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ORIGINAL ARTICLE

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# Weekend working in 21st century Britain: Does it matter for the well-being of workers?

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**Abstract**

On any given weekend, over a fifth of the UK labour force is at work, while more than half of working adults report working at the weekend at least some of the time. This is despite the fact that weekends are conventionally set aside as rest days. The question that this paper addresses is: does this matter? This paper adds to the literature by using two large panel datasets to analyse the effects of weekend working on eight different measures of subjective well-being in the UK. I find that weekend working has a significant impact on how satisfied people are with the amount of leisure time they have, with the results suggesting that avoiding weekend working is equivalent to working six fewer hours per week. Moreover, people working at the weekend report significantly lower happiness yesterday than non-weekend workers. While weekend workers also experience lower levels of life satisfaction than non-weekend workers, this difference disappears when controlling for unobserved heterogeneity between individuals. This suggests that there is no evidence that weekend working causes people to be worse off overall.

**KEYWORDS**

labour market, subjective well-being, weekend working

**JEL CLASSIFICATION**

I3; J2

## 1 | INTRODUCTION

Every weekend in the UK, about a fifth of the workforce is scheduled to be at work. This is despite the fact that Saturdays and Sundays are conventionally set aside as rest days. The question I set out to explore in this paper is: does this matter?

Weekend working is a necessary feature of the modern economy. Many sectors rely on it heavily to produce the quality and quantity of goods and services demanded by the market, and arguably productivity and output would suffer significantly without it. However, this has potential implications for those choosing or required to work at the weekend, in particular affecting the ability to coordinate leisure time with family members and society in general (Georges-Kot et al., 2017). Therefore, one might expect weekend working to have an impact on the well-being of workers.

This paper focuses on the extent to which weekend working affects subjective well-being (SWB) across the UK workforce. This is a question that has not been explored extensively in the literature, aside from a small number of studies that either use a cross-sectional approach (Weston et al., 2019) or are based on specific self-selected samples (Bryson & MacKerron, 2017). My current paper adds to the literature by using two large national UK datasets to analyse the effects of two different definitions of weekend working on eight different measures of SWB. These datasets are the Quarterly Labour Force Survey (LFS) and Understanding Society: The UK Household Longitudinal Study (UKHLS). Both datasets contain panel data, which allows for a fixed-effects model, such that results should not be confounded by unobserved time-invariant factors that might be expected to be correlated with both SWB and probability of working at the weekend.

My results show that, once fixed effects are controlled for, weekend working has no effect on how people evaluate their lives as a whole (life satisfaction) but does have a detrimental impact on people's evaluation of their leisure time, specifically their satisfaction with the amount of leisure time they have. This is despite the fact that total weekly hours of work are fully controlled for in the analysis. I also find that people recently working at the weekend have worse affective well-being (how happy they were yesterday) compared to those who undertook no scheduled work the previous weekend. Again, this result is driven only by the timing of work, not by the number of hours worked. There is no evidence that earnings or other job amenities compensate individuals for the well-being effects of weekend working.

## 2 | LITERATURE REVIEW

There is an established literature on the impact of working hours on well-being, including Bardasi and Francesconi (2004), Booth and Van Ours (2008, 2009), Wooden et al. (2009), Gash et al. (2012), Berger (2013), Wunder and Heineck (2013), Iseke (2014) and Angrave and Charlwood (2015). The general conclusion from these studies is that it is primarily a mismatch between desired hours and actual hours which is detrimental for well-being. Both underemployment and overemployment are associated with reduced well-being, and the optimal number of hours varies between individuals. These findings suggest that labour markets do not always migrate to a "clearing" equilibrium whereby individuals supply their desired number of hours.

With respect to nonstandard working hours, a few studies use longitudinal surveys to explore the well-being effects of shift working (e.g., evening and night work, or rotating shifts), including Bardasi and Francesconi (2000), Ulker (2006), Bara and Arber (2009), and Robone et al. (2011). Interestingly, the findings from the latter three studies infer that males are in general less resilient to atypical or inconsistent working hours than females, in terms of impact on mental health and well-being.

It is perhaps unsurprising that there should be a relationship between working hours and well-being due to the opportunity cost of foregone leisure time. Moreover, even if working hours are held

constant, one would expect people also to experience an aversion to nonstandard daily work patterns (e.g., night working) due to the diurnality of humans. The expected effects of nonstandard weekly work patterns are less clear, however. Unlike other temporal cycles such as days, months and years, the seven-day week is a purely human invention (Zerubavel, 1985) and social convention alone dictates that some days are different from others. The weekend has strong religious roots, and there is a clear trade-off between weekend working and religious observance (Gruber & Hungerman, 2008). However, the social function of the weekend extends much beyond this. The establishment of a conventional weekly working pattern allows for the coordination of leisure time, with many cultural and community events scheduled at the weekend. Evidence suggests that there is significant demand for shared leisure time, even among adults without children (Georges-Kot et al., 2017).

There is a somewhat fragmented literature on the impacts of weekend working. It is found to be associated with increased work-family conflict for parents (Hosking & Western, 2008), and reduced work-life balance (Tausig & Fenwick, 2001), although very little difference is found in relation to job satisfaction (Cooke et al., 2009). Davis et al. (2008) find that the incidence of daily stressors is higher among weekend workers although this does not affect perceived marital instability (see also Presser, 2000) or negative spill-overs between family and work.

There is some evidence showing how weekend working affects time use. Parents who work at the weekend spend less time with their children than those not working at the weekend (Barnes et al., 2006; Hook, 2012) while weekend workers generally (not just parents) are found to spend less non-work time in the company of others (Bittman, 2005; Craig & Brown, 2015). It is suggested that this may lead to a negative well-being impact, although this is not captured in the data. Weekend working also has a negative impact on satisfaction with the weekly work schedule (Martin & Lelchook, 2011) and staff turnover (Martin et al., 2012).

Possibly the strongest evidence from the existing literature on the impact of weekend working on SWB is provided by Bryson and MacKerron (2017) who find that weekend workers report significantly lower levels of real-time happiness and relaxation while working. It should be noted, however, that this sample is drawn from a self-selecting population (users of the Mappiness app), which may not be representative of the wider UK population in the same way that the national surveys I use in this paper are designed to be representative. A recent paper by Weston et al. (2019) finds that weekend working is associated with worse mental health for both men and women in the UK. While these findings are based on a large sample from UKHLS, the study uses only a single wave and therefore is unable to control for unobserved heterogeneity between individuals that could be biasing the results.

## 3 | THEORY

In a standard neoclassical labour market model, individuals choose their labour supply (number of hours worked) based on their relative preferences for consumption and leisure. As shown by Hamermesh (1999), a worker's utility is affected not only by the number of hours supplied but the timing of those hours, due to the fact that leisure time is not a homogenous good but has differential value to people depending on the time of day or week it is taken.

It is, therefore, reasonable to assume that leisure time may be valued differently depending on whether it is taken at the weekend or at other times of the week. As discussed above, much of the literature suggests that leisure time may be more highly valued at the weekend because this allows it to be coordinated with the leisure time of others (Bittman, 2005; Craig & Brown, 2015; Georges-Kot et al., 2017) including one's family (Barnes et al., 2006; Hook, 2012), and therefore it facilitates social activities. However, leisure time taken during the standard working week could also have added value,

due to the relative ease of accessing services (e.g., education, health appointments, etc.) on a weekday or to facilitate caring responsibilities. The optimal timing of work and leisure often depends on personal circumstances, including marital status and the presence and age of children in the household.

If everyone were supplying their labour at their preferred times, then we would not expect to see any effect of weekend working on well-being. This is unlikely to be the case, however, due to potential mismatches between supply and demand. Hamermesh (1999) shows that work performed at different times of the day (or week) makes a different contribution to firms' profits. This is intuitive in the sense that the productivity of labour is a function of the timing of work. For example, workers in the personal services sector (e.g., retail, hospitality and leisure) are much more productive when utilised during periods of high customer demand, which very often includes the weekend when many customers are themselves not at work. These differences in demand are clear when looking at the distribution of weekend working across occupations and industries, as shown in Table 1. For example, people working in sales and customer service occupations are more than five times more likely to be at work on a given weekend than people working in administrative or secretarial occupations, and people working in the distribution, hotels and restaurants sector are more than three times more likely to be at work on a given weekend than people working in the manufacturing sector.

It is possible, therefore, that some workers are not able to work at their preferred times, and hence we might expect to see an impact on well-being. In theory, wages (or other compensating job characteristics) should adjust to induce the required number of workers to supply their labour at the weekend, in which case we should observe that any well-being effect due to weekend working is fully compensated for by the other aspects of the job (in particular income).

In practice, however, the inflexibility of labour markets means that there is unlikely to be a full adjustment. While some workers (e.g., the self-employed) may have the freedom to respond to incentives with respect to whether or not to work on a given weekend, it is likely that many workers are effectively "locked in" to implicit or explicit contracts that demand weekend working. Evidence from Presser (2003) finds that only a minority of people working at non-standard times do so for financial or personal reasons while the majority do so simply because it is the requirement of the job.

A tolerance for weekend working relative to other job amenities may of course influence one's choice of job or career in the first place, and hence there will be some congruence between individual preferences and incidence of weekend working. Nevertheless, due to job constraining reasons for weekend working, we might expect to find some residual effect on well-being. This can be interpreted as an average treatment effect on the treated. We are unable to observe the effect of weekend working on the well-being of those not selecting into it, but it is reasonable to assume that this would be more negative than the effect on the treated.

As well as looking at average effects across the population, we might expect there to be heterogeneity in effects between different subgroups, for example based on occupation, sex, age, marital status, parental status, religion, or the extent to which individuals are able to choose their job or working hours. This heterogeneity is also explored in my analysis.

## 4 | DATA

I have chosen to explore this research question using two national UK datasets, the LFS and the UKHLS.[1] The two datasets contain distinctly different measures of SWB (with the exception of life

[1]Although all efforts are made to ensure the quality of the materials, neither the original data creators, depositors or copyright holders, the funders of the data collections, nor the UK Data Service bear any responsibility for the accuracy or comprehensiveness of these materials. Due to the potentially sensitive or disclosive nature of the data, access to the LFS was granted via the Secure Data Service.

**TABLE 1** Weekend working in the UK by major occupational group and industry

| | Scheduled to work on Saturday (%) | Scheduled to work on Sunday (%) | Scheduled to work on weekend (%) | Unweighted *N* |
|---|---|---|---|---|
| *Occupations* | | | | |
| Managers, Directors and Senior Officials | 26.9 | 14.1 | 28.6 | 3,694 |
| Professional Occupations | 9.3 | 6.5 | 10.7 | 7,104 |
| Associate Professional and Technical Occupations | 14.3 | 9.9 | 16.3 | 4,658 |
| Administrative and Secretarial Occupations | 8.1 | 3.8 | 9.3 | 4,029 |
| Skilled Trades Occupations | 28.6 | 15.1 | 30.2 | 3,489 |
| Caring, Leisure and Other Service Occupations | 28.3 | 19.5 | 32.9 | 2,910 |
| Sales and Customer Service Occupations | 42.4 | 25.8 | 50.5 | 2,350 |
| Process, Plant and Machine Operatives | 28.5 | 15.3 | 32.4 | 2,139 |
| Elementary Occupations | 33.6 | 20.6 | 37.9 | 3,052 |
| *Industries* | | | | |
| Agriculture, forestry and fishing | 63.8 | 55.4 | 65.6 | 391 |
| Energy and water | 16.3 | 9.5 | 17.4 | 640 |
| Manufacturing | 11.5 | 7.3 | 13.4 | 3,617 |
| Construction | 16.4 | 5.7 | 17.1 | 2,420 |
| Distribution, hotels and restaurants | 45.3 | 25.1 | 50.8 | 5,511 |
| Transport and communication | 23.8 | 13.4 | 27.1 | 2,875 |
| Banking and finance | 13.1 | 6.9 | 14.4 | 5,350 |
| Public admin, education and health | 13.0 | 10.2 | 15.2 | 10,906 |
| Other services | 36.8 | 19.2 | 24.0 | 1,694 |
| Total | 21.3 | 12.7 | 24.0 | 33,446 |

*Note:* Weighted data. Sample includes all individuals scheduled to work in the reference week, and is not the same sample used in the main analysis. Pooled data from 2012 Q1 to 2013 Q3, wave 1 responses only.

*Source:* LFS.

satisfaction which is captured in both) and also provide different definitions of weekend working. Hence, this approach enables a much fuller assessment of the effects of weekend working on well-being than if only a single dataset were used.

The LFS (Office for National Statistics, 2016) is a large scale quarterly survey undertaken in the UK. It is a simple random sample of all persons normally resident in private households in Great Britain and Northern Ireland. Each individual, within sampled households, is interviewed five times over a 12 month period (at quarterly intervals) before leaving the sample, with a new batch of

households joining the sample every quarter. Four questions on SWB have been included in the LFS since 2012, and are asked to all respondents in the first and fifth waves only.[2]

The analysis presented in this paper is based on a pooled sample of employed (excluding self-employed) adults, scheduled to work during the reference week, across 10 quarters between January–March 2012 and July-September 2014.[3] This period was chosen as it includes all quarters available to date where questions on well-being are included in the datasets. The total sample size used for the main regressions is 26,768 observations over two waves.

LFS respondents who reported working in the reference week (effectively the seven-day period ending on Sunday before the interview took place) were asked to state on which days they were scheduled to work that week. From this information, I create a dummy variable to indicate whether or not the individual was scheduled to work at any time at the weekend. I also create separate dummy variables for Saturday and Sunday working. Across the sample as a whole, 20% of people were scheduled to work on at least one weekend day in the reference week, with Saturday working more prevalent than Sunday working. As shown in Table 1, weekend working is more frequent among lower-skilled occupations, with people working in sales or customer service occupations experiencing the highest incidence of weekend working. Approximately 12% of the sample had some variation in weekend working across the two waves.

The four SWB variables available in the LFS (the dependent variables in this analysis) are the same as the measures used by the Office for National Statistics to report personal well-being in the UK as a whole.[4] These four indicators capture different aspects of well-being. Life satisfaction (how satisfied are you with your life nowadays?) measures people's evaluative well-being, allowing them to make a global assessment of their life as a whole. "Worthwhileness" (to what extent do you feel that the things you do in your life are worthwhile?) captures eudaimonic well-being, the fulfilment of psychological needs (for example meaning and purpose) beyond our need for pleasure.[5] The remaining two variables, happiness (how happy did you feel yesterday?) and anxiety (how anxious did you feel yesterday?), are measures of experienced well-being and capture one's mental state "in the moment" or over a relatively short period of time. While these four accounts measure different aspects of well-being, they are coded in the same way (with respondents asked to give a score between 0 and 10) and therefore can be treated similarly in the statistical analysis.

The UKHLS (University of Essex, 2015) is a longitudinal study of households intended to be representative of the UK population in 2009. Due to the over-sampling of Northern Ireland households in the UKHLS, only households in Great Britain (England, Scotland and Wales) are retained for this analysis. To keep the sample as representative as possible, I also exclude households from the British Household Panel Survey (BHPS) that were added to the UKHLS sample and households from the Ethnic Minority Boost (EMB). However, as a robustness check, the analysis is repeated for the full

[2]It should be noted that SWB variables are not normally included in the Quarterly LFS. While SWB is collected at waves 1 and 5 of the LFS, this is to provide SWB data for the Annual Population Survey (APS). There are two analytical issues relating to the use of the LFS for SWB analysis. Firstly, the correct weighting variable to be used for SWB analysis is not provided in the LFS. This does not pose a problem for my research as the main findings are derived from unweighted regression analysis, and no descriptive statistics are provided in relation to SWB outcomes. Secondly, the LFS contains only a subset of the APS sample. However, the samples achieved from pooling together all LFS respondents are sufficient for a robust analysis (over 25,000 reporting a wave 1 and wave 5 score for each of the four SWB variables).

[3]Observations from the second quarter of 2012 have been dropped due to the anxiety variable being missing for all respondents in this quarter.

[4]See Dolan et al. (2011) for a justification of the inclusion of these measures in national surveys.

[5]See Bryce (2018) for a detailed explanation of eudaimonic well-being and its origins.

UKHLS sample (including households in Northern Ireland and the BHPS and EMB sub-samples). This generates some different results which are discussed below.

To date, three waves containing the key weekend working explanatory variable (waves 2, 4 and 6) are available for analysis. The wave 2 interviews were conducted over the calendar years 2010 and 2011, the wave 4 interviews were conducted in 2012 and 2013 and the wave 6 interviews were conducted in 2014 and 2015. For a given household, the interviews took place at 12-month intervals (i.e., the time elapsed between waves 2 and 4 and between waves 4 and 6 was 24 months for each interviewee).

The relevant question in UKHLS, asked to all adult respondents who had a paid job (employed or self-employed) at the time of the interview (whether or not they did any work in the past week), is expressed as follows: "Do you ever work at weekends?" The response is used to create a dummy variable that takes the value of 1 if the individual answered "yes" (i.e., worked at least some weekends in the wave in question) and 0 otherwise. As such, this is a substantially different measure of weekend working compared to the LFS indicator, referring to normal working patterns rather than a particular specified weekend. In wave 2, 58% of respondents reported working at least some weekends, falling slightly to 54% in wave 4 and 53% in wave 6. The sample size used in the main regressions is 19,285 observations across three waves. Approximately 33% of the sample had some variation in weekend working across the three waves.

Again, I use four different measures of well-being as the dependent variable in the UKHLS regressions. Three of these variables can be interpreted as indicating evaluative well-being. Again I use life satisfaction (how satisfied or dissatisfied are you with your life overall?) but this dataset also collects data on domain satisfaction (the extent to which people evaluate particular aspects of their lives as being satisfactory). I focus on the two domains most connected with weekend working (satisfaction with one's job, and satisfaction with the amount of leisure time one has). These three questions are all evaluated on a 1 to 7 scale. The final dependent variable I use is the General Health Questionnaire (GHQ). Unlike the other measures, the GHQ is captured not by the use of a single question but by an aggregation of 12 questions (Goldberg & Williams, 1988). It is a well-established measure of psychological health and has been used extensively in the economics literature (e.g., Clark & Oswald, 1994) as a proxy for experienced well-being. For this paper, the scale is reversed such that higher scores denote better mental health.

The means of the dependent variables are shown in Table 2. In terms of distribution, most measures have a skewed distribution such that the majority of people have moderate to high well-being. The exceptions are anxiety, where the modal response is zero anxiety, and satisfaction with leisure time, where a much larger proportion of people have low satisfaction compared to the overall life satisfaction measure.

For both the LFS and UKHLS analysis, a full set of covariates is also included. These are all factors known to have an effect on SWB, according to previous literature. These are sex, whether ethnic minority, marital status, age and age squared, whether caring for another member of the household (UKHLS only), whether has dependent children living in the household, self-assessed health, log of income, whether self-employed (UKHLS only), whether works in public sector (LFS only), job quality,[6] whether job is temporary, whether job is new (i.e., whether changed job since the last wave),[7]

[6]This variable is derived in a similar way to occupational upgrading and downgrading as described by Gash et al. (2012), p. 60. It is included to capture any discrete occupational changes, over and above changes in income, that might affect both the individual's propensity for weekend working and their well-being. See Table 2.

[7]This variable is included to account for the fact that transitions into or out of weekend working may be highly correlated with having a new job, which itself may affect well-being. See Table 2. The main specification defines this as having a new job (even if at the same workplace and employer). As a robustness check, the UKHLS analysis was repeated where a job change was restricted to working for a new employer and working at a new workplace respectively. This does not make a difference to the results.

**TABLE 2** Definitions and means of explanatory variables in fixed-effects regressions

| | LFS ($N$ = 26,768) | | UKHLS ($N$ = 19,285) | |
|---|---|---|---|---|
| **Variable** | **Definition** | **Mean** | **Definition** | **Mean** |
| Life satisfaction | "How satisfied are you with your life nowadays?" (0–10 scale) | 7.640 | "How dissatisfied or satisfied are you with your life overall?" (1–7 scale) | 5.263 |
| Worthwhile | "To what extent do you feel that the things you do in your life are worthwhile?" (0–10 scale) | 7.878 | – | – |
| Happy | "How happy did you feel yesterday?" (0–10 scale) | 7.447 | – | – |
| Anxious | "How anxious did you feel yesterday?" (0–10 scale) | 2.934 | – | – |
| Job satisfaction | – | – | "How dissatisfied or satisfied are you with your present job overall?" (1–7 scale) | 5.317 |
| Satisfaction with leisure time | – | – | "How dissatisfied or satisfied are you with the amount of leisure time you have?" (1–7 scale) | 4.395 |
| GHQ | – | – | GHQ-12 score (0–36 scale) aggregated from responses to 12-question questionnaire, scale reversed so that higher scores denote better mental health (see Appendix C in supplementary information) | 25.458 |
| Weekend work | Scheduled to work previous weekend | 0.199 | Sometimes or usually works weekends | 0.552 |
| Saturday work | Scheduled to work previous Saturday | 0.171 | – | – |
| Sunday work | Scheduled to work previous Sunday | 0.105 | – | – |
| Sex | Whether female | 0.556 | Whether female | 0.557 |
| Age | Age in years | 44.969 | Age in years | 43.676 |
| Age squared | Square of age in years | 2,150.574 | Square of age in years | 2,025.829 |
| BME | Ethnic group is not White | 0.067 | Ethnic group is not White British | 0.097 |
| Degree | Highest qualification is degree or equivalent | 0.324 | Highest qualification is degree or equivalent | 0.345 |
| Other higher | Highest qualification is other higher education | 0.124 | Highest qualification is other higher education | 0.149 |
| A-level | Highest qualification is GCE, A-level or equivalent | 0.229 | Highest qualification is GCE, A-level or equivalent | 0.203 |

(Continues)

**TABLE 2** (Continued)

| | LFS ($N$ = 26,768) | | UKHLS ($N$ = 19,285) | |
|---|---|---|---|---|
| **Variable** | **Definition** | **Mean** | **Definition** | **Mean** |
| GCSE | Highest qualification is GCSE grades A*-C or equivalent | 0.209 | Highest qualification is GCSE grades A*-C or equivalent | 0.200 |
| Other qual | Highest qualification is other qualifications | 0.070 | Highest qualification is other qualifications | 0.069 |
| Married | Married/cohabiting/civil partner | 0.733 | Married/civil partner/living as couple | 0.848 |
| Carer status | – | – | Carer for sick/disabled/elderly in household | 0.043 |
| Children | Any dependent children in family under 16 | 0.415 | Any own children in household | 0.440 |
| Health | Self-assessed state of health between 1 (very bad) and 5 (very good) | 4.294 | Self-assessed general health from 1 (poor) to 5 (excellent) | 2.288 |
| Income | Log of net weekly pay from main job in pounds | 5.700 | Log of net personal income in pounds | 7.341 |
| Hours | Total hours worked in reference week (main and second job) | 34.161 | Total normal weekly working hours, including overtime | 36.949 |
| Self-employed | – | – | Whether self-employed | 0.061 |
| Temporary | Main job not permanent in some way | 0.041 | Current job not permanent in some way | 0.052 |
| Public sector | Main job in public sector | 0.342 | – | – |
| Daytime work | – | – | Usually works during the day (morning/afternoon) only | 0.735 |
| Job quality | See footnote[a] | −0.002 | See footnote[a] | 0.017 |
| New job | See footnote[b] | 0.018 | – | – |
| New job 1 | – | – | See footnote[b] | 0.161 |
| New job 2 | – | – | See footnote[b] | 0.077 |

*Note:* All means are based on unweighted data.

[a]In both datasets, the job quality variable is set to 0 for all individuals in the first wave and then increases (decreases) by 1 if the individual is in a better (worse) 3-digit occupation (defined by its rank of sex-specific hourly pay according to the Annual Survey of Hours and Earnings 2010 [Office for National Statistics, 2011]) in the following wave. If the individual does not change occupations between waves, the job quality variable stays the same as in the previous wave. See Gash et al. (2012).

[b]In both datasets, the new job variable is set to 0 for all individuals in the first wave and then increases to 1 if the individual is in a different job in the following wave. In UKHLS, there are two new job variables to distinguish changing jobs between wave 2 and wave 4 and changing jobs between wave 4 and wave 6.

hours worked per week and whether works in the daytime only (UKHLS only). Full definitions of these variables and their means are shown in Table 2.[8]

## 5 | METHODOLOGY

To assess the impact of weekend working on different measures of satisfaction and well-being, I assume that the relationship takes the following form:

$$S_{it}^{*} = \alpha + \beta W_{it} + \mathbf{X}'_{it}\boldsymbol{\gamma} + \upsilon_i + \varepsilon_{it} \tag{1}$$

In this model, $S_{it}^{*}$ denotes the outcome of interest (i.e., measure of satisfaction or well-being) for individual $i$ at time $t$. Note that this is assumed to be a continuous latent variable that is not directly observed in the data. The variable $W_{it}$ is a dummy variable that takes the value of 1 if individual $i$ worked weekends at time $t$, and 0 if the individual did not work weekends at time $t$. The vector $\mathbf{X}_{it}$ contains all other observable time-variant factors that are thought to impact on $S_{it}^{*}$. The fixed-effects error term $\upsilon_i$ contains all unobservable variables that are assumed not to change over time, while the time-variant error term is $\varepsilon_{it}$.

Estimates of $\beta$ based on Equation (1) will be biased due to the existence of unobservable characteristics (e.g., personality) that are themselves correlated with well-being and the probability of weekend working. Where these unobservable factors are time-invariant and hence contained in $\upsilon_i$, their confounding influence can be removed by specifying the "within" transformation as follows:

$$\ddot{S}_{it} = \alpha + \beta \ddot{W}_{it} + \ddot{\mathbf{X}}'_{it}\boldsymbol{\gamma} + \ddot{\varepsilon}_{it} \tag{2}$$

Here, $\ddot{S}_{it} = S_{it} - T^{-1}\sum_{t=1}^{T} S_{it}$ and similarly for all right-hand side variables, where $T$ is the number of periods in the panel, $S_{it}$ is self-reported well-being on an ordinal scale and $S_{it} = S_{it}^{*}$. In line with Ferrer-i-Carbonell and Frijters (2004), where individual fixed effects are included, it is reasonable to make the assumption that self-reported well-being, $S_{it}$, is a cardinal approximation for actual well-being, $S_{it}^{*}$. Equation (2) is estimated using ordinary least squares (OLS).

I also estimate the model based on the Blow Up and Cluster (BUC) method developed by Baetschmann et al. (2015) and described and applied by Dickerson et al. (2014). This estimator controls for the fixed effect but also maintains the ordinal nature of the SWB variable (i.e., relaxes the assumption that observed well-being, $S_{it}$, and latent well-being, $S_{it}^{*}$, are cardinally related). Similarly, I use an ordered logit as a robustness check for the pooled OLS results. The ordered logit and BUC specifications yield very similar results to the OLS analysis and lead to identical conclusions. These results are shown in full in Appendix A in supplementary information.

## 6 | RESULTS

The means for all explanatory variables in the model are presented in Table 2. Note that the incidence of weekend working is much higher in UKHLS than LFS. This is due to the different ways in which that variable is defined, as discussed above. Average incomes are also higher in the UKHLS sample

[8]Note that some people have more than one job. While the working time variables refer to all jobs, some of the other covariates (including wage, whether temporary job and whether public sector) refer to the main job only.

due to the fact that this includes all personal income, not just wage income from one's main job as is the case in LFS.[9,10]

The pooled cross-sectional results, based on Equation (1) where $S_{it} = S_{it}^{*}$ and $\upsilon_i + \varepsilon_{it}$ is the composite error term, are shown in specifications (1), (2) and (3) in Tables 3 and 4. The panel data results, based on Equation (2) which controls for fixed effects, are shown in specifications (4), (5) and (6) in Tables 3 and 4.

Tables 3 and 4 show how the coefficient with respect to weekend working changes in the different specifications of the model. Specification (1) is the most basic model, controlling for personal characteristics only. It is based on Equation (1) above where $\mathbf{X}_{it}$ contains only selected non-work variables. In both the LFS (Table 3) and UKHLS data (Table 4), weekend working is associated with lower life satisfaction. It is also associated with reduced satisfaction with the amount of leisure time one has, reduced psychological health as indicated by GHQ but increased job satisfaction. With the exception of LFS life satisfaction, these effects are still significant once income is controlled for, in specification (2) and when all other job characteristics are included as controls in specification (3).

These results are of course confounded by the fact that there may be systematic differences between people who work at the weekend and those who do not. To take account of this, specification (4) controls for individual fixed effects, based on Equation (2) above, with $\mathbf{X}_{it}$ again limited to non-work characteristics. Effectively, this specification predicts the extent to which changes in weekend working affect the well-being of individuals. Controlling for fixed effects reduces the impact of weekend working on life satisfaction, such that it becomes insignificant, in both the LFS and UKHLS regressions. In other words, while people who work weekends have lower life satisfaction, this is largely due to selection effects and individuals switching weekend working status do not experience a notable change. The effect on GHQ, while still negative, also becomes statistically insignificant, although in a robustness check it is found to be significant when including the full UKHLS sample.[11] Therefore the evidence on whether weekend working is bad for mental health is inconclusive. This is comparable to the cross-sectional result reported by Weston et al. (2019). However, there remains a negative and significant effect of weekend working transitions on the happiness and satisfaction with leisure time outcomes. There is also a positive effect on the "worthwhile" outcome in LFS, although this is small in magnitude and significant only at the 10% level. This does not contradict other results as this indicator specifically captures eudaimonic well-being. This is a very different aspect of human well-being than evaluative or hedonic measures (Dolan et al., 2011), where no significant positive effects are found.

Specifications (5) and (6) in Tables 3 and 4 additionally control for income and all other observable work characteristics respectively. If the hypothesis is correct that any detrimental effects of weekend working on well-being are compensated by earnings or other job amenities, then it would be expected that the coefficient on weekend working would become more negative once these other work variables are controlled for. For the most part, however, the inclusion of these additional controls does not affect the coefficients with respect to weekend working. The effect of weekend working on satisfaction with

[9]As this is a well-being equation, it is preferable to include all income as a control variable. However, the LFS does not collect information on non-wage income so net weekly pay is the closest proxy for working individuals.

[10]Other notable differences in variable means between the two datasets include total weekly working hours and self-assessed health. Weekly working hours are higher in the UKHLS because this variable captures usual weekly working hours while the LFS captures total hours in the reference week (which may be significantly lower than usual for some people due to having leave during the reference week). The reason for average self-assessed health being higher in LFS is likely due to the wording of the responses.

[11]The full UKHLS sample has a higher coefficient on the weekend working variable as well as a lower standard error due to a larger sample size. Results from this robustness check available from the author on request.

**TABLE 3** OLS regression results—weekend working (LFS)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| *Panel A—Life satisfaction* | | | | | | |
| Worked previous weekend | −0.068** | −0.054** | −0.044 | 0.010 | 0.010 | 0.011 |
| | (0.027) | (0.027) | (0.027) | (0.045) | (0.045) | (0.045) |
| *Controls* | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | Yes | Yes | Yes |
| Log of net weekly earnings in main job | No | Yes | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | No | No | Yes |
| Individual fixed effects | No | No | No | Yes | Yes | Yes |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 |
| *Panel B—Worthwhile* | | | | | | |
| Worked previous weekend | −0.007 | −0.001 | 0.016 | 0.075* | 0.075* | 0.079* |
| | (0.026) | (0.026) | (0.026) | (0.043) | (0.043) | (0.044) |
| *Controls* | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | Yes | Yes | Yes |
| Log of net weekly earnings in main job | No | Yes | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | No | No | Yes |
| Individual fixed effects | No | No | No | Yes | Yes | Yes |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 |
| *Panel C—Happy* | | | | | | |
| Worked previous weekend | −0.030 | −0.033 | −0.024 | −0.149** | −0.149** | −0.146** |
| | (0.033) | (0.033) | (0.034) | (0.071) | (0.071) | (0.072) |
| *Controls* | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | Yes | Yes | Yes |
| Log of net weekly earnings in main job | No | Yes | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | No | No | Yes |
| Individual fixed effects | No | No | No | Yes | Yes | Yes |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 |

(Continues)

**TABLE 3** (Continued)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| *Panel D—Anxious* | | | | | | |
| Worked previous weekend | −0.013 | −0.010 | −0.038 | 0.066 | 0.066 | 0.053 |
| | (0.045) | (0.045) | (0.046) | (0.099) | (0.099) | (0.099) |
| *Controls* | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | Yes | Yes | Yes |
| Log of net weekly earnings in main job | No | Yes | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | No | No | Yes |
| Individual fixed effects | No | No | No | Yes | Yes | Yes |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 |

*Note:* Unweighted data. Standard errors in brackets (clustered standard errors used in specifications 1–3).

[a]Personal characteristics include sex, ethnicity, whether married, whether has children, health, age, age squared and highest qualification.

[b]Other job characteristics include weekly hours, whether temporary, whether public sector, whether new job and job quality.

*$p < .10$; **$p < .05$; ***$p < .01$.

*Source:* LFS.

leisure time (Table 4 Panel C) actually falls slightly when including job characteristics. This is likely due to the fact that weekend working is often accompanied by other dis-amenities such as longer working hours and non-daytime working.[12] Hence other job aspects are exacerbating rather than compensating for weekend working.

Tables 5 and 6 show the full results for specification (6) in Tables 3 and 4 respectively, which include all controls and individual fixed effects. These tables show how the size of the effect of weekend working compares to the effect of other observable transitions, and also (for the LFS data only) identify differences in the effects of Saturday and Sunday working. Table 5 shows that there is a significant association with reduced happiness for Saturday working and weekend working generally (but not Sunday working). The size of the coefficient implies that weekend working predicts a 1.5 percentage point change in overall happiness (the equivalent of moving from, say, 7 to 6.85 on a zero to ten scale). However, note that, although these full regressions control for working hours, unlike the UKHLS regressions they do not take account of the possible correlation between weekend working and non-daytime working, as this variable is not available in LFS.

In the UKHLS data, Table 6 shows that there is a negative and significant association between weekend working and satisfaction with the amount of leisure time one has. These results suggest that people who work standard schedules and hence take their leisure time at standard times (i.e., evenings and weekends) are more satisfied with their leisure time than people who work the same number of hours (and hence have the same amount of leisure time) but at non-standard times. An interpretation of the coefficients in Table 6 (dividing the coefficient with respect to weekend working by the coefficient with respect to hours) suggests that on average individuals in the sample are indifferent between

[12]Indeed there is a strong correlation between weekend working and non-daytime working. In the UKHLS sample, 91% of non-weekend workers work only in the daytime while only 58% of weekend workers work only in the daytime.

**TABLE 4** OLS regression results—weekend working (UKHLS)

| | (1) | (2) | | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|---|
| *Panel A—Life satisfaction* | | | | | | | |
| Sometimes or usually works at weekend | −0.074*** | −0.078*** | | −0.044* | −0.030 | −0.030 | −0.027 |
| | (0.021) | (0.021) | | (0.023) | (0.030) | (0.030) | (0.031) |
| *Controls* | | | | | | | |
| Personal characteristics[a] | Yes | Yes | | Yes | Yes | Yes | Yes |
| Log of net weekly personal income | No | Yes | | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | | Yes | No | No | Yes |
| Individual fixed effects | No | No | | No | Yes | Yes | Yes |
| *N* | 19,285 | 19,285 | 19,285 | | 19,285 | 19,285 | 19,285 |
| *Panel B—Job satisfaction* | | | | | | | |
| Sometimes or usually works at weekend | 0.053** | 0.050** | 0.053** | | 0.046 | 0.046 | 0.046 |
| | (0.023) | (0.023) | (0.025) | | (0.032) | (0.032) | (0.033) |
| *Controls* | | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | | Yes | Yes | Yes |
| Log of net weekly personal income | No | Yes | Yes | | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | | No | No | Yes |
| Individual fixed effects | No | No | No | | Yes | Yes | Yes |
| *N* | 19,285 | 19,285 | 19,285 | | 19,285 | 19,285 | 19,285 |
| *Panel C—Satisfaction with leisure time* | | | | | | | |
| Sometimes or usually works at weekend | −0.238*** | −0.233*** | −0.114*** | | −0.155*** | −0.156*** | −0.111*** |
| | (0.025) | (0.025) | (0.027) | | (0.034) | (0.034) | (0.035) |
| *Controls* | | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | | Yes | Yes | Yes |

(Continues)

**TABLE 4** (Continued)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Log of net weekly personal income | No | Yes | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | No | No | Yes |
| Individual fixed effects | No | No | No | Yes | Yes | Yes |
| *N* | 19,285 | 19,285 | 19,285 | 19,285 | 19,285 | 19,285 |
| *Panel D—GHQ* | | | | | | |
| Sometimes or usually works at weekend | −0.285*** | −0.288*** | −0.216*** | −0.163 | −0.163 | −0.134 |
| | (0.077) | (0.077) | (0.083) | (0.103) | (0.103) | (0.105) |
| *Controls* | | | | | | |
| Personal characteristics[a] | Yes | Yes | Yes | Yes | Yes | Yes |
| Log of net weekly personal income | No | Yes | Yes | No | Yes | Yes |
| Other job characteristics[b] | No | No | Yes | No | No | Yes |
| Individual fixed effects | No | No | No | Yes | Yes | Yes |
| *N* | 19,285 | 19,285 | 19,285 | 19,285 | 19,285 | 19,285 |

*Note:* Unweighted data. Standard errors in brackets (clustered standard errors used in specifications 1–3).

[a]Personal characteristics include sex, ethnicity, whether married, whether carer, whether has children, health, age, age squared and highest qualification.

[b]Other job characteristics include weekly hours, whether temporary, whether self-employed, whether daytime, whether new job and job quality.

*$p < .10$; **$p < .05$; ***$p < .01$.

*Source:* UKHLS.

**TABLE 5** Fixed effects OLS regression results with all controls (LFS)

| | Life satisfaction | | | Worthwhile | | | Happy | | | Anxious | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weekend | 0.011 | | | 0.079* | | | −0.146** | | | 0.053 | | |
| | (0.045) | | | (0.044) | | | (0.072) | | | (0.099) | | |
| Saturday | | −0.000 | | | 0.078* | | | −0.137* | | | 0.114 | |
| | | (0.046) | | | (0.044) | | | (0.073) | | | (0.101) | |
| Sunday | | | −0.002 | | | 0.039 | | | −0.080 | | | −0.127 |
| | | | (0.052) | | | (0.050) | | | (0.082) | | | (0.113) |
| Sex | 0.156 | 0.156 | 0.156 | −0.242 | −0.242 | −0.242 | −0.235 | −0.235 | −0.235 | 2.076 | 2.076 | 2.077 |
| | (0.652) | (0.652) | (0.652) | (0.625) | (0.625) | (0.626) | (1.027) | (1.027) | (1.027) | (1.424) | (1.424) | (1.424) |
| Married | 0.587*** | 0.587*** | 0.587*** | 0.298*** | 0.296*** | 0.295*** | 0.328* | 0.331* | 0.332* | −0.080 | −0.079 | −0.085 |
| | (0.111) | (0.111) | (0.111) | (0.106) | (0.106) | (0.106) | (0.174) | (0.174) | (0.174) | (0.242) | (0.242) | (0.242) |
| Children | 0.005 | 0.005 | 0.005 | 0.010 | 0.010 | 0.011 | 0.027 | 0.027 | 0.024 | −0.047 | −0.048 | −0.045 |
| | (0.083) | (0.083) | (0.082) | (0.079) | (0.079) | (0.079) | (0.130) | (0.130) | (0.130) | (0.180) | (0.180) | (0.180) |
| Health | 0.193*** | 0.193*** | 0.193*** | 0.127*** | 0.127*** | 0.128*** | 0.215*** | 0.215*** | 0.215*** | −0.333*** | −0.334*** | −0.333*** |
| | (0.025) | (0.025) | (0.025) | (0.024) | (0.024) | (0.024) | (0.040) | (0.040) | (0.040) | (0.055) | (0.055) | (0.055) |
| Income | −0.029 | −0.029 | −0.029 | −0.014 | −0.014 | −0.015 | −0.023 | −0.022 | −0.021 | 0.008 | 0.009 | 0.008 |
| | (0.046) | (0.046) | (0.046) | (0.044) | (0.044) | (0.044) | (0.073) | (0.073) | (0.073) | (0.101) | (0.101) | (0.101) |
| Degree | 0.220 | 0.220 | 0.220 | −0.011 | −0.011 | −0.013 | −0.309 | −0.309 | −0.305 | 0.519 | 0.519 | 0.521 |
| | (0.168) | (0.168) | (0.168) | (0.161) | (0.161) | (0.161) | (0.265) | (0.265) | (0.265) | (0.367) | (0.367) | (0.367) |
| Higher Ed | 0.177 | 0.177 | 0.177 | 0.038 | 0.038 | 0.035 | −0.133 | −0.133 | −0.128 | 0.309 | 0.310 | 0.316 |
| | (0.148) | (0.148) | (0.148) | (0.142) | (0.142) | (0.142) | (0.232) | (0.233) | (0.233) | (0.322) | (0.322) | (0.322) |
| A-level | 0.264** | 0.264** | 0.264** | 0.048 | 0.049 | 0.048 | −0.209 | −0.212 | −0.208 | 0.574** | 0.573** | 0.585** |
| | (0.131) | (0.131) | (0.131) | (0.126) | (0.126) | (0.126) | (0.206) | (0.206) | (0.207) | (0.286) | (0.286) | (0.286) |
| GCSE | 0.139 | 0.139 | 0.139 | 0.034 | 0.033 | 0.034 | −0.062 | −0.062 | −0.062 | 0.398 | 0.395 | 0.408 |
| | (0.121) | (0.121) | (0.121) | (0.116) | (0.116) | (0.116) | (0.191) | (0.191) | (0.191) | (0.265) | (0.265) | (0.265) |

(Continues)

**TABLE 5** (Continued)

| | Life satisfaction | | | Worthwhile | | | Happy | | | Anxious | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other qual | 0.168 | 0.169 | 0.169 | −0.089 | −0.090 | −0.088 | −0.102 | −0.100 | −0.103 | 0.662*** | 0.660*** | 0.665*** |
| | (0.107) | (0.107) | (0.107) | (0.103) | (0.103) | (0.103) | (0.169) | (0.169) | (0.169) | (0.235) | (0.235) | (0.235) |
| Age | −0.017 | −0.017 | −0.017 | 0.080 | 0.079 | 0.079 | −0.023 | −0.022 | −0.022 | −0.078 | −0.078 | −0.083 |
| | (0.066) | (0.066) | (0.066) | (0.063) | (0.063) | (0.063) | (0.104) | (0.104) | (0.104) | (0.144) | (0.144) | (0.144) |
| Age square | 0.000 | 0.000 | 0.000 | −0.001 | −0.001 | −0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) |
| BME | −1.849*** | −1.847*** | −1.847*** | −0.826 | −0.825 | −0.811 | −1.771* | −1.773* | −1.798* | 2.156 | 2.145 | 2.168 |
| | (0.653) | (0.653) | (0.653) | (0.626) | (0.626) | (0.626) | (1.028) | (1.028) | (1.028) | (1.426) | (1.426) | (1.426) |
| Public sector | 0.145* | 0.144* | 0.144* | 0.024 | 0.023 | 0.021 | 0.142 | 0.146 | 0.148 | −0.134 | −0.132 | −0.142 |
| | (0.084) | (0.084) | (0.084) | (0.080) | (0.080) | (0.080) | (0.132) | (0.132) | (0.132) | (0.183) | (0.183) | (0.183) |
| Quality | −0.082** | −0.081** | −0.081** | −0.039 | −0.038 | −0.038 | 0.032 | 0.030 | 0.030 | −0.114 | −0.114 | −0.109 |
| | (0.035) | (0.035) | (0.035) | (0.034) | (0.034) | (0.034) | (0.056) | (0.056) | (0.056) | (0.077) | (0.077) | (0.077) |
| Temp job | −0.096 | −0.096 | −0.096 | −0.032 | −0.033 | −0.033 | −0.159 | −0.158 | −0.158 | −0.039 | −0.040 | −0.038 |
| | (0.083) | (0.083) | (0.083) | (0.080) | (0.080) | (0.080) | (0.131) | (0.131) | (0.131) | (0.182) | (0.182) | (0.182) |
| New job | 0.309*** | 0.309*** | 0.309*** | 0.111 | 0.111 | 0.112 | 0.376*** | 0.377*** | 0.375*** | −0.356* | −0.356* | −0.361* |
| | (0.089) | (0.089) | (0.089) | (0.085) | (0.085) | (0.085) | (0.140) | (0.140) | (0.140) | (0.193) | (0.193) | (0.194) |
| Hours | 0.002* | 0.002** | 0.002** | −0.001 | −0.001 | −0.000 | −0.000 | −0.000 | −0.000 | 0.005* | 0.005* | 0.005 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) | (0.003) | (0.003) | (0.003) |
| Constant | 6.547*** | 6.559*** | 6.561*** | 5.998*** | 6.026*** | 6.053*** | 7.606*** | 7.549*** | 7.510*** | 4.143 | 4.116 | 4.301 |
| | (1.588) | (1.587) | (1.588) | (1.524) | (1.523) | (1.524) | (2.502) | (2.501) | (2.502) | (3.469) | (3.468) | (3.468) |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 | 26,768 |

*Note:* Unweighted data. Standard errors in brackets.

*$p < .10$; **$p < .05$; ***$p < .01$.

*Source:* LFS.

**TABLE 6** Fixed effects OLS regression results with all controls (UKHLS)

| | Life satisfaction | Job satisfaction | Satisfaction with leisure time | GHQ score |
|---|---|---|---|---|
| Weekend | −0.027 | 0.046 | −0.111*** | −0.134 |
| | (0.031) | (0.033) | (0.035) | (0.105) |
| Sex | 1.062 | −0.673 | 0.441 | 8.681*** |
| | (0.916) | (0.970) | (1.036) | (3.123) |
| Married | 0.253*** | 0.015 | 0.071 | 0.242 |
| | (0.065) | (0.069) | (0.073) | (0.221) |
| Carer | 0.034 | −0.143* | −0.023 | −0.158 |
| | (0.074) | (0.078) | (0.084) | (0.252) |
| Health | −0.117*** | −0.114*** | −0.100*** | −0.952*** |
| | (0.017) | (0.018) | (0.019) | (0.058) |
| Log income | 0.040 | 0.124*** | −0.013 | 0.185* |
| | (0.032) | (0.033) | (0.036) | (0.108) |
| Children | −0.028 | 0.050 | −0.135*** | −0.008 |
| | (0.043) | (0.046) | (0.049) | (0.147) |
| Age | −0.063*** | −0.179*** | −0.079*** | −0.345*** |
| | (0.024) | (0.025) | (0.027) | (0.080) |
| Age square | 0.001** | 0.001*** | 0.001*** | 0.003*** |
| | (0.000) | (0.000) | (0.000) | (0.001) |
| Degree | −0.083 | 0.115 | −0.143 | −0.520 |
| | (0.322) | (0.341) | (0.364) | (1.098) |
| Other higher | 0.076 | 0.534 | 0.103 | −0.509 |
| | (0.326) | (0.345) | (0.369) | (1.111) |
| A-level | 0.076 | 0.577* | −0.144 | 0.849 |
| | (0.305) | (0.323) | (0.345) | (1.040) |
| GCSE | 0.197 | 0.635** | −0.144 | −0.104 |
| | (0.302) | (0.320) | (0.342) | (1.030) |
| Other qual | 0.493* | 0.291 | −0.349 | 0.103 |
| | (0.267) | (0.283) | (0.302) | (0.911) |
| Hours | −0.001 | −0.003* | −0.017*** | −0.018*** |
| | (0.001) | (0.002) | (0.002) | (0.005) |
| Temporary job | −0.036 | −0.033 | −0.037 | −0.179 |
| | (0.055) | (0.058) | (0.062) | (0.187) |
| Self-employed | 0.129 | 0.449*** | 0.099 | 0.633** |
| | (0.083) | (0.088) | (0.094) | (0.284) |
| Daytime | 0.009 | 0.013 | 0.056 | 0.035 |
| | (0.034) | (0.036) | (0.039) | (0.117) |
| New job 1[a] | −0.061 | 0.456*** | −0.022 | 0.451*** |
| | (0.038) | (0.041) | (0.044) | (0.131) |

(Continues)

**TABLE 6** (Continued)

| | Life satisfaction | Job satisfaction | Satisfaction with leisure time | GHQ score |
|---|---|---|---|---|
| New job 2[b] | 0.192*** | 0.575*** | 0.111** | 0.725*** |
| | (0.039) | (0.041) | (0.044) | (0.133) |
| Quality | 0.038 | 0.016 | 0.015 | −0.181* |
| | (0.030) | (0.032) | (0.034) | (0.103) |
| Constant | 6.009*** | 9.945*** | 6.477*** | 29.923*** |
| | (0.805) | (0.852) | (0.911) | (2.744) |
| *N* | 19,285 | 19,295 | 19,295 | 19,295 |

*Note:* Unweighted data. Standard errors in brackets. BME omitted because of collinearity.

*Source:* UKHSL.

[a]Whether changed jobs between wave 2 and wave 4.

[b]Whether changed jobs between wave 4 and wave 6.

*$p < .10$; **$p < .05$; ***$p < .01$.

working six to seven fewer hours per week or switching to a schedule that does not include weekend working, in terms of satisfaction with leisure time.

The UKHLS results show that job satisfaction and, similarly to the LFS results, life satisfaction are not affected by weekend working. There is also no significant relationship between weekend working and psychological health, as measured by the GHQ, although, as stated above, this result is sensitive to the sample used. In the GB sample, only three components of GHQ are affected by weekend working: loss of sleep due to worry, feeling constantly under strain and lack of happiness (Appendix C in supplementary information).

As a robustness check (Appendix B in supplementary information), the UKHLS regressions are repeated where only those working every or most weekends are coded as weekend workers, while people working only some weekends are deemed not to be weekend workers. In this specification, the coefficient on satisfaction with leisure time is still significant, and is in fact slightly larger, suggesting that the regularity of weekend working is as important to satisfaction with leisure time as the incidence of weekend working.

It is possible that attitudes to weekend working are affected by people having second jobs. As a further robustness check (not shown in the tables), the main analysis is repeated after removing any observations where the individual was working in more than one job in the reference week. This does not change the results substantially. In fact, if anything the effects of weekend working on well-being are greater, increasing the effect on happiness from 0.15 to 0.18 and increasing the effect on satisfaction with leisure time from 0.11 to 0.19 in the full model.

Tables 7 and 8 summarise the results of a series of supplementary regressions, based on specification (6) in which all controls and individual fixed effects are included. Tables 7 Panel B and 8 Panel B show the results of recoding the weekend working dummy variable to account for whether individuals moved into or out of weekend working. In terms of happiness, where there is an overall negative effect due to weekend working, there does not appear to be any asymmetry between transitions into and out of weekend working. However, it appears that the effect on satisfaction with leisure time is primarily driven by transitions out of weekend working.

One way of approximating the extent to which weekend working is involuntary is to observe the individual's reason for leaving their previous job. Table 7 Panel C shows that the interaction between quitting one's last job and working at the weekend in one's current job is significantly positive on all

**TABLE 7** Supplementary analysis and robustness checks (LFS)

| | Life satisfaction | Worthwhile | Happy | Anxious |
|---|---|---|---|---|
| Panel A—Baseline estimate: see Table 3, specification (6) | | | | |
| Worked previous weekend | 0.011 | 0.079* | −0.146** | 0.053 |
| | (0.045) | (0.044) | (0.072) | (0.099) |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 |
| *Panel B—Asymmetric changes* | | | | |
| Moved into weekend working | 0.061 | 0.204*** | −0.168 | −0.114 |
| | (0.071) | (0.068) | (0.112) | (0.155) |
| Moved out of weekend working | 0.029 | 0.018 | 0.128 | −0.183 |
| | (0.062) | (0.060) | (0.098) | (0.136) |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 |
| *Panel C—Interaction with the reason for leaving last job*[a] | | | | |
| Worked previous weekend | 0.009 | 0.070 | −0.162** | 0.083 |
| | (0.046) | (0.044) | (0.072) | (0.100) |
| Quit last job | 0.123 | 0.039 | 0.018 | 0.585* |
| | (0.155) | (0.149) | (0.244) | (0.339) |
| Dismissed or made redundant from last job | −0.127 | −0.176 | −0.324 | −0.053 |
| | (0.250) | (0.240) | (0.394) | (0.547) |
| Quit × Worked previous weekend | 0.450 | 0.643** | 0.953** | −1.986*** |
| | (0.285) | (0.273) | (0.448) | (0.622) |
| Dismissed × Worked previous weekend | −0.750 | −0.097 | 0.424 | 0.658 |
| | (0.607) | (0.582) | (0.956) | (1.326) |
| *N* | 26,768 | 26,768 | 26,768 | 26,768 |

*Note:* Unweighted data. Standard errors in brackets. All regressions control for all covariates, including fixed effects, detailed in Table 3 specification (6).

[a]Omitted category includes all those who either did not change job between wave 1 and wave 5 or did change jobs but reason not coded as resigned or dismissed/made redundant.

*$p < .10$; **$p < .05$; ***$p < .01$.

*Source:* LFS.

but the life satisfaction outcome. This suggests that the voluntary decision to move into a job that involves weekend working is good for well-being. However, similar results are not found in the UKHLS data (see Table 8 Panel C) and, if anything, the reverse is true. Also, in both datasets, the interaction between weekend working and leaving one's previous job involuntarily is not a significant predictor of well-being, although this may be due to a relatively small number of observations.

To examine whether there are any heterogeneous effects of weekend working and well-being, Tables 9 and 10 show the results of conducting the main specification (6) on various subgroups, reporting a test for equality in the weekend working coefficient between each pair of subgroups.

Much of the literature on working hours and well-being focuses on the differential impacts on males and females. The subgroup analysis shown in Tables 9 and 10 implies that there are few significant differences by sex when it comes to weekend working. In the UKHLS, females and males are equally impacted in terms of satisfaction with leisure time (Table 10), although females report a

**TABLE 8** Supplementary analysis and robustness checks (UKHLS)

| | Life Satisfaction | Job satisfaction | Satisfaction with leisure time | GHQ |
|---|---|---|---|---|
| Panel A—Baseline estimate: see Table 4, specification (6) | | | | |
| Sometimes or usually works at weekend | −0.027 | 0.046 | −0.111*** | −0.134 |
| | (0.031) | (0.033) | (0.035) | (0.105) |
| *N* | 19,285 | 19,285 | 19,285 | 19,285 |
| *Panel B—Asymmetric changes* | | | | |
| Moved into weekend working between Waves 2 and 4 | −0.105* | 0.141** | −0.112 | 0.213 |
| | (0.060) | (0.064) | (0.068) | (0.206) |
| Moved into weekend working between Waves 4 and 6 | 0.043 | 0.112* | −0.027 | −0.330 |
| | (0.060) | (0.063) | (0.068) | (0.204) |
| Moved out of weekend working between Waves 2 and 4 | −0.021 | −0.017 | 0.056 | 0.063 |
| | (0.043) | (0.045) | (0.049) | (0.146) |
| Moved out of weekend working between Waves 4 and 6 | 0.112* | 0.039 | 0.144** | 0.243 |
| | (0.060) | (0.062) | (0.066) | (0.198) |
| *N* | 19,285 | 19,285 | 19,285 | 19,285 |
| *Panel C—Interaction with reason for leaving last job*[a] | | | | |
| Sometimes or usually works at weekend | −0.039 | 0.051 | −0.097*** | −0.155 |
| | (0.032) | (0.034) | (0.037) | (0.110) |
| Quit last job before Wave 4 (Quit1) | 0.110 | 0.800*** | 0.267** | 0.266 |
| | (0.102) | (0.107) | (0.115) | (0.346) |
| Quit1 × Sometimes or usually works at weekend | 0.117 | −0.074 | −0.275** | 0.388 |
| | (0.113) | (0.119) | (0.127) | (0.384) |
| Dismissed or made redundant from last job before Wave 4 (Fired1) | −0.103 | 0.128 | 0.257* | −0.250 |
| | (0.136) | (0.143) | (0.154) | (0.464) |
| Fired1 × Sometimes or usually works at weekend | −0.012 | 0.130 | −0.042 | 0.564 |
| | (0.157) | (0.166) | (0.178) | (0.536) |
| Quit last job before Wave 6 (Quit2) | −0.133 | 0.347*** | −0.055 | 0.631* |
| | (0.107) | (0.113) | (0.121) | (0.364) |
| Quit2 × Sometimes or usually works at weekend | 0.072 | 0.064 | −0.001 | −0.492 |
| | (0.136) | (0.143) | (0.153) | (0.462) |
| Dismissed or made redundant from last job before Wave 6 (Fired2) | −0.354** | 0.211 | −0.278 | 0.473 |
| | (0.154) | (0.163) | (0.175) | (0.526) |
| Fired2 × Sometimes or usually works at weekend | 0.248 | −0.079 | 0.226 | 0.184 |
| | (0.212) | (0.223) | (0.239) | (0.721) |
| *N* | 19,285 | 19,285 | 19,285 | 19,285 |

*Note:* Unweighted data. Standard errors in brackets. All regressions control for all covariates, including fixed effects, detailed in Table 4 specification (6).

[a]Suffix 1 refers to job changes between waves 2 and 4. Suffix 2 refers to job changes between waves 4 and 6. Omitted category includes all those who either did not change job between respective waves or did change jobs but reason not coded as resigned or dismissed/made redundant.

*$p < .10$; **$p < .05$; ***$p < .01$.

*Source:* UKHLS.

**TABLE 9** Weekend working coefficients by subgroup (LFS)

| | Life satisfaction | Worthwhile | Happy | Anxious | *N* |
|---|---|---|---|---|---|
| Complete sample (see Table 3, specification 6) | 0.011 | 0.079* | −0.146** | 0.053 | 26,768 |
| | (0.045) | (0.044) | (0.072) | (0.099) | |
| Children in household | 0.011 | 0.011 | −0.096 | −0.020 | 11,108 |
| | (0.074) | (0.072) | (0.116) | (0.163) | |
| No children in household | 0.047 | 0.128** | −0.129 | 0.087 | 15,660 |
| | (0.059) | (0.056) | (0.094) | (0.129) | |
| Test of equality (Z) | 0.380 | 1.283 | 0.221 | 0.515 | |
| Female | −0.036 | 0.086 | −0.225** | 0.101 | 14,875 |
| | (0.066) | (0.062) | (0.102) | (0.145) | |
| Male | 0.065 | 0.077 | −0.076 | 0.006 | 11,893 |
| | (0.061) | (0.061) | (0.100) | (0.134) | |
| Test of equality (Z) | 1.124 | 0.103 | 1.043 | 0.481 | |
| Married or co-habiting | 0.057 | 0.112** | −0.165* | 0.136 | 18,454 |
| | (0.055) | (0.054) | (0.090) | (0.127) | |
| Not married or co-habiting | −0.063 | 0.054 | −0.134 | −0.112 | 8,314 |
| | (0.082) | (0.077) | (0.124) | (0.167) | |
| Test of equality (Z) | 1.215 | 0.617 | 0.202 | 1.182 | |
| Older people (45 or older) | 0.045 | 0.031 | −0.062 | 0.098 | 18,105 |
| | (0.057) | (0.053) | (0.089) | (0.124) | |
| Younger people (44 or younger) | −0.097 | 0.157** | −0.327*** | 0.035 | 8,663 |
| | (0.076) | (0.079) | (0.122) | (0.169) | |
| Test of equality (Z) | 1.495 | 1.324 | 1.754* | 0.301 | |
| Christian | −0.074 | 0.027 | −0.177* | −0.038 | 16,194 |
| | (0.058) | (0.056) | (0.091) | (0.128) | |
| Not Christian | 0.138* | 0.190*** | −0.164 | 0.194 | 9,730 |
| | (0.076) | (0.073) | (0.122) | (0.164) | |
| Test of equality (Z) | 2.217** | 1.772* | 0.085 | 1.115 | |
| Other religion (not Christian or no religion) | 0.321 | 0.229 | −0.091 | 0.703 | 1,367 |
| | (0.272) | (0.272) | (0.402) | (0.575) | |
| Not other religion | −0.005 | 0.080* | −0.163** | 0.014 | 24,557 |
| | (0.046) | (0.044) | (0.074) | (0.102) | |
| Test of equality (Z) | 1.182 | 0.541 | 0.176 | 1.180 | |
| Higher-skilled occupations (SOC 1–3) | 0.009 | 0.007 | −0.281** | 0.118 | 12,674 |
| | (0.068) | (0.066) | (0.117) | (0.163) | |
| Lower-skilled occupations (SOC 4–9) | 0.024 | 0.114* | −0.095 | 0.015 | 14,094 |
| | (0.065) | (0.062) | (0.098) | (0.135) | |
| Test of equality (Z) | 0.159 | 1.182 | 1.219 | 0.487 | |

*Note:* Unweighted data. Standard errors in brackets. All regressions control for all covariates, including fixed effects, detailed in Table 3 specification (6). Test for equality $Z = \left| \frac{(b_1 - b_2)}{\sqrt{SE(b_1)^2 + SE(b_2)^2}} \right|$ where $b_1$ and $b_2$ are the weekend working coefficients for the two subgroups respectively.

*Source:* LFS.

*$p < .10$; **$p < .05$; ***$p < .01$.

significantly larger effect on life satisfaction. While only females experience a significant effect on happiness (Table 9), the difference between the sexes is not statistically significant.

The results show that the effect of weekend working on satisfaction with leisure time is significantly worse for individuals with children, while there are no heterogeneous effects based on marital status. The effect on happiness is worse for younger workers than older workers.

The impact of religion is ambiguous. In LFS, people not identifying as Christian experience a significantly positive impact of weekend working on life satisfaction, but the opposite effect is found in UKHLS. This may be due to differences in how weekend working is defined in the two datasets. People from other religions are significantly less likely to experience a negative impact on satisfaction with leisure time than those who are either Christian or non-religious.

We might expect that people working in lower skilled occupations have less choice about the job they do and their weekly working schedule, and therefore may be more adversely affected by weekend working than those working in higher-skilled occupations. This hypothesis is not supported by the subgroup analysis, however. While there may be job-constraining reasons for people to work involuntarily at the weekend, the evidence does not provide any support for the notion that weekend working is particularly harmful for lower skilled people.

Table 10 splits the sample according to whether or not one has autonomy over one's working hours, as captured in the UKHLS. It shows that both groups equally experience a negative impact on satisfaction with leisure time, hence there is no evidence that such autonomy protects people from the adverse effects of weekend working.

While there do appear to be some heterogeneous effects, it should be noted that p-values on most of these results are well above zero, and hence caution should be applied in light of the large number of hypotheses being tested.

## 7 | DISCUSSION

The results suggest that weekend working does matter for well-being, but only with respect to certain aspects of SWB. Across the UK population, people working at the weekend report lower life satisfaction than people not working weekends, although this difference disappears once we control for fixed effects. This implies that, in line with standard labour market theory, transitions into and out of weekend working reflect changes in people's preferences as individuals supply labour at times suitable for them.

However, happiness yesterday and satisfaction with leisure time are aspects of SWB that do appear to be affected by weekend working, and this is not compensated by earnings or any other observable job characteristics. The estimated effects on happiness appear to corroborate the findings of Bryson and MacKerron (2017). They show that, evaluated on a moment-to-moment basis, people are relatively unhappy while working and this effect is stronger when working at the weekend compared to working during standard hours. By asking about how happy the respondent was yesterday, the LFS provides a less precise indicator of happiness. We do not know the day of interview and therefore we do not know whether or not the respondent was working "yesterday". We can say, however, that for many respondents their "happiness yesterday" would not be affected by any transitions in weekend working. Specifically, only those interviewed on a Sunday or Monday would be directly affected, while those interviewed on other days would, if anything, be affected in the opposite direction if a change in weekend working patterns was accompanied by having more time off during the standard working week. It can be argued, therefore, that the estimated average effect on happiness (1.5 percentage points) is an underestimate of the true effect.

**TABLE 10** Weekend working coefficients by subgroup (UKHLS)

| | Life Satisfaction | Job satisfaction | Satisfaction with leisure time | GHQ | *N* |
|---|---|---|---|---|---|
| Complete sample (see Table 4, specification 6) | −0.027 | 0.046 | −0.111*** | −0.134 | 19,285 |
| | (0.031) | (0.033) | (0.035) | (0.105) | |
| Children in household | −0.046 | 0.049 | −0.220*** | −0.080 | |
| | (0.048) | (0.050) | (0.053) | (0.158) | 8,487 |
| No children in household | 0.004 | 0.057 | −0.032 | −0.084 | |
| | (0.044) | (0.047) | (0.051) | (0.153) | 10,798 |
| Test of equality (Z) | 0.786 | 0.117 | 2.556** | 0.018 | |
| Female | −0.077* | 0.021 | −0.114** | −0.254* | 10,751 |
| | (0.043) | (0.045) | (0.048) | (0.152) | |
| Male | 0.030 | 0.076 | −0.112** | −0.004 | 8,534 |
| | (0.044) | (0.047) | (0.051) | (0.141) | |
| Test of equality (Z) | 1.739* | 0.845 | 0.029 | 1.206 | |
| Married or co-habiting | −0.048 | 0.034 | −0.099*** | −0.203* | 16,348 |
| | (0.033) | (0.035) | (0.038) | (0.110) | |
| Not married or co-habiting | 0.083 | 0.089 | −0.249** | −0.318 | 2,937 |
| | (0.103) | (0.104) | (0.122) | (0.377) | |
| Test of equality (Z) | 1.211 | 0.501 | 1.268 | 0.293 | |
| Older people (45 or older) | −0.030 | 0.044 | −0.134*** | −0.202 | 9,916 |
| | (0.042) | (0.047) | (0.049) | (0.156) | |
| Younger people (44 or younger) | −0.015 | 0.077 | −0.035 | −0.030 | 9,369 |
| | (0.049) | (0.049) | (0.054) | (0.153) | |
| Test of equality (Z) | 0.232 | 0.486 | 1.358 | 0.787 | |
| Christian | 0.049 | 0.038 | −0.092* | −0.085 | 8,111 |
| | (0.047) | (0.050) | (0.054) | (0.164) | |
| Not Christian | −0.076* | 0.053 | −0.123*** | −0.179 | 11,168 |
| | (0.041) | (0.043) | (0.046) | (0.137) | |
| Test of equality (Z) | 2.004** | 0.228 | 0.437 | 0.440 | |
| Other religion (not Christian or no religion) | 0.055 | 0.079 | 0.293 | 0.450 | 795 |
| | (0.190) | (0.164) | (0.201) | (0.586) | |
| Not other religion | −0.028 | 0.038 | −0.124*** | −0.162 | 18,484 |
| | (0.031) | (0.033) | (0.035) | (0.107) | |
| Test of equality (Z) | 0.431 | 0.245 | 2.044** | 1.027 | |
| Higher-skilled occupations (SOC 1–3) | −0.002 | 0.010 | −0.076 | −0.144 | 9,775 |
| | (0.041) | (0.044) | (0.044) | (0.150) | |
| Lower-skilled occupations (SOC 4–9) | −0.048 | 0.087* | −0.149*** | −0.282* | 9,510 |
| | (0.052) | (0.053) | (0.057) | (0.161) | |
| Test of equality (Z) | 0.695 | 1.118 | 0.988 | 0.627 | |

(Continues)

**TABLE 10** (Continued)

| | Life Satisfaction | Job satisfaction | Satisfaction with leisure time | GHQ | *N* |
|---|---|---|---|---|---|
| Autonomy over working hours | −0.056 | 0.072 | −0.138*** | −0.145 | 9,643 |
| | (0.047) | (0.047) | (0.052) | (0.158) | |
| No autonomy over working hours | −0.014 | 0.035 | −0.125*** | −0.015 | 9,642 |
| | (0.051) | (0.055) | (0.058) | (0.176) | |
| Test of equality (Z) | 0.606 | 0.511 | 0.167 | 0.676 | |

*Note:* Unweighted data. Standard errors in brackets. All regressions control for all covariates, including fixed effects, detailed in Table 4 specification (6). Test for equality $Z = \left| \frac{(b_1 - b_2)}{\sqrt{SE(b_1)^2 + SE(b_2)^2}} \right|$ where $b_1$ and $b_2$ are the weekend working coefficients for the two subgroups respectively.

*Source:* UKHLS.

*$p < .10$; **$p < .05$; ***$p < .01$.

The results from UKHLS show that the avoidance of weekend working is equivalent to working six fewer hours per week in terms of its effect on satisfaction with the amount of leisure time one has. This is an interesting finding as it implies that people are concerned about the quality not just the quantity of their leisure time, and that weekend working has a detrimental impact on this quality. This is coherent with the literature on the time use effects of weekend working, where one's work schedule is found particularly to impact time spent with others (Barnes et al., 2006; Bittman, 2005; Craig & Brown, 2015; Hook, 2012). However, arguably satisfaction with the amount of leisure time is not a well-being outcome in itself but merely a component of overall life satisfaction. The fact that transitions into and out of weekend working are found not to affect life satisfaction at all implies that any impact on the quality of leisure time does not matter that much to people in the context of their overall evaluation of life. This is confirmed by Powdthavee (2012) who finds that satisfaction with the amount of leisure time has a lower influence on life satisfaction than all the other domain satisfaction measures included in the British Household Panel Study.

It is also interesting to note that there is limited heterogeneity in how weekend working affects worker well-being. People in lower-skilled occupations, who may experience greater job constraints, are no more affected by weekend working than those in higher-skilled occupations. Also, having autonomy over one's working hours does not mitigate the negative effects of weekend working. Some regressions do show, however, that people quitting their previous job subsequently have a more favourable experience of weekend working, thus implying that individuals not able to move jobs so freely are relatively worse off when working at the weekend. This provides mixed evidence on whether weekend working is worse for people who have limited control over their jobs and working hours.

It is reasonable to question whether the effects reported in this study are truly causal. The decision to work at the weekend is clearly not exogenous and any change in weekend working status may reflect changes in other unobservable characteristics over time. If these omitted variables mainly include unobserved preference or tolerance for weekend working, then any selection bias would be in the opposite direction to the effects reported in this study. In other words, assuming that well-being is increased when preferences are satisfied, a person choosing to work weekends will experience a less negative effect on well-being compared to a person being assigned randomly to weekend working. Nevertheless, the results may also be confounded by other time-variant characteristics not related to preferences or reverse causality between well-being and weekend working. However, by using panel methods to control for time-invariant heterogeneity, this study provides a much more robust assessment of the causal effects of

weekend working on well-being than the majority of other papers in the literature exploring the same question.

## 8 | CONCLUSION

The evidence presented in this paper provides further weight to previous literature finding that weekend working does affect certain aspects of people's lives. Specifically, I find that short term happiness is reduced when people have recently worked at the weekend and that individuals never working at the weekend have higher satisfaction with the amount of leisure time they have. Importantly, these results are not confounded by heterogeneity between individuals or the number of hours worked. There is also an argument to suggest that these results may underestimate the true impact, as those actually working at the weekend (and therefore observed in the data) are likely to have a higher than average tolerance for weekend working.

My results also suggest that, although overall people working at the weekend do report lower life satisfaction, transitions into and out of weekend working are not significantly associated with changes in life satisfaction and hence there is limited evidence of a causal link.

For that reason, we should be cautious in recommending any policy response. While some important impacts have been found, we cannot conclude that people are unequivocally worse off if they work at the weekend, or that the current libertarian attitude towards weekend working in the UK constitutes a market failure. Moreover, a policy response would need to consider the impact on all of society, not just the workers themselves. This includes workers' family members but also those who have a demand for weekend working. It is likely that restrictions to weekend working would reduce productivity and output and limit public access to services, although these effects would be more acute in some sectors than others, with a potentially sizeable impact on overall well-being.

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### CONFLICT OF INTEREST

None.

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## SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

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