	-0.49	0.50	0.15
	(0.28)	(0.30)	(0.38)	(0.39)	(0.42)	(0.45)
Remained part-time employed	0.21	-0.06	-0.13	-0.40	0.60	0.31
	(0.35)	(0.34)	(0.74)	(0.73)	(0.39)	(0.39)
From FT to PT employed	0.53	0.45	0.47	0.41	0.62	0.53
	(0.49)	(0.49)	(0.61)	(0.63)	(0.69)	(0.68)
Household income (Ref. = Lowest quartile)						
Second quartile		-0.49		0.06		-0.75
		(0.45)		(0.70)		(0.53)
Third quartile		-1.49**		-1.11		-1.63**
		(0.47)		(0.72)		(0.55)
Highest quartile		-1.41**		-1.01		-1.57**
		(0.49)		(0.71)		(0.59)
Gender (Ref. = Male)	2.03***	1.99***				
	(0.23)	(0.23)				
Age groups (Ref. = 18-30)						
31-40	-0.75	-0.79	-0.20	-0.19	-1.23*	-1.28*
	(0.41)	(0.41)	(0.60)	(0.59)	(0.54)	(0.54)
41-50	-1.67***	-1.72***	-0.97	-0.99	-2.29***	-2.33***
	(0.38)	(0.38)	(0.54)	(0.53)	(0.48)	(0.48)
51-64	-2.21***	-2.35***	-1.72**	-1.78***	-2.69***	-2.83***
	(0.37)	(0.37)	(0.54)	(0.53)	(0.48)	(0.48)
Live with a partner (Ref. = Yes)	0.94**	0.59	0.93*	0.67	1.03**	0.64
	(0.29)	(0.31)	(0.44)	(0.45)	(0.36)	(0.39)
Presence children (Ref. = No)						
Children aged 0-4	0.96*	0.93*	0.86	0.85	0.85	0.84
	(0.46)	(0.45)	(0.60)	(0.59)	(0.63)	(0.63)
Children aged 5-15	0.54	0.53	0.37	0.39	0.60	0.58
	(0.31)	(0.30)	(0.43)	(0.42)	(0.40)	(0.39)
COVID-19 symptoms (Ref. = No)						
Ever had symptoms	1.08**	1.09**	0.38	0.36	1.57**	1.62**
	(0.38)	(0.38)	(0.42)	(0.42)	(0.52)	(0.52)
Currently have symptoms	2.99**	2.98**	2.92*	2.86*	3.14*	3.18*
	(0.99)	(0.96)	(1.19)	(1.16)	(1.50)	(1.47)
Have longstanding illness (Ref. = No)	1.36***	1.33***	1.11***	1.10***	1.59***	1.54***
	(0.22)	(0.22)	(0.32)	(0.31)	(0.31)	(0.31)
Regions (Ref. = England)						
Wales	0.96	0.97	1.08	1.18	0.84	0.77
	(0.73)	(0.72)	(0.86)	(0.88)	(0.88)	(0.86)
Scotland	-0.01	-0.03	-0.30	-0.30	0.19	0.17
	(0.35)	(0.35)	(0.49)	(0.49)	(0.44)	(0.45)
Northern Ireland	-0.31	-0.41	-0.19	-0.29	-0.38	-0.43
	(0.95)	(0.93)	(1.10)	(1.07)	(1.32)	(1.29)
Constant	11.29***	12.66***	11.26***	12.12***	13.24***	14.79***
	(0.39)	(0.60)	(0.56)	(0.85)	(0.45)	(0.71)
R-squared	0.10	0.10	0.06	0.07	0.08	0.08
Observations	7,149	7,149	2,795	2,795	4,354	4,354

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05

8
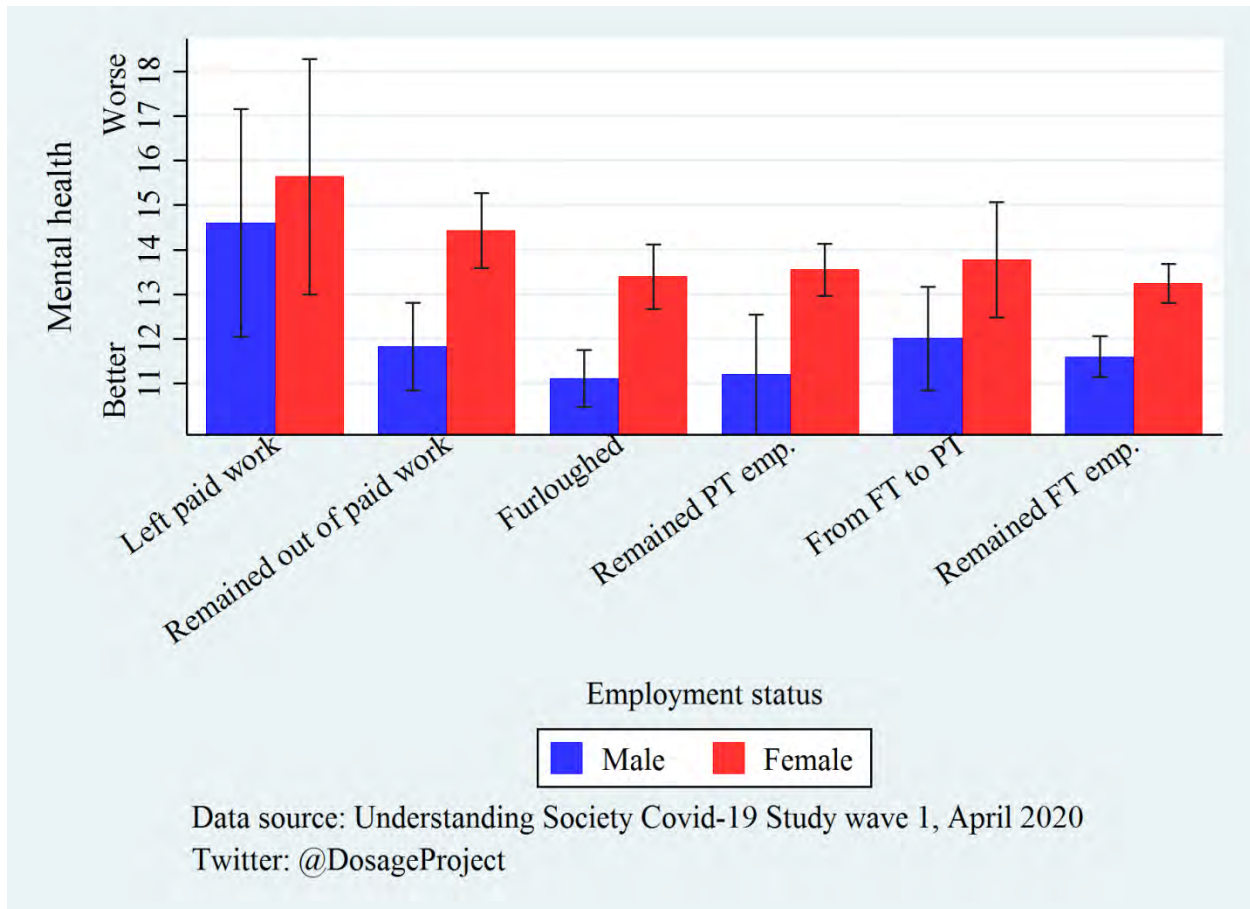
Figure 1. GHQ-12 mental health scores by employment status, after controlling for all variables in the models.

Models 2, 4 and 6 then controlled for household income quartile, showing that people with higher household income had better mental health than those with lower household income. Importantly, we find that in the pooled model after controlling for household income, 18% (1-(2.60/3.09)) and 33% (1-(0.65/1.17)) of negative effects for 'left paid work' and 'remained out of paid work' were mediated by the household income, and the patterns were similar for men and women. This suggests that lower household income partially explained poorer mental health of people who are not in paid work. However, as can be seen in Table 2 and Figure 1, even after controlling for the household income, compared to those who remained full-time employed, men who left paid work and women who remained out of paid work had significantly poorer mental health. In contrast, those who were furloughed, remained part-time employed and transitioned from full-time to part-time employment did not have significantly different levels of mental health.

Results based on May 2020 wave

Looking at the May 2020 wave of Understanding Society COVID-19, frequencies remain close to the April 2020 wave; 2.14 % of the sample left paid work and 13% remained out of paid work, while 17% remained part-time employed and 6% transitioned from full-time to part-time employment. Those who were furloughed under COVID-19 job retention scheme reached 21.6 %, and 37 % remained in full-time employment.

According to Table 3, results in May 2020 wave remain the similar, as people who left paid work or remained out of paid work had poorer mental health than those who remained full-time employed. However, those who were furloughed, remained part-time employed and transitioned from full-time to part-time employed had similar levels of mental health to those who remained full-time employed; yet it is important to mention that in all of these conditions except those who became unemployed during the pandemic, women had worse mental health than men.

Table 3. GHQ-12 mental health scores by employment status and gender

Employment status	Men	Women
Panel A	GHQ-12 Likert scores: Means (SD)	
Left paid work	15.13 (6.58)	14.21 (7.27)
Remained out of paid work	14.09 (6.69)	14.81 (8.25)
Furloughed under Covid-19 job retention scheme	11.17 (5.70)	13.01 (6.28)
Remained part-time employed (1-34 hours)	11.43 (4.97)	12.82 (5.60)
From full-time to part-time employed	11.93 (5.24)	12.43 (5.33)
Remained full-time employed (35-48 hours)	11.27 (4.71)	13.10 (5.83)

Notes
Higher score represents poorer mental health
Standard deviations are in parentheses. ANOVA F-tests show that GHQ-12 scores differ significantly by the employment status in the pooled and gender-specific samples ($p < 0.001$).

Table 4 reports the regression model results drawing on the May 2020 wave. Findings reveal that compared to those who remained full-time employed, those who left paid work had substantially poorer mental health (3.5 increased GHQ-12 score on average). People who remained out of paid work had also marginally poorer mental health when compared to those who remained in full-time employment (p-value=.052). In contrast, those who were furloughed, remained part-time employed and transitioned from full-time to part-time employment did not have significantly different levels of mental health.

One important finding to note is that women's' mental health levels were significantly lower when compared to men's, emphasizing the pressure the pandemic has put on women.

Similar conclusions are drawn from a logistic regression model with being "at risk" for low mental health as the dependent variable (defined, conventionally, as scoring positively on four or more of the GHQ-12 items).

Table 4. Ordinary Least Squares regression models predicting GHQ-12 Likert psychiatric disorder scores based on May 2020 wave.

	Coef	SE
Employment status (Ref. = Remained full-time employed)		
Left paid work	3.47**	(1.11)
Remained out of paid work	2.41	(1.24)
Baseline carers	1.08	(0.55)
Furloughed under Covid-19 job retention scheme	-0.47	(0.30)
Remained part-time employed	0.19	(0.39)
From FT to PT employed	0.57	(0.68)
Gender (Ref. = Male)	1.30***	(0.28)
Household income (Ref. = Lowest quartile)		
Second quartile	0.95*	(0.41)
Third quartile	0.25	(0.42)
Highest quartile	0.04	(0.39)
Age groups (Ref. = 18-30)		
31-40	-0.18	(0.48)
41-50	-1.13**	(0.41)
51-64	-1.82***	(0.41)
65+	-2.24***	(0.63)
Live with a partner (Ref. = Yes)	1.15***	(0.33)
Presence children (Ref. = No)		
Children aged 0-4	-0.05	(0.51)
Children aged 5-15	0.22	(0.38)
COVID-19 symptoms (Ref. = No)		
Ever had symptoms	2.24*	(0.88)
Currently have symptoms	2.27	(2.08)
Have longstanding illness (Ref. = No)	1.25***	(0.27)
Regions (Ref. = England)		
Wales	0.86	(0.72)
Scotland	0.65	(0.51)
Northern Ireland	-0.60	(0.78)
Constant	11.38***	(0.57)
R-squared	0.09	
Observations	6,216	

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

Table 5. Probability (%) of being in the "at risk" level based on the GHQ-12 Likert psychiatric disorder scores: May 2020

Employment status	Probability (%)	Std. Err (%).
Left paid work	57.7	8.5
Remained unemployed	30.7	8.4
Remained house/family carer.	33.6	4.1
Furloughed under Covid-19 job retention scheme	26.8	1.8
Remained part-time employed (1-34 hours)	28.2	2.4
From full-time to part-time employed	29.7	4.6
Remained full-time employed (35-48 hours)	28.0	1.5

Table 5 reports the probabilities of being at risk for different employment statuses. The table indicates that those who left paid work have 57% chance of being at risk compared to 28% for those who remained in full time employment. The rest of the remained-in-employment categories are close to the rate for being close to this figure, reporting similar percentages. This suggests that losing one's job doubles the proportion 'at risk' of poor mental health.

Figure 2 displays the significant gender difference when comparing wave 9 (2017-2019) of Understanding Society to the two covid-19 waves (April and May 2020). The change in mental health between the latest pre-pandemic data and April 2020 showed that both men's and women's mental health worsen by April, but was then relatively stable between April and May. Importantly, the deterioration on entering the pandemic was twice as large for women compared to men, suggesting that the pandemic and lockdown didn't treat us all equally; women were much harder hit than men.
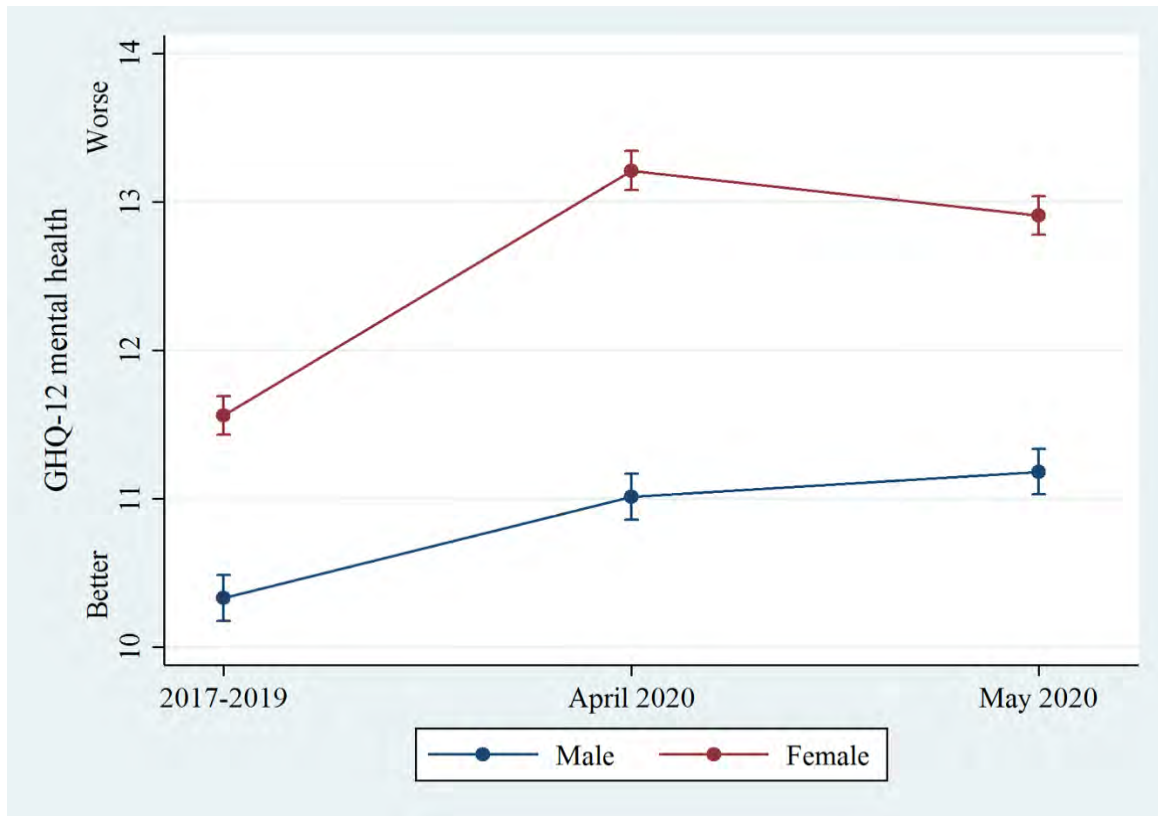
Figure 2. Mental health rates for men and women in Wave 9 (2017-2019), April 2020 and May 2020 waves of Understating Society.

5. Discussion

The aim of this study was to examine how changes in employment status, work hours and involvement in furlough job retention scheme between pre-pandemic period (January/February 2020) and the lockdown period (April/May 2020) were related to workers' mental health.

As predicted, we found that people working reduced working hours or being furloughed do not have poorer mental health. This suggests that shorter working week and furlough schemes can protect people from the negative mental health effects of unemployment. At the same time, we found that leaving paid work is significantly related to poorer mental health.

5.1 Limitations and future research

There remain some limitations of this study that can be addressed as more data become available.

13

We should remain a little cautious about straightforwardly inferring cause and effect from these data – we did only measure GHQ-12 scores at one point in time. As more waves become available we will be able to delve deeper into the data, but what we have found in the April and May 2020 data is consistent with what we know about employment, unemployment and working hours from other studies.

Moreover, our analyses cover just the first couple of months of the economic consequences of the pandemic and lockdown in the UK, and we therefore need to be cautious in drawing policy conclusions going into the longer term. For some employees who were feeling over-worked and stressed, the loss of some or all hours of work could have been experienced positively in the first months – other researchers have sometimes referred to a "honeymoon period" after redundancy, particularly if it followed a long period of uncertainty. However, some other shocks, such as divorce and widowhood wear off and mental health returns to a baseline level after a period of a few months (Clark & Georgellis, 2013) but this is not the case for economic shocks such as unemployment or chronic job insecurity (Burchell, 2011). Indeed, the analyses show little change between April and May.

5.2 Policy implications

Taking the results of our analyses at face value, and bearing in mind the enormous costs of mental health in terms of individual misery, the NHS (estimated by Layard (2013) to account for about 40% of NHS spending either directly or indirectly), lost productivity through disability and absenteeism, this paper has clear messages for policy makers.

The COVID-19 Furloughing scheme seems to have been a big success, not only in preventing widespread poverty but also in preventing the drop in mental health that we observe for those who were unfortunate to lose their jobs in the first few months of 2020. Given the extraordinarily high rates of redundancies that have occurred in countries that have not introduced furlough or short time working schemes, it is one way in which the UK has dealt better with the crisis than, for instance, the US (Muller and Schulten 2020). Unfortunately, the cost of the scheme makes it unsustainable. There is clearly a good case for retaining it in sectors where there is limited chance of significant activity in the near future including aviation, parts of hospitality, entertainment and the arts but in other sectors where activity is starting but will not go back to pre-COVID-19 levels in the short term there are alternative labour market interventions that are both more affordable than furloughing and much less likely to bring about lasting harm than a steep rise in unemployment. Those who have had a reduction in their working hours from full-time to part-time work

have not experienced a hit to their mental health. Furthermore, this effect seems to be similar regardless of their reason for this reduction, be it imposed by an employer or as a way of coping with changing household circumstances (for instance increased childcare loads due to the closing of schools). This points to a clear vindication of the schemes introduced in many other European countries to subsidise working time reductions to cope with economic shocks such as the COVID-19 crisis (ETUC, 2020).

Of course, mental health in not the only outcome that is important, and other implications of working time reductions need to be considered too. While a drop in earnings may be unacceptable to many households on low and average earnings, the costs of subsidising those households during the recovery period are a lot lower than the cost of complete furloughing. By sharing the work around more equitably, the extreme outcome of unemployment for some should be minimised (Rubery, 2020). We note the striking gender differences in the impact of the virus. We have not yet drilled down to determine the reasons for this, but this finding is entirely compatible with the numerous reports of increased domestic load for women due to home schooling, shopping for essentials and caring for children and vulnerable adults during the lockdown.   There are many other claims being made for the benefits of a reduction in working time including a more equal balance of domestic and paid work between men and women as an important step in reducing gender inequality. National reductions in working time could also increase leisure time and quality of life, increased productivity per hour, reduced burnout and lower harmful environmental impacts (Coote & Franklin, 2013).

References

Bell, D., & Blanchflower, D. (2020). 'US and UK labour markets before and during the COVID-19 crash.' *National Institute Economic Review, 252*, R52-R69. doi:10.1017/nie.2020.14

Bell, D.N.F. and Blanchflower, D.G. (2019), 'The well-being of the overemployed and the underemployed and the rise in depression in the UK' *Journal of Economic Behavior and Organization*, 161, May, pp. 180–96.

Burchell, B. (2011). 'A Temporal comparison of the effects of unemployment and job insecurity on wellbeing.' Sociological Research Online 16(1)9 http://www.socresonline.org.uk/16/1/9.

CIPD (2020) 'Impact of COVID-19 on working lives.' Available at: http://www.cipd.co.uk/knowledge/work/trends/goodwork/COVID-impact

Clark, A.E. and Georgellis, Y. (2013) 'Back to baseline in Britain: adaptation in the British Household Panel Survey. *Economica*, 80: 496-512. doi:10.1111/ecca.12007

Coote, A. and Franklin, J. (Eds) *Time on Our Side: Why we all need a shorter working week.* London: NEF. ISBN: 978–1–908506–39–9

ETUC (2020) *Short Time Work Measures Across Europe.* Briefing, Brussels. Available at: https://www.etuc.org/sites/default/files/publication/file/2020-05/Covid_19 Briefing Short Time Work Measures 30 April.pdf

Fryer, D. (2013) L'abour Market Disadvantage, Deprivation and Mental Health.' In (Eds) Wolff, C., Drenth, P. J. D and Henk, T. *Handbook of Work and Organizational Psychology, Vol 2.* Hove: Pychology Press Ltd.

ILO (2020) 'ILO Monitor: COVID-19 and the world of work. Fourth edition Updated estimates and analysis.' 27 May 2020. Available at: https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_745963.pdf

Jahoda, M. (1992) 'Reflections on Marienthal and after.' *Journal of Occupational and Organizational Psychology* 65(4): 355– 358.

Jahoda, M. (1982) *Employment and Unemployment: A Social- Psychological Analysis*. Cambridge: Cambridge University Press.

Kamerāde, D., Wang, S., Burchell, B., Balderson, S. and Coutts, A. (2019) 'A shorter working week for everyone: How much paid work is needed for mental health and well-being?' *Social Science & Medicine*,1 12353, https://doi.org/10.1016/j.socscimed.2019.06.006.

Layard, R. (2013). Mental Health. In *Wellbeing*, C.L. Cooper (Ed.). doi:10.1002/9781118539415.wbwell103

Muller, T & Schulten, T. (2020) Ensuring fair short-time work - a European overview. ETUI Policy Brief: European Economic, Employment and Social Policy No 7/2020.

16

Nordenmark, M. and Strandh, M. (1999) 'Towards a sociological understanding of mental well-being among the unemployed: the role of economic and psychosocial factors.' *Sociology* 33(3): 577– 597

Paul, K. I. and Moser, K. (2009) Unemployment Impairs Mental Health: Metaanalyses. *Journal of Vocational Behavior* 74(3): 264– 282.

Rubery, J. (2020) 'Afterword: final word and the path forward – is the myth of austerity giving way to the myth of the robots taking the jobs?' In D. Baines and I. Cunningham eds. *Working in the context of Austerity: Challenges and Struggles*, Bristol University Press forthcoming

Selenko, E., Batnic, B. and Paul, K. (2011) 'Does latent deprivation lead to psychological distress? Investigating Jahoda's model in a four-wave study.' *Journal of Occupational and Organizational Psychology* 84(4): 723– 740.

Strauss, D. (2020) 'Four conclusions from latest UK labour market data. Stable headline measure of unemployment hides huge shocks unfolding in economy.' *Financial Times*, Available at: https://www.ft.com/content/91ce2be9-f383-47f8-9ae3-f5e79e8fadb7

Strauss, D. and Pickard, J. (2020) 'UK grapples with phasing out job furlough scheme.' *Financial Times*, Available at: https://www.ft.com/content/316c2353-fe00-4cd8-91de-dd4f2413a938

University of Essex, Institute for Social and Economic Research. (2020). *Understanding Society: COVID-19 Study, 2020*. [data collection]. UK Data Service. SN: 8644, http://doi.org/10.5255/UKDA-SN-8644-1

Warr, P. (1987) *Work Unemployment and Mental Health*. Oxford: Oxford University Press.

Warr, P. (1999) 'Well-being and the workplace.' In (Eds) Kahneman, D., Diener, E. and Schwarz, N. *Well- being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation.

Winton, A. and Crawford, D. (2020) 'What COVID-19 tells us about the value of human labour.' Manchester Policy Blogs, Available

at: http://blog.policy.manchester.ac.uk/posts/2020/04/what-COVID-19-tells-us-about-the-value-of-human-labour/

Wood, A., & Burchell, B. (2018) 'Unemployment and well-being.' In A. Lewis (Ed.), *The Cambridge Handbook of Psychology and Economic Behaviour* (Cambridge Handbooks in Psychology, pp. 234-259). Cambridge: Cambridge University Press.

Appendix

Table A1. Sample characteristics (Column percentages)

	Pooled	Men	Women
Employment status			
Left paid work	3.19	3.18	3.19
Remained out of paid work	13.41	10.05	15.57
Furloughed under Covid-19 job retention scheme	19.22	21.43	17.80
Remained part-time employed (1-34 hours)	17.22	5.87	24.51
From full-time to part-time employed	5.85	5.83	5.86
Remained full-time employed (35-48 hours)	41.11	53.63	33.07
Household income			
Lowest quartile	13.93	10.30	16.26
Second quartile	26.58	23.69	28.43
Third quartile	28.21	30.63	26.67
Highest quartile	31.28	35.38	28.64
Gender			
Male	39.10		
Female	60.90		
Age groups			
18-30	18.39	16.06	19.89
31-40	20.55	20.79	20.4
41-50	25.29	25.51	25.15
51-64	35.77	37.64	34.57
Living with a partner			
Yes	73.9	78.03	71.24
No	26.1	21.97	28.76
Presence of children			
No	61.49	62.15	61.07
Children aged 0-4	12.76	12.99	12.61
Children aged 5-15	25.75	24.87	26.32
Covid-19 related symptoms			
No	84.99	85.4	84.73
Ever had symptoms	13.69	13.17	14.03
Currently have symptoms	1.31	1.43	1.24
Have longstanding illness			
No	60.46	60.89	60.17
Yes	39.54	39.11	39.83
Regions			
England	81.05	81.14	80.98
Wales	5.53	5.51	5.54
Scotland	8.80	8.80	8.80
Northern Ireland	4.63	4.54	4.69
N	7,149	2,795	4,354