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Adopting Telework. The causal impact of working from home on subjective well-being in 2020

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Adopter le télétravail. L'impact causal du travail à domicile sur le bien-être subjectif en 2020.[1]

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Résumé : En utilisant l'enquête longitudinale sur les ménages britanniques, nous découvrons un effet positif du travail à domicile sur la satisfaction de la vie, qui est le fait des personnes en couple et de celles qui n'ont pas d'enfants à la maison. En ce qui concerne la santé mentale, il n'y a pas d'effet moyen du télétravail, sauf pour les personnes vivant dans des zones rurales, mais cela cache une évolution dynamique, car la santé mentale se détériore initialement dans les premiers mois du télétravail, mais s'améliore après une période d'adaptation, notamment le sentiment d'être utile, d'être une personne valable et de pouvoir se concentrer.

Mots-clés : Télétravail, Satisfaction dans la vie, Santé mentale, Covid-19

Adopting Telework. The causal impact of working from home on subjective well-being in 2020

Abstract : Using the UK household longitudinal survey, we uncover a positive effect of work from home on life satisfaction, which is driven by partnered people and those without children at home. Concerning mental health, there is no average effect of telework, except for those living in rural areas, but this hides a dynamic evolution, as mental health initially deteriorates in the first months of telework, but improves after a period of adaptation, especially the feeling of being useful, of being a worthy person, and of being able to concentrate

Keywords : Telework, Life Satisfaction, Mental Health, Covid-19

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Introduction

One of the major legacies of the Covid-19 pandemic will certainly be the extension of IT-based distant interactions, in particular telework. In most countries, nonpharmaceutical interventions against the pandemics included a massive and forced use of telecommuting whenever it was possible to carry out one's job from home. In the UK for instance, this concerned about one third of all jobs, mostly in the service sector. This shock has come as an acceleration of an ancient but slow ongoing evolution led by digital technology, that enabled work to be done outside the premises of the firm, at home, in remote offices, or in co-working spaces. Once the pandemic is over, a return to the statu quo ante is unlikely, as the potential stigma that was associated with working from home has disappeared, and workers and companies have made substantial investments in the equipment needed in order to work from home (Barrero, Bloom, and Davis 2021). Although Dingel and Neiman (2020) calculated that, on average, 37% of U.S. jobs could technically move to full telecommuting, this proportion could reach much higher levels in some sectors and occupations, such as managers (Hensvik, Le Barbanchon, and Rathelot 2020). The stakes are high, as a massive and sustained shift to telework would set off a chain of far-reaching consequences, not only for work arrangements, but also for land use, the housing market, labor costs, employment levels and macroeconomic growth (Bergeaud and Ray 2021). Whether work from home will stay (Barrero, Bloom, and Davis 2021) eventually depends on its impact on productivity (from the labor demand side) and on the value that workers see in this possibility. We are interested here in the labor supply side: is telework conducive to workers' well-being? We analyze the question through the lens of self-reported life satisfaction and mental health, (Frey and Stutzer 2002 ; Kahneman and Krueger 2006; Layard 2011). In this literature, self-declared life satisfaction is considered as a synthetic over-arching concept that subsumes sub-domains, such as job satisfaction, family satisfaction, satisfaction with leisure, etc. (Van Praag, Frijters, and Ferrer-i-Carbonell 2003). Mental health indicators, on the other hand, are based on a clinical approach of subjective well-being.

The influence of telework on well-being is likely to transit principally through job satisfaction, but not exclusively, and its net impact is a priori ambiguous. Indeed, each of the main drivers of well-being at work that have been identified by the literature (Warr 1999, 2007 ; Clark 2001; Green 2006; Gallie 2009 , 2013), i.e. autonomy social capital, progression, purpose, job security, and work-life balance, could be either favorable or detrimental to life well-being. A particular point about work-life balance is the question about how homeworking affects the division of work within the household. As put by Lyttelton, Zang, and Musick (2020): "Telecommuting could theoretically either reduce gender disparities by giving women greater control over their schedules and giving men more time to invest in housework and childcare, or increase gender disparities, by removing the barriers between work and competing time demands that unequally fall on

women". The only indisputably positive impact of working from home is the elimination of long commutes to and from work. Empirical studies forcefully show that these are detrimental to workers' health (e.g., Gottholmseder et al. 2009; Künn-Nelen 2016) and subjective well-being (e.g., Stutzer and Frey 2008 ; Bryson and MacKerron 2017). In sum, as Mas and Pallais (2020)'s survey of alternative work arrangements illustrates, the net impact of telecommuting on subjective well-being is a priori ambiguous.

In terms of empirical evidence, pre-Covid and Covid episodes also offer ambiguous lessons. Prior to the health crisis, and despite the rarity of telework (which concerned 3% to 5% of workers in OECD countries, (Hallépée and Mauroux 2019; Flex Jobs 2017; ONS 2019)), many empirical studies had examined the relationship between work from home and subjective well-being, without reaching consistent results (Gajendran and Harrison 2007; Bailey and Kurland 2002; Oakman et al. 2020). Famous experiments conducted within companies suggest a positive effect of telecommuting on well-being, but it is difficult to generalize the lessons drawn from these particular cases (Bloom et al. 2015; Mas and Pallais 2017; Delanoeije 2020).

Early empirical studies of the massive telework episode due to Covid-19 often conclude to the negative effect of telework, especially for women (Lyttelton, Zang, and Musick 2020; Xiao et al. 2021), but do not really disentangle the impact of telework per se from that of the health crisis (Gibbs, Mengel, and Siemroth 2021; Etheridge, Tang, and Wang 2020; Barrero, Bloom, and Davis 2021). The fall in subjective well-being due to the sanitary context has been abundantly documented (e.g. Pierce et al. 2020; Pelly et al. 2021; Sibley et al. 2020; Anaya et al. 2021; Banks and Xu 2020; Brodeur et al. 2021 ; Schmidtke et al. 2021), but while in the early days of the lockdown, increased symptoms of depression and anxiety were often attributed to telecommuting, with the easing of restrictions, many surveys reveal that the vast majority of workers do not want to return to the office 5 days a week (e.g. Felstead and Reuschke (2020)).

Only a few studies are able to disentangle the pure effect of work from home from that of the sanitary context, thanks to longitudinal panel data, especially when they cover pre-Covid and Covid periods. Close to our work, a report by Felstead and Reuschke (2020), based on the same British data, documents the fall in mental health indicators of newly home-centered workers, as compared to pre-Covid time, especially in April and May 2020. Our paper complements this report, whose ambition is to describe more broadly the extent, composition and impact of telework on several outcomes, but not Life satisfaction, and who only uses 3 early Covid waves of the survey. Another recent study is that of Bertoni et al. (2021) who use longitudinal data from the SHARE survey of senior Europeans to estimate the causal effect of switching to remote work during the COVID-19 pandemic on mental health measures. The paper uncovers negative effects of telework for respondents with children at home, but a positive effect for men and for respondents

with no co-residing children. The limitation of that study is imposed by the data, which is restricted to senior workers and only contains mental health outcomes, but not Life satisfaction. A study by Schifano et al. (2021) tracks self-declared well-being measures of individuals across five European countries, using four waves of a longitudinal survey covering the period May-November 2020. They find no effect of switching into working at home, except for a small drop in anxiety. This could be due to the small size of their sample, which only contains 9700 observations for 5 countries and 4 waves, as well as the fact that the survey does not cover a pre-Covid benchmark period; it could also be due to the fact that they measure the average impact of switching to telework, whereas it is likely that the impact unfolds over time, as we will show.

In this paper, we identify the specific impact of telework on subjective well-being. We use the United Kingdom Household Longitudinal Survey (UKHLS), which is usually run on a yearly basis, but has developed an additional Covid-19 module with waves in April, July, September and November 2020 that contain both Life satisfaction and mental health measures. The long panel dimension of the survey and its high frequency during the pandemic allows to identify the specific impact of switching to telework on subjective well-being, separately from a set of confounding factors such as the context of the pandemics (fear of contagion, recession, stress), potential heterogeneity between people who hold tele-workable jobs versus not, and unobserved individual heterogeneity in general. The fact that integral teleworking was imposed overnight by stay-at-home orders rules out the usual problem of self-selection of individuals into telework, at least during the most stringent lockdown periods. In the UK, the legal obligation to work from home whenever possible, was enforced during the entire period under study, with a particular strength during the lockdown episodes, i.e. between March 26th and June 23rd, 2020, as well as between November 5th and December 2nd, 2020. But, as there was no explicit legal list of service jobs that were obliged to switch to telework, some firms could call their employees back on site when they considered it as "absolutely necessary". We thus assume that during the Covid-19 episode, a person was working from home if this had been decided by the government or their employer. We also discuss the possibility of a small degree of self-selection into telework. Table 1 below illustrates the massive switch to telework.

We follow a difference-in-difference approach with individual and time fixed-effects, and estimate the impact of switching to telework on subjective well-being measures. Within the group of people who did not use to telework before the Covid crisis, we compare the subjective well-being of those who work at home at some point during the Covid episode in 2020 to that of people who are not teleworking at that time (including themselves at times they do not telework). This is allowed by the fact that we observe people at four different points of times during Covid, and many are not teleworking all of the four waves. In the language of difference-in-difference analysis, we consider the situation of being working at home during Covid

as a "treatment" we call "intention to treat" (ITT) people who did not telework before 2020 and do telework at least once during the four waves of 2020. Hence "treated" people are ITT individuals who are actually working from home in a given wave of the special Covid survey in 2020; and not ITT, people who never telework in 2020.

We show that teleworking exerts a statistically significant positive impact on self-declared life satisfaction. This effect is driven by partnered people and those without co-resident children. The average effect of telework on people's global score of mental health is not statistically significant, except for those living in rural areas, but this hides dynamic effects, as mental health initially deteriorates in the first months of telework, but improves after a period of adaptation, especially the feeling of being useful, of being a worthy person, and of being able to concentrate.

Data and Identification Strategy

We use the UK Household Longitudinal Survey (UKHLS), a rich yearly panel survey, which allows to track the same individuals over time and covers a wide range of topics, including self-reported well-being measures. An additional Covid-19 module was added, with waves in April, July, September and November 2020 that contain a Life satisfaction question and the General Health Questionnaire (GHQ) that measures mental health (Understanding Society 2020b , 2020a). We use four pre-Covid waves (2016-2019) and the four aforementioned Covid waves.

Our sample comprises employed people with a positive number of working hours in each wave. After dropping individuals for whom information on telework is missing from the Covid module, or who changed place between 2019 and 2020, it contains 9216 different individuals.

Our main dependent variables are the standard measures of subjective well-being: self-declared Life satisfaction and the GHQ12 scores. Life satisfaction is scaled on a 1-7 scale. As is classic in this research domain, we analyze it as a cardinal measure (Ferrer-i-Carbonell and Frijters 2004). The GHQ module contains 12 questions related to different dimensions of mental health, i.e. concentration, loss of sleep, the feeling of playing a useful role, being capable of making decisions, feeling constantly under strain, problem overcoming difficulties, enjoying day-to-day activities, ability to face problems, feeling unhappy, feeling depressed, losing confidence, feeling worthless. For each of the 12 questions, for example "Have you recently been able to concentrate on whatever you are doing?", respondents must pick an answer out of four modalities: much less than usual, less than usual, same as usual, better than usual. Following the standard recommendations of the UKHLS, for each component, we code the answers into a binary variable

(for instance 1 for "same as usual" or "better than usual", and 0 for "much less than usual" and "less than usual"). We also create a synthetic variable converting the answers to the GHQ12 into a single scale by summing the transformed variables (dropping observations for which one dimension is missing). The obtained global (recoded) GHQ score runs from 0 (the most distressed) to 12 (the least distressed).

The regular main module of the UKHLS asks "Do you work mainly at…", where a possible answer "At home" is available. We use this to identify people working at home between 2016 and 2019. The Covid-19 module of the UKHLS contains the following question: "During the last four weeks how often did you work at home?", with four response modalities: Always, Often, Sometimes, and Never. We consider as teleworking in a given period, people who answer "Always" or "Often" in that wave, following Felstead and Reuschke (2020). Descriptive statistics of the regression sample are presented in the Appendix Table A1 while the presentation of our population of interest is presented in Table 1.

We use difference-in-difference estimates with two-ways (individual and wave) fixed-effects. We assume that the obligation to telework during lockdowns was an exogenous shock imposed on individuals who hold a tele-workable job by the government or by their firm. As already mentioned, in the sample, we observe many people working from home sometimes but not at all times, during the Covid episode in 2020. We define an individual bimodal variable that takes value 1 if we see a person working from home at least once in 2020 but not before 2020, and 0 otherwise. In the language of Randomized Experiments, this variable identifies "Intention To Treat" individuals (ITT). We then define a binary variable "Treated", which takes value 1 if, at a given Covid time, an ITT individual is actually teleworking. This "Treated" variable is constructed as:

$$Treated_{i,t} = Covid_t * ITT_i * Telework_{i,t} \tag{1}$$

For example, consider ITT individuals who telework in May and July 2020 and go back to work on site in September and November 2020: these people are identified as "ITT" in all periods, but their "Treated" variable will take values 1 - 1 - 0 - 0 respectively in June, July, September, and November 2020.

Note that in the sample, a small number of individuals declared that they were working from home in pre-Covid waves. As we are interested in the impact of exogenously switching to telework, we are not considering these people as part of the ITT group. ITT identifies people who hold a teleworkable job but did not telework before 2020. Alternative specification where we drop these individuals from the sample leave the results essentially unchanged (as displayed in Appendix Tables A3 and A4).

Table 1: Description of the different populations of interest

Year	Waves	N	On Site	WFH	ITT	ITT not Treated	Treated	%WFH
2016	1	6811	6575	236	2126	2126	0	3
2017	2	7043	6772	271	2200	2200	0	4
2018	3	7142	6852	290	2194	2194	0	4
2019	4	7778	7463	315	2336	2336	0	4
2020-05	5	4311	1807	2504	2397	129	2268	58
2020-07	6	3708	1921	1787	1911	299	1612	48
2020-09	7	3473	2015	1458	1725	433	1292	42
2020-11	8	3315	1860	1455	1620	331	1289	44
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(5)/(3)

Table 1 describes our regression sample, which contains 43581 observations for 9216 different individuals. As one can see, before the pandemic, roughly 3% of the sample declared working from home. Following the Covid-19 outbreak, this percentage peaks to roughly 58% in May 2020, then stabilizes between 43% and 50%.

Figure 1 offers a clear picture of the evolution of life satisfaction for three groups (excluding those who teleworked before Covid-19): people who never telework in 2020 (red line), ITT people who are not teleworking at the time they are interviewed (ITT not treated, green line), and people who are teleworking at the time they are interviewed (ITT Treated, blue line). Before May 2020, Treated and not Treated ITT are in the same group (ITT, green). From May 2020 onwards, the ITT group splits into two parts: treated (blue line), or untreated (green). Pre-Covid-19, the trends in Life satisfaction and GHQ are the same whether people hold a tele-workable job (ITT) or not. Figure 1 shows that during Covid, life satisfaction is higher among people who are working from home (green line), relative to ITT individuals who are not (blue line). Both their level of life satisfaction remains higher than that of people who always work on site, except in November 2020.

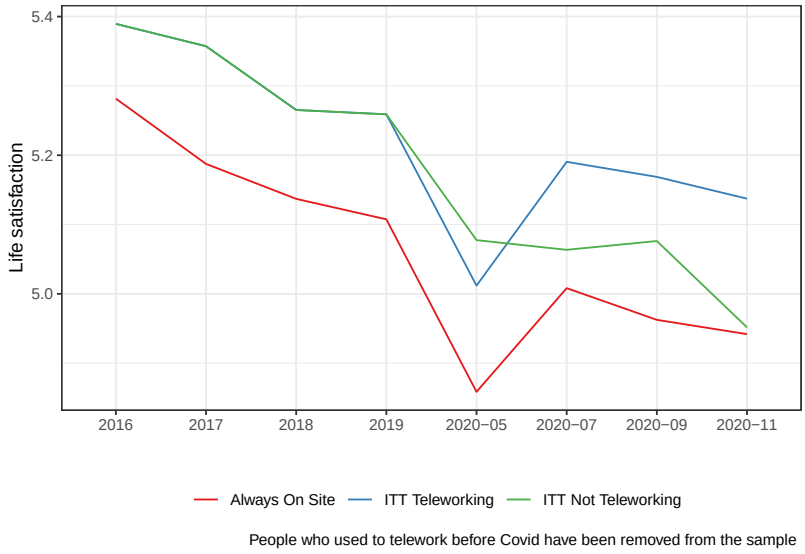

Figure 1: Evolution of life satisfaction by group

To go beyond this descriptive approach, we run econometric estimates of the causal impact of telework on subjective well-being. We use a difference-in-difference estimation with two-way fixed-effect (individual and wave level), following equation (2):

$$Y_{i,t} = \alpha + \beta * Covid_t + \gamma * ITT_i + \phi * Covid_t * ITT_i + \delta * \mathbf{Treated_{i,t}} + \theta * X_{i,t} + \psi * X_{i,t} * Covid_t + W_t + \mu_i + \epsilon_{i,t} \quad (2)$$

$$\text{with : } Treated_{i,t} = Covid_t * ITT_i * Telework_{i,t}$$

$Covid_{i,t}$ is a dummy indicating whether the survey takes place during Covid time (after March 2020), so that β catches the impact of the epidemics on life satisfaction and mental health. W_t are (waves) time fixed effects. Parameter γ on ITT_i captures the difference in subjective well-being of ITT individuals, as compared to non ITT. Parameter ϕ on $Covid_{i,t} * ITT_i$ identifies the specific reaction of ITT individuals to the Covid-19 crisis, compared non ITT individuals.

Our parameter of interest is δ, which, under the assumptions that ITT individuals did not have the choice to telework or not, identifies the causal effect of working from home during Covid. It compares the difference in well-being of individuals who are actually teleworking at time t (treated) versus ITT individuals who are not teleworking at time t (control group). By construction, all these individuals hold a teleworkable job; hence, we do not need to contrast the well-being evolution of people who hold different types of job. Note also that parameter δ captures a mix of between-individuals and within-individual effects, as it estimates the well-being difference between ITT individuals who are currently teleworking and ITT who are not, including themselves in other Covid waves. This is made possible by the particularity of the data, where even during

Covid times, some individuals are not teleworking in all waves.

$X_{i,t}$ is a vector containing the usual socio-demographic controls, i.e. the logarithm of net monthly household income, size of the household, gender, age and age squared of the respondent, 1-digits ISCO occupational codes, highest diploma completed, dummy variables for living with a 0-15 years old child, and in a rural area. We interact all these controls with the Covid-19 dummy ($Covid_{i,t} * X_{i,t}$) in order to account for the possibility that reactions to the crisis differed across groups of the population (as in Pierce et al. (2020)). Suppose, for instance, that men were more negatively affected by the sanitary crisis than women, and were also more likely to be teleworking, then not controlling for the interaction would lead to underestimate parameter δ. These controls and interactions enable to purge parameter δ from individual-specific reactions to Covid-19 shock. In all regressions, all controls are included in the model, even when not displayed in the tables, for space reasons. μ_i stands for individual fixed-effects. This specification controls for unobserved individual heterogeneity, in particular any trait that could have oriented people towards a teleworkable versus non teleworkable job (education, skills, taste, etc.). Including individual fixed effects in the regression is equivalent to substracting the individual-specific time-average value of a given variable from its value in a given wave; this specification leads to interpreting the results in terms of comparisons of intra-individual variations. Finally $\epsilon_{i,t}$ is the error term.

Potential heterogeneity

Does the impact of telework differ across different types of individuals? To enquire, we include interaction terms in the estimates, as exemplified by equation (3) below, which is testing for heterogeneity due to marital status:

$$\begin{aligned} Y_{i,t} = {} & \alpha + \beta * Covid_t + \gamma * ITT_i + \phi_1 * Covid_t * ITT_i + \phi_2 * ITT_i * couple_{i,t} + \phi_3 * Covid_t * couple_{i,t} \\ & + \phi_4 * Covid_t * ITT_i * couple_{i,t} + \delta * \mathbf{Treated_{i,t}} + \delta_c * \mathbf{Treated_{i,t}} * \mathbf{couple_{i,t}} + \theta * X_{i,t} \\ & + W_t + \mu_i + \epsilon_{i,t} \end{aligned} \tag{3}$$

In equation (3), ϕ_2 captures the impact of living in couple in wave t and holding a teleworkable job; ϕ_3 the specific effect of living in couple during Covid times; and δ_c the additional impact of teleworking for those who live in couple during Covid times. δ_c is our parameter of interest here, as it measures the differential impact of teleworking for those who are living with a partner as opposed to those who do not. Note that the main effect of living in couple is included in the $X_{i,t}$ vector. We run the same type of heterogeneity analysis of rural versus urban areas, males versus females, and children at home or not.

Dynamic analysis

We also study the dynamic effect of telework, i.e. its changing impact over the year 2020. This evolution is a priori ambiguous, as workers could feel increasing disconnected from their colleagues, or, alternatively, could adapt to their new work arrangement. We are interested in the impact of consecutive months of telework on subjective well-being. We thus estimate the impact of being working from home for one month, i.e. 1 wave (δ_1), for the third consecutive month (δ_2), the fifth consecutive months (δ_3), or the seventh consecutive months (δ_4). Our estimates follow the structure of equation (4):

$$Y_{i,t} = \alpha + \beta * Covid_t + \gamma * ITT_i + \phi * Covid_t * ITT_i + \delta_1 * \textbf{Treated} * [\textbf{1stWave}] + \delta_2 * \textbf{Treated} * [\textbf{2ndWave}] + \delta_3 * \textbf{Treated} * [\textbf{3rdWave}] + \delta_4 * \textbf{Treated} * [\textbf{4thWave}] + \theta * X_{i,t} + \psi * X_{i,t} * Covid_t + W_t + \mu_i + \epsilon_{i,t} \quad (4)$$

At each wave, this specification operates a partition of ITT individuals in four groups, with "not currently teleworking" as the reference category. Each parameter δ_k measures the well-being impact of being in one's k^{th} consecutive wave of telework, as opposed to not being currently teleworking.

Results

Table 2 displays the estimates of Life satisfaction and a selection of GHQ scores following equation (2). Table A1 and A2 in the Appendix display the results for all the GHQ modules. Switching to working from home has a positive and statistically significant impact on Life satisfaction (at the 10% level). Individuals who hold a teleworkable job (ITT) suffer a greater degradation of their mental health (parameter ϕ), as also found by Schifano et al. (2021); and whether they telework or not does not alter their global score of mental health (parameter δ).

Table 2: Impact of telework on life satisfaction and mental health

	Dependent variable:						
	Lsat	GHQ	concentration	useful	sleep	enjoy	strain
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated	0.070*	0.003	−0.027**	−0.006	0.009	−0.012	0.034**
	(0.042)	(0.093)	(0.013)	(0.011)	(0.013)	(0.014)	(0.015)
ITT*Covid	−0.021	−0.270***	−0.020	−0.022*	−0.030**	−0.017	−0.043***
	(0.046)	(0.100)	(0.014)	(0.012)	(0.014)	(0.015)	(0.016)
Observations	40,643	40,546	40,623	40,616	40,629	40,626	40,629
R^2	0.003	0.005	0.004	0.005	0.003	0.004	0.004
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Beyond these general outcomes, we uncover heterogenous effects, using the specification of equation (3), displayed in Table 3. Essentially, as concerns Life satisfaction, the positive impact of teleworking is driven by those who live with a partner (column 4, row 8), or with no resident children under 15 (column 2, row 1). As concerns mental health, the global GHQ score only raises for teleworking people living in rural area (δ_c =0.430[0.220]). Several components of the GHQ are affected likewise, e.g. sleep quality (δ= -0.003[0.015] and δ_c =0.053 [0.030]), depression (δ = -0.016[0.016] and δ_c =0.054[0.032]), and the feeling of not being under pressure (δ = 0.020[0.017] and δ_c =0.058[0.034]). Furthemore, partnered people are happier ($\delta = -0.041[0.026]$ and $\delta_c = 0.050[0.029]$), parents sleep better ($\delta = -0.016[0.016]$ and $\delta_c = 0.066[0.026]$) and women have better ability to take decision ($\delta = -0.022[0.016]$ and $\delta_c = 0.037[0.020]$).These coefficients are displayed in Tables A5 to A10 in the Appendix.

Table 3: Heterogenous impact of telework on life satisfaction and GHQ modules

	Dependent variable:							
	Lsat				GHQ			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	0.096	0.099*	0.066	−0.080	−0.120	−0.092	−0.097	−0.022
	(0.069)	(0.053)	(0.047)	(0.087)	(0.150)	(0.120)	(0.100)	(0.190)
Female	−0.460	−0.440	−0.440	−0.450	−0.970	−0.950	−0.940	−0.910
	(0.590)	(0.590)	(0.590)	(0.590)	(1.300)	(1.300)	(1.300)	(1.300)
Parent	0.089**	0.110***	0.089**	0.092***	−0.030	−0.002	−0.026	−0.025
	(0.035)	(0.043)	(0.035)	(0.035)	(0.078)	(0.096)	(0.078)	(0.078)
Couple	0.035	0.031	0.034	0.075*	0.150**	0.160**	0.150**	0.200**
	(0.031)	(0.031)	(0.031)	(0.041)	(0.069)	(0.070)	(0.069)	(0.090)
Treated * Female	−0.042				0.180			
	(0.086)				(0.190)			
Treated * Parent		−0.069				0.240		
		(0.084)				(0.190)		
Treated * Rural			0.024				0.430**	
			(0.098)				(0.220)	
Treated * Couple				0.200**				0.030
				(0.098)				(0.220)
Observations	40,643	40,643	40,643	40,643	40,546	40,546	40,546	40,546
R^2	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Dynamic effects

Figure 2 plots the coefficients δ_1, δ_2, δ_3, δ_4 of the estimates of Life satisfaction and the global GHQ score following equation (4). Concerning Life satisfaction, the impact of telework is positive from the start, consolidates after three months (two consecutive waves), and remains positive after three or four consecutive waves (fifth and seventh consecutive months) although the difference is not statistically significant. Concerning mental health, the transition to working from home is initially detrimental but becomes positive after three consecutive months of teleworking. There is no statistically significant impact of working from home the seventh consecutive month on the global GHQ. This is probably due to the reduced number of observations for which we observe seven consecutive months of telework, which makes the estimates less precise. In the

sample, we observe 3364 individuals who work at home for one month, 1304 for three consecutive months, 810 for five consecutive months, and 576 for seven consecutive months.

Figures A2 to A13 in the Appendix plot the same coefficients for each component of the GHQ12, and Tables A11 and A12 in the Appendix present the corresponding estimates. Overall, many components of the GHQ, such as ability to take decisions, to face problems, to overcome difficulties, or to avoid strain, improve after five consecutive months.

The dynamic evolution of the impact of telework is an important observation, as it sheds light on the negative result found by other studies. Schifano et al. (2021) for instance find no intra-individual effect of switching to telework (panel regressions). At the light of our results, this could be due to the progressive adaptation to telework. We observe that people who switch to telework experience an initial worsening of mental health, also documented by Felstead and Reuschke (2020), followed by a strong recovery. This evolution cannot be captured by a single average measure, as in our specification of equation (2) displayed in Table 2.

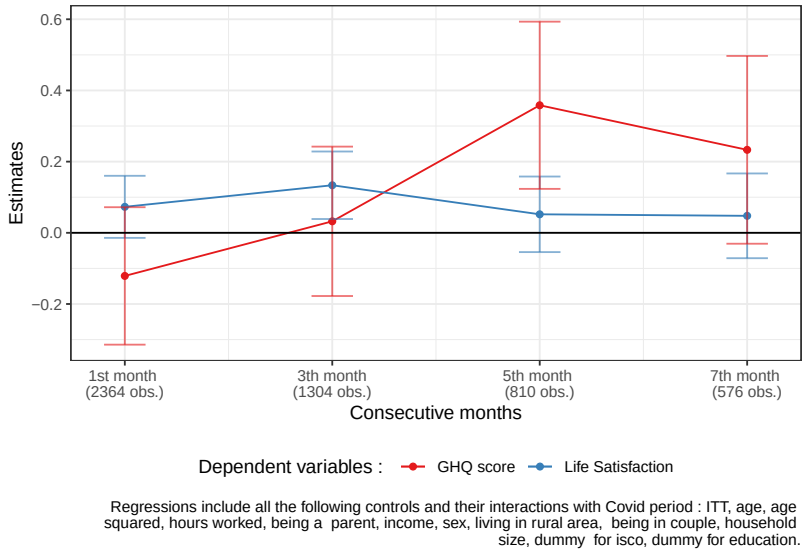

Figure 2: Estimates of dynamic effect of telework on Life satisfaction and GHQ

Conclusions and discussion

With the sanitary crisis, the sudden and unexpected obligation to work from home and the massive extension of this arrangement creates the condition for identifying the causal effect of telework on subjective well-being, in the way of a "natural experiment". Overall, our results suggest that telework has improved workers' life

satisfaction and mental health, in particular for partnered people and those living in rural area, especially after an initial period of adaptation.

There are, however, some caveats and limitations. First, another confounding factor is that a person who worked on site was more exposed to contamination by the virus, hence a possible source of lower well-being. However, this could not be the cause of the change in some dimensions of mental health, such as feeling useful, or confidence. Moreover, during the pandemics, ITT individuals saw their well-being fall below that of workers on site (coefficient ϕ), which goes against the former interpretation.

Second, in our difference-in-difference setting, perfect identification of the causal effect of telework would require that workers have absolutely no say on whether they work at home at any point of time, which we are unable to verify. Although the UK government imposed telework whenever it was possible starting in March 2020, due to the emergency of the situation, there was no explicit or official list of jobs or firms that had to switch to telework. Some workers may thus have had some leeway for self-selecting into telework. It is true that the gravity of the sanitary situation, the successive stringent lockdowns and the omnipresence of the slogan "stay at home, protect the NHS, save lives" provided strong civic incentives for firms and workers to abide. Nonetheless, there might be some degree of self-selection in and out of telework when the lockdown was less stringent. The fact that well-being improves over time for people who remain constantly in telework from the start, for instance, can be interpreted as an adaptation effect, but could also reflect some degree of self-selection. However, even if it were the case, for instance if more autonomous persons enjoyed telework more and managed to stay longer with this work arrangement, this would still be a useful finding. Once the Covid crisis is over, it is likely that most firms will continue to propose partial or total work from home, and that people will self-select into these job offers depending on their preferences. The lesson of this study is that the availability of this work arrangement is a factor of higher subjective well-being.

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Appendix

GROUP	N = 43,577[1]
Living area	
City	33,307 (76%)
Rural	10,270 (24%)
Sex	
Female	25,203 (58%)
Male	18,374 (42%)
Household size	2.96 (1.30)
Hours Worked	32.89 (11.45)
Parents of 0-15 yo child	
Not parent	33,956 (78%)
Parent	9,621 (22%)
Household income	3,958.21 (2,458.64)
Marital statut	
Couple	27,245 (63%)
Single	16,331 (37%)
(Missing)	1
Age	44.87 (12.04)
Highest Diploma	
A-level etc	8,959 (21%)
Degree	19,018 (44%)
GCSE etc	7,047 (16%)
inapplicable	285 (0.7%)
No qualification	540 (1.2%)
Other higher degree	5,924 (14%)
Other qualification	1,804 (4.1%)
ISCO-88	
Clerks	6,369 (16%)
Craft and related trades workers	1,422 (3.5%)
Elementary occupations	2,574 (6.3%)
Legislators, senior officials and managers	6,262 (15%)
Plant and machine operators and assemblers	1,764 (4.3%)
Professionals	8,184 (20%)
Service workers and shop and market sales workers	6,367 (16%)
Skilled agricultural and fishery workers	178 (0.4%)
Technicians and associate professionals	7,523 (19%)
(Missing)	2,934
Group	
ITT	16,508 (38%)
Not ITT	27,069 (62%)

[1] n (%); Mean (SD)

Figure A1: Descriptive statistics of the main regression sample

Table A1: Impact of telework on life satisfaction and mental health

	Dependent variable:						
	Lsat	GHQ	concentration	useful	worthless	sleep	decision
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated	0.070*	0.003	−0.027**	−0.006	−0.004	0.009	0.003
	(0.042)	(0.093)	(0.013)	(0.011)	(0.009)	(0.013)	(0.010)
ITT*Covid	−0.021	−0.270***	−0.020	−0.022*	−0.010	−0.030**	−0.014
	(0.046)	(0.100)	(0.014)	(0.012)	(0.010)	(0.014)	(0.011)
Observations	40,643	40,546	40,623	40,616	40,622	40,629	40,627
R^2	0.003	0.005	0.004	0.005	0.003	0.003	0.003
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A2: Impact of telework on life satisfaction and mental health

	Dependent variable:						
	problem	overcome	enjoy	confidence	happiness	depressed	strain
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated	0.009	0.011	−0.012	−0.002	−0.002	−0.004	0.034**
	(0.010)	(0.011)	(0.014)	(0.012)	(0.012)	(0.014)	(0.015)
ITT*Covid	−0.030***	−0.021*	−0.017	−0.028**	−0.017	−0.025	−0.043***
	(0.011)	(0.013)	(0.015)	(0.013)	(0.014)	(0.015)	(0.016)
Observations	40,625	40,625	40,626	40,618	40,626	40,627	40,629
R^2	0.003	0.003	0.004	0.003	0.003	0.003	0.004
Adjusted R^2	-0.270	-0.280	-0.270	-0.270	-0.270	-0.280	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A3: Impact of telework on life satisfaction and mental health without people who used to telework before Covid

	Dependent variable:						
	Lsat	GHQ	concentration	useful	worthless	sleep	decision
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated	0.070*	−0.005	−0.028**	−0.007	−0.005	0.008	0.002
	(0.042)	(0.093)	(0.013)	(0.011)	(0.009)	(0.013)	(0.010)
ITT*Covid	−0.018	−0.290***	−0.030**	−0.025**	−0.011	−0.031**	−0.019*
	(0.047)	(0.100)	(0.015)	(0.012)	(0.010)	(0.014)	(0.011)
Observations	38,201	38,109	38,182	38,176	38,183	38,188	38,186
R^2	0.003	0.005	0.004	0.005	0.003	0.003	0.003
Adjusted R^2	-0.280	-0.270	-0.270	-0.270	-0.280	-0.280	-0.280

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A4: Impact of telework on life satisfaction and mental health without people who used to telework before covid

	Dependent variable:						
	problem	overcome	enjoy	confidence	happiness	depressed	strain
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated	0.008	0.011	−0.011	−0.002	−0.004	−0.005	0.034**
	(0.010)	(0.011)	(0.014)	(0.012)	(0.013)	(0.014)	(0.015)
ITT*Covid	−0.029***	−0.019	−0.019	−0.028**	−0.020	−0.026*	−0.045***
	(0.011)	(0.013)	(0.015)	(0.013)	(0.014)	(0.015)	(0.017)
Observations	38,184	38,184	38,185	38,179	38,186	38,186	38,188
R^2	0.003	0.003	0.004	0.003	0.003	0.003	0.004
Adjusted R^2	-0.280	-0.280	-0.270	-0.280	-0.280	-0.280	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A5: Heterogenous effects on GHQ modules

	Dependent variable:							
	concentration				useful			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	−0.044**	−0.041**	−0.030**	−0.042	−0.019	0.001	−0.012	0.010
	(0.022)	(0.016)	(0.015)	(0.027)	(0.018)	(0.014)	(0.012)	(0.023)
Female	−0.097	−0.095	−0.095	−0.095	−0.093	−0.090	−0.089	−0.090
	(0.180)	(0.180)	(0.180)	(0.180)	(0.160)	(0.160)	(0.160)	(0.160)
Parent	−0.018	−0.015	−0.018	−0.017	−0.001	0.005	−0.001	−0.0001
	(0.011)	(0.014)	(0.011)	(0.011)	(0.009)	(0.011)	(0.009)	(0.009)
Couple	0.020**	0.020**	0.020**	0.033***	−0.004	−0.003	−0.004	0.007
	(0.010)	(0.010)	(0.010)	(0.013)	(0.008)	(0.008)	(0.008)	(0.011)
Treated * Female	0.025				0.020			
	(0.027)				(0.023)			
Treated * Parent		0.035				−0.016		
		(0.026)				(0.022)		
Treated * Rural			0.009				0.029	
			(0.031)				(0.026)	
Treated * Couple				0.019				−0.020
				(0.031)				(0.026)
Observations	40,623	40,623	40,623	40,623	40,616	40,616	40,616	40,616
R^2	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A6: Heterogenous effects on GHQ modules

	Dependent variable:							
	worthless				sleep			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	−0.013	−0.001	−0.009	0.014	−0.010	−0.016	−0.003	−0.022
	(0.014)	(0.011)	(0.010)	(0.018)	(0.021)	(0.016)	(0.015)	(0.027)
Female	−0.260**	−0.250**	−0.250**	−0.250**	0.045	0.046	0.046	0.051
	(0.120)	(0.120)	(0.120)	(0.120)	(0.180)	(0.180)	(0.180)	(0.180)
Parent	−0.003	−0.004	−0.003	−0.003	0.016	0.024*	0.016	0.016
	(0.007)	(0.009)	(0.007)	(0.007)	(0.011)	(0.013)	(0.011)	(0.011)
Couple	0.001	0.001	0.001	0.001	0.019*	0.020**	0.018*	0.020
	(0.007)	(0.007)	(0.007)	(0.009)	(0.010)	(0.010)	(0.010)	(0.013)
Treated * Female	0.014				0.029			
	(0.018)				(0.026)			
Treated * Parent		−0.010				0.066**		
		(0.018)				(0.026)		
Treated * Rural			0.020				0.053*	
			(0.020)				(0.030)	
Treated * Couple				−0.024				0.039
				(0.020)				(0.030)
Observations	40,622	40,622	40,622	40,622	40,629	40,629	40,629	40,629
R^2	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Adjusted R^2	-0.280	-0.280	-0.280	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A7: Heterogenous effects on GHQ modules

	Dependent variable:							
	decision				problem			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	−0.022	0.003	−0.002	−0.003	−0.012	0.008	0.004	0.033
	(0.016)	(0.012)	(0.011)	(0.020)	(0.016)	(0.013)	(0.011)	(0.021)
Female	−0.100	−0.096	−0.097	−0.096	−0.240*	−0.240*	−0.240*	−0.240*
	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)
Parent	−0.0003	0.009	−0.0001	−0.0002	0.004	0.005	0.004	0.004
	(0.008)	(0.010)	(0.008)	(0.008)	(0.008)	(0.010)	(0.008)	(0.008)
Couple	0.001	0.0001	0.001	0.001	−0.007	−0.007	−0.007	−0.004
	(0.007)	(0.007)	(0.007)	(0.010)	(0.008)	(0.008)	(0.008)	(0.010)
Treated * Female	0.037*				0.033			
	(0.020)				(0.021)			
Treated * Parent		−0.001				0.002		
		(0.020)				(0.020)		
Treated * Rural			0.021				0.024	
			(0.023)				(0.023)	
Treated * Couple				0.008				−0.031
				(0.023)				(0.023)
Observations	40,627	40,627	40,627	40,627	40,625	40,625	40,625	40,625
R^2	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A8: Heterogenous effects on GHQ modules

	Dependent variable:							
	overcome				enjoy			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	0.020	0.004	0.002	0.030	−0.029	−0.020	−0.024	−0.004
	(0.019)	(0.014)	(0.013)	(0.024)	(0.022)	(0.017)	(0.015)	(0.028)
Female	−0.260	−0.260	−0.260	−0.250	−0.039	−0.038	−0.037	−0.032
	(0.160)	(0.160)	(0.160)	(0.160)	(0.190)	(0.190)	(0.190)	(0.190)
Parent	−0.008	−0.009	−0.008	−0.008	−0.001	0.0001	−0.0001	0.00002
	(0.010)	(0.012)	(0.010)	(0.010)	(0.011)	(0.014)	(0.011)	(0.011)
Couple	0.020**	0.021**	0.020**	0.014	0.023**	0.024**	0.022**	0.028**
	(0.009)	(0.009)	(0.009)	(0.011)	(0.010)	(0.010)	(0.010)	(0.013)
Treated * Female	−0.016				0.025			
	(0.023)				(0.028)			
Treated * Parent		0.017				0.019		
		(0.023)				(0.028)		
Treated * Rural			0.041				0.051	
			(0.027)				(0.032)	
Treated * Couple				−0.025				−0.012
				(0.027)				(0.032)
Observations	40,625	40,625	40,625	40,625	40,626	40,626	40,626	40,626
R^2	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.004
Adjusted R^2	-0.280	-0.280	-0.280	-0.280	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A9: Heterogenous effects on GHQ modules

	Dependent variable:							
	confidence				happiness			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	0.002	−0.006	−0.009	0.034	−0.016	−0.010	−0.010	−0.041
	(0.020)	(0.015)	(0.013)	(0.025)	(0.021)	(0.016)	(0.014)	(0.026)
Female	0.062	0.067	0.066	0.071	0.052	0.054	0.053	0.058
	(0.170)	(0.170)	(0.170)	(0.170)	(0.180)	(0.180)	(0.180)	(0.180)
Parent	0.004	−0.001	0.005	0.004	−0.003	−0.002	−0.002	−0.002
	(0.010)	(0.012)	(0.010)	(0.010)	(0.010)	(0.013)	(0.010)	(0.010)
Couple	0.003	0.003	0.003	−0.001	0.014	0.013	0.013	0.012
	(0.009)	(0.009)	(0.009)	(0.012)	(0.009)	(0.009)	(0.009)	(0.012)
Treated * Female	−0.007				0.020			
	(0.024)				(0.026)			
Treated * Parent		0.012				0.020		
		(0.024)				(0.025)		
Treated * Rural			0.032				0.033	
			(0.028)				(0.029)	
Treated * Couple				−0.046				0.050*
				(0.028)				(0.029)
Observations	40,618	40,618	40,618	40,618	40,626	40,626	40,626	40,626
R^2	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A10: Heterogenous effects on GHQ modules

	Dependent variable:							
	depressed				strain			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	0.007	−0.015	−0.016	−0.031	0.042*	0.018	0.020	−0.009
	(0.023)	(0.017)	(0.016)	(0.028)	(0.024)	(0.018)	(0.017)	(0.030)
Female	0.046	0.048	0.048	0.050	−0.087	−0.087	−0.087	−0.084
	(0.190)	(0.190)	(0.190)	(0.190)	(0.210)	(0.210)	(0.210)	(0.210)
Parent	0.003	0.001	0.004	0.004	−0.015	−0.012	−0.014	−0.014
	(0.011)	(0.014)	(0.011)	(0.011)	(0.012)	(0.015)	(0.012)	(0.012)
Couple	0.026**	0.027***	0.026**	0.037***	0.029***	0.030***	0.029***	0.039***
	(0.010)	(0.010)	(0.010)	(0.013)	(0.011)	(0.011)	(0.011)	(0.014)
Treated * Female	−0.018				−0.014			
	(0.028)				(0.030)			
Treated * Parent		0.030				0.042		
		(0.028)				(0.030)		
Treated * Rural			0.054*				0.058*	
			(0.032)				(0.034)	
Treated * Couple				0.035				0.054
				(0.032)				(0.034)
Observations	40,627	40,627	40,627	40,627	40,629	40,629	40,629	40,629
R^2	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004
Adjusted R^2	-0.280	-0.280	-0.270	-0.270	-0.270	-0.270	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, age squared, sex, living in a rural area, hours worked, being in couple, having a young child, ITT.

Table A11: Dynamic effects of consecutives months of telework

	Dependent variable:						
	Lsat	GHQ	concentration	useful	worthless	sleep	decision
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1st Month	0.073	−0.120	−0.048***	−0.044***	−0.015	0.027**	−0.031***
	(0.044)	(0.099)	(0.014)	(0.012)	(0.009)	(0.014)	(0.010)
3rd Month	0.130***	0.032	−0.009	0.001	0.0002	−0.004	0.012
	(0.048)	(0.110)	(0.015)	(0.013)	(0.010)	(0.015)	(0.011)
5th Month	0.052	0.360***	0.017	0.026*	0.009	0.010	0.049***
	(0.054)	(0.120)	(0.017)	(0.014)	(0.011)	(0.017)	(0.013)
7th Month	0.048	0.230*	0.008	0.032**	0.020	0.006	0.017
	(0.061)	(0.140)	(0.019)	(0.016)	(0.013)	(0.019)	(0.014)
ITT*Covid	−0.017	−0.270***	−0.029**	−0.016*	−0.011	−0.031***	−0.008
	(0.037)	(0.082)	(0.012)	(0.010)	(0.008)	(0.011)	(0.009)
Observations	40,647	40,550	40,627	40,620	40,626	40,633	40,631
R^2	0.003	0.004	0.004	0.005	0.003	0.003	0.003
Adjusted R^2	-0.270	-0.270	-0.270	-0.270	-0.280	-0.270	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, sex, living in a rural area, hours worked,being in couple, having a young child, ITT.

Table A12: Dynamic effects of consecutives months WFH

	Dependent variable:						
	problem	overcome	enjoy	confidence	happiness	depressed	strain
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1st Month	−0.0003	0.005	−0.015	−0.015	−0.014	0.011	0.022
	(0.011)	(0.012)	(0.015)	(0.013)	(0.013)	(0.015)	(0.016)
3rd Month	0.010	0.014	−0.009	0.008	−0.0001	0.005	0.010
	(0.012)	(0.013)	(0.016)	(0.014)	(0.014)	(0.016)	(0.017)
5th Month	0.049***	0.032**	0.008	0.022	0.030*	0.038**	0.079***
	(0.013)	(0.015)	(0.018)	(0.015)	(0.016)	(0.018)	(0.019)
7th Month	0.019	0.029*	0.025	0.021	−0.003	0.015	0.052**
	(0.015)	(0.017)	(0.020)	(0.017)	(0.018)	(0.020)	(0.021)
ITT*Covid	−0.029***	−0.020**	−0.023*	−0.029***	−0.017	−0.036***	−0.032**
	(0.009)	(0.010)	(0.012)	(0.011)	(0.011)	(0.012)	(0.013)
Observations	40,629	40,629	40,630	40,622	40,630	40,631	40,633
R^2	0.003	0.002	0.003	0.003	0.003	0.003	0.004
Adjusted R^2	-0.270	-0.280	-0.270	-0.270	-0.270	-0.280	-0.270

Note: *p<0.1; **p<0.05; ***p<0.01
Controls include the following variables and their interactions with Covid: income, education dummies, occupation dummies, household size, age, sex, living in a rural area, hours worked,being in couple, having a young child, ITT.

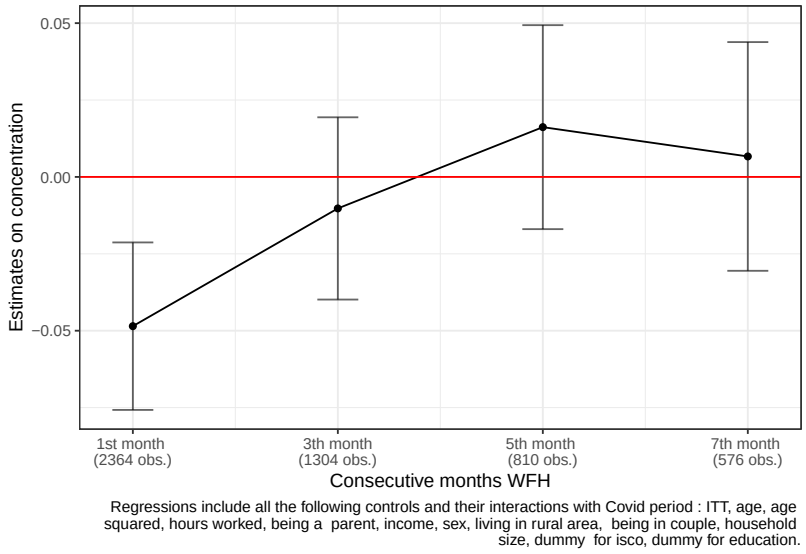

Figure A2: Eq (4) - GHQ : Have you recently been able to concentrate on whatever you're doing?

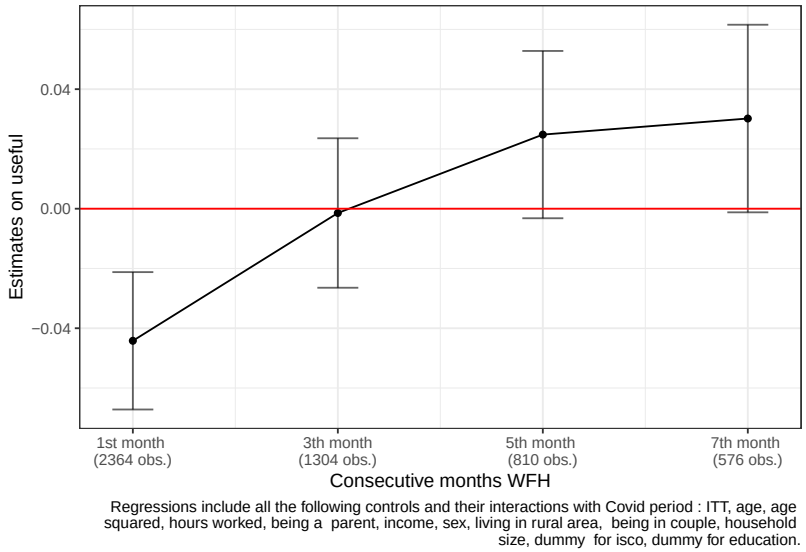

Figure A3: Eq (4) - GHQ : Have you recently felt that you were playing a useful part in things?

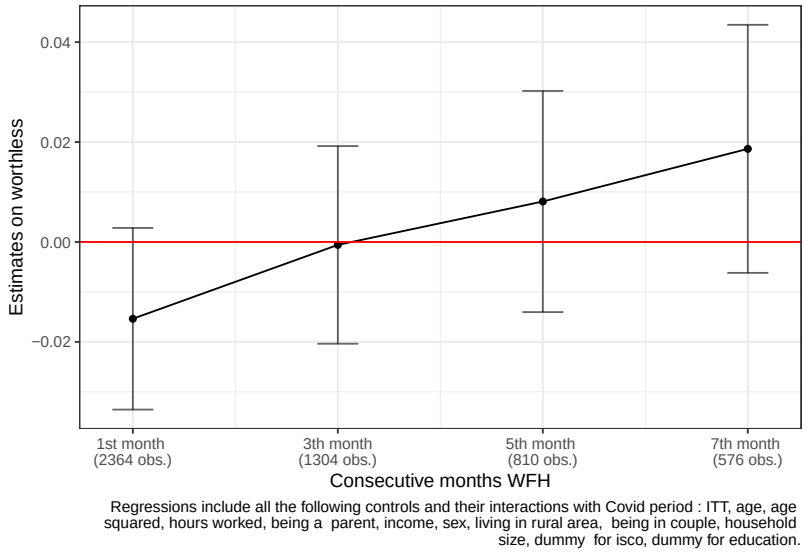

Figure A4: EQ (4) - GHQ : Have you recently been thinking of yourself as a worthless person? (Reverse coding)

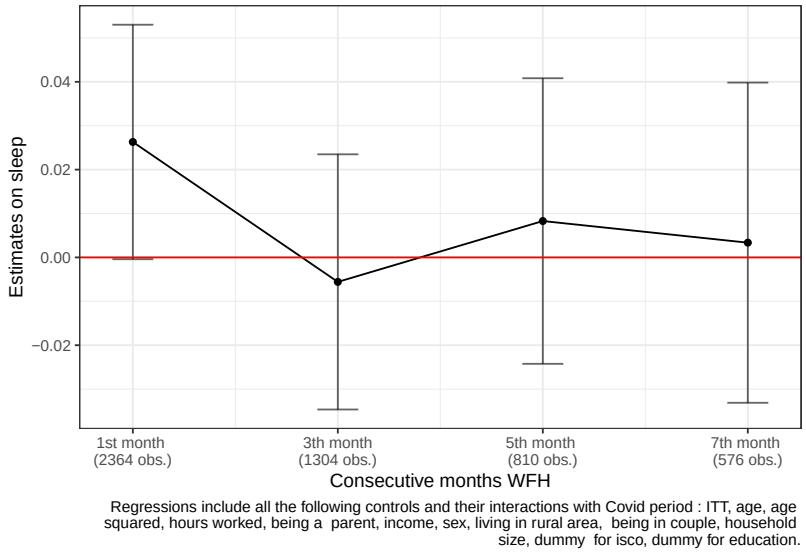

Figure A5: Eq : (4) - GHQ : Have you recently lost much sleep over worry? (Reverse covidng)

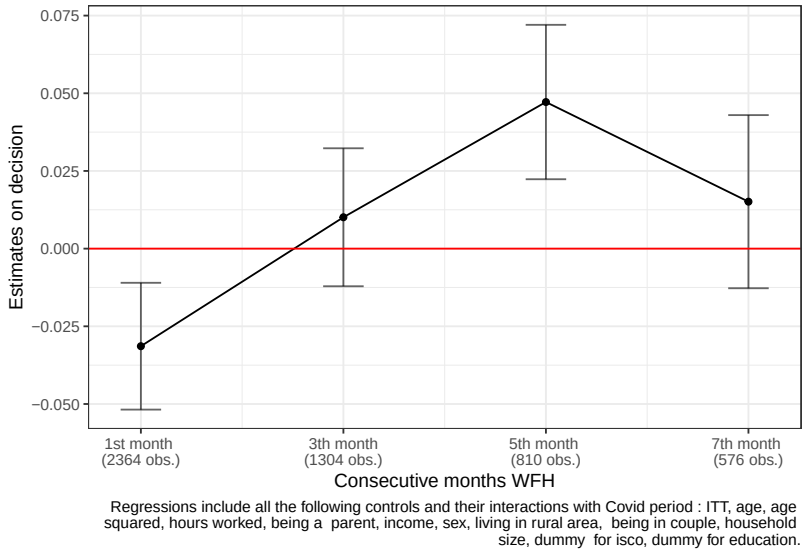

Figure A6: Eq : (4) - GHQ : Have you recently felt capable of making decisions about things?

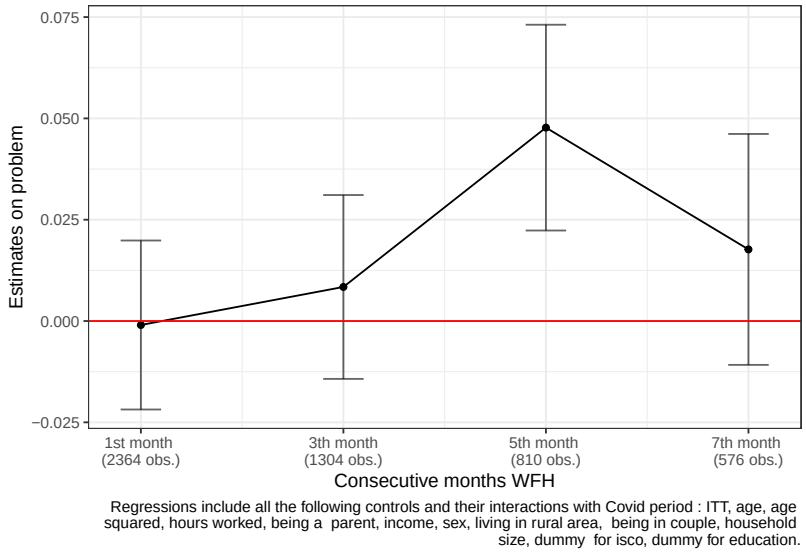

Figure A7: Eq : (4) - GHQ : Have you recently been able to face up to problems?

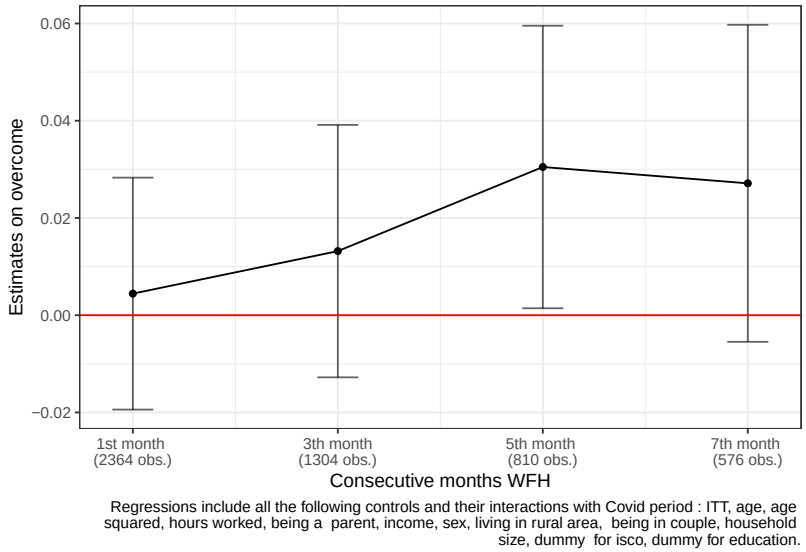

Figure A8: Eq : (4) - GHQ : Have you recently felt you couldn't overcome your difficulties? (Reverse coding)

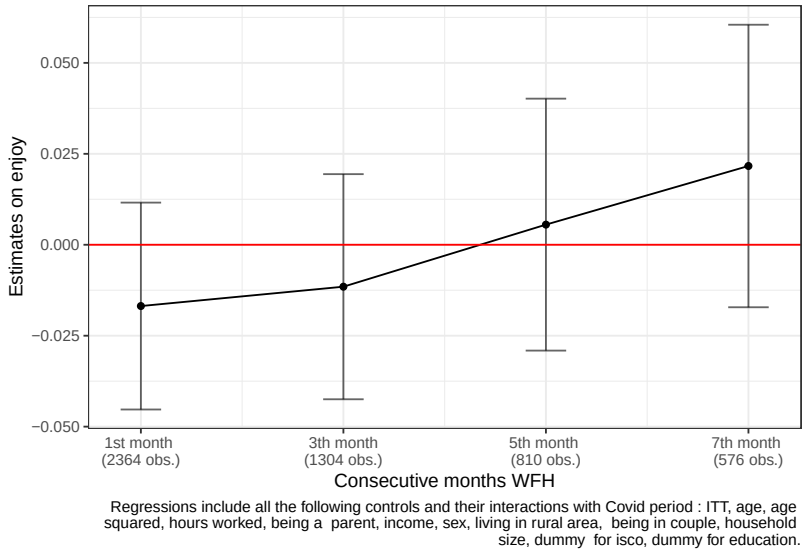

Figure A9: Eq : (4) - GHQ : Have you recently been able to enjoy your normal day-to-day activities?

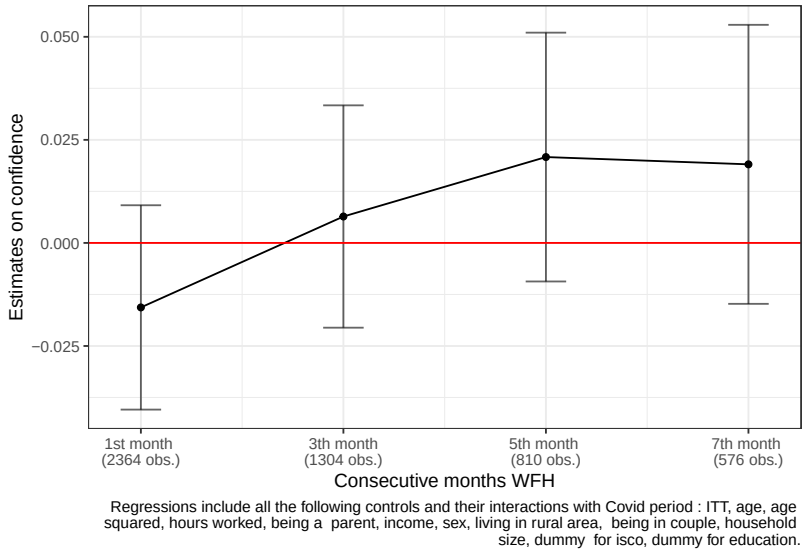

Figure A10: Eq : (4) - GHQ : Have you recently been losing confidence in yourself? (Reverse coding)

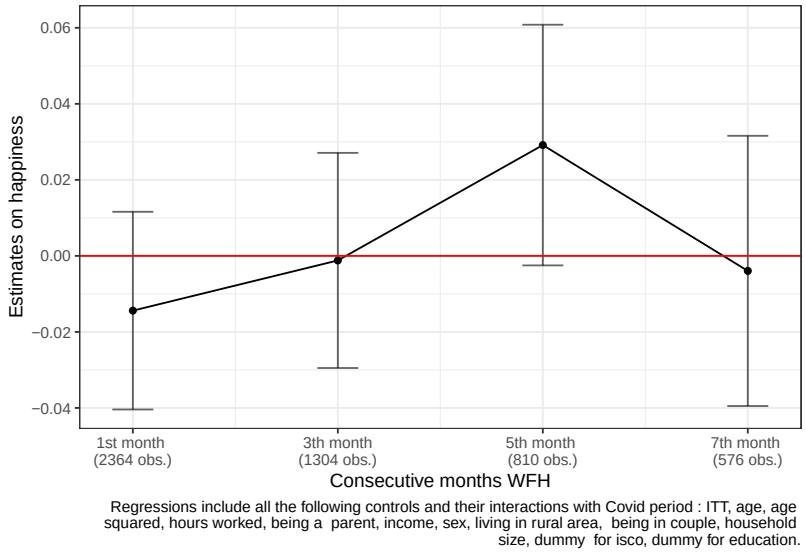

Figure A11: Eq : (4) - GHQ : Have you recently been feeling reasonably happy, all things considered?

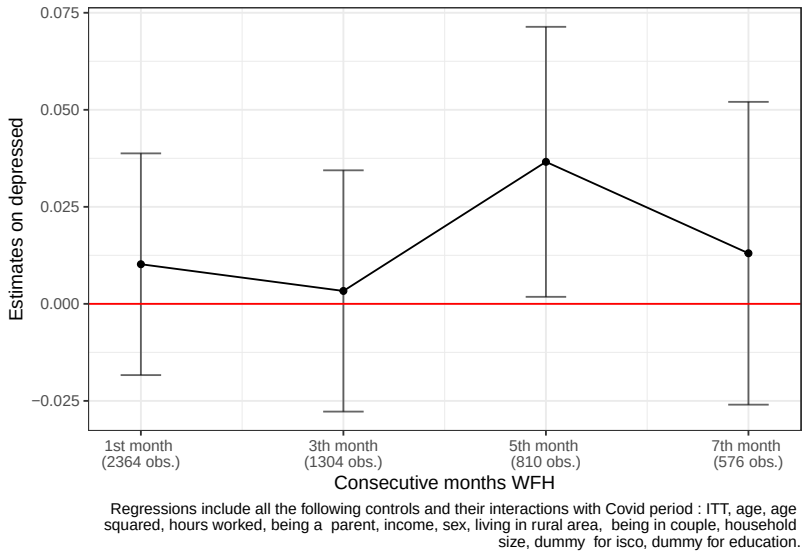

Figure A12: Eq : (4) - GHQ : Have you recently been feeling unhappy or depressed? (Reverse coding)

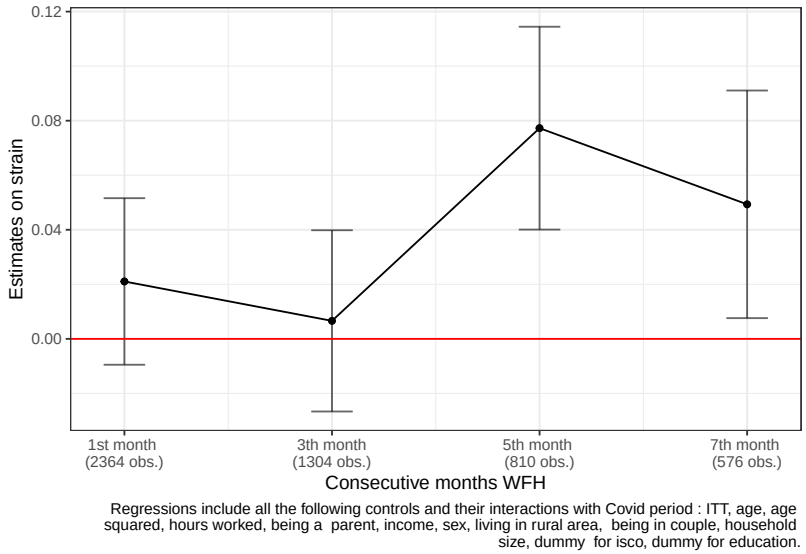

Figure A13: Eq : (4) - GHQ : Have you recently felt constantly under strain? (Reverse coding)