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**Article:**

Hunt, T. [orcid.org/0000-0002-0266-4818](https://orcid.org/0000-0002-0266-4818) and Pickard, H. (2022) Harder, better, faster, stronger? Work intensity and 'good work' in the UK. *Industrial Relations Journal*, 53 (3). pp. 189-206. ISSN 0019-8692

<https://doi.org/10.1111/irj.12364>

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# Harder, better, faster, stronger? Work intensity and 'good work' in the United Kingdom

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## Abstract

Work intensity in the United Kingdom has increased, yet gaps in our understanding of its causes and effects remain. It is often missing in current debates around job quality. This paper presents new evidence on the relationship between work intensity and job insecurity and on the negative effects of high work intensity for health and well-being. Its findings help to inform debates about 'good work'.

## 1 | INTRODUCTION

There has been a sustained increase in work intensity in the United Kingdom in the last two decades (Green et al., 2022). Work intensity, or work effort, is a measure of the physical or mental input an individual puts into their work. High work intensity is associated with high workload, working to tight deadlines and working at speed. Research has shown a negative association of work intensity with health and well-being outcomes for individuals and that high work intensity can lead to an increase in mental health problems, particularly stress and anxiety. In the United Kingdom, work-related stress, depression and anxiety have increased in recent years with workload estimated to be a major cause (Health and Safety Executive, 2020). Analysis of work intensity indicators in the European Working Conditions Survey 2015 and the European Social Survey 2010 showed that the United Kingdom ranked highest among the EU28 for the percentage of workers reporting that they work to tight deadlines, second for working very hard and average for working at high speed (Felstead & Green, 2017). Yet despite this evidence, the drivers behind why individuals in the United Kingdom are working at high intensity and why work intensity has increased are unclear. New evidence to better understand an issue that affects an increasing number of individuals is needed.

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This paper contributes to meeting that gap. Through analysis of data from the Skills and Employment Survey 2017, we examine which individuals report working with high intensity and the potential consequences of high work intensity on health and well-being. The paper presents new evidence on the relationship between working at high intensity and insecurity at work, namely, the anxiety that some individuals report experiencing about how their pay and hours may change. Our evidence adds weight to the contribution by Gallie et al. (2017) that a more comprehensive concept of job insecurity is required. They argue for greater attention to be given to *job status* insecurity, where uncertainty is experienced about changes to valued features of an individual's job, alongside the attention traditionally given to *job tenure* insecurity, the likelihood of whether an individual retains their job or not. Building on this contribution, we argue that our findings on the relationship between working at high intensity and insecurity at work help to advance our theoretical understanding of job insecurity, raise new questions about why some individuals work at high intensity and encourage further research into the *effects* that job status insecurity can have upon individuals. We also present new evidence confirming the negative association between work intensity and harmful health and well-being effects. We find that individuals who work with high intensity are more likely to experience negative effects upon their emotional and psychological well-being and are also more likely to work while sick. This finding highlights the risks of potentially harmful spillovers from high work intensity for others.

In light of our findings, the paper argues that work intensity is a critical issue for understanding contemporary working conditions in the United Kingdom, their effects upon workers and for efforts to improve job quality. Research into job insecurity and labour market precarity since the 2008 financial crisis (Adams et al., 2018; Rubery et al., 2018), along with growing concern about in-work poverty and atypical employment arrangements such as zero-hours contracts and 'gig' work, has seen job quality rise up the political agenda. In 2016, the UK government commissioned The Taylor Review of Modern Working Practices in 2016 (Taylor et al., 2017) and published its 'Good Work Plan' in 2018 (Department for Business, Energy and Industrial Strategy [BEIS], 2018). Despite being critiqued for overemphasising the benefits of 'flexible work' (Moore et al., 2018) and lacking empirical evidence (Nolan, 2018), the Taylor Review stimulated a debate among policymakers about job quality and what constitutes 'good work'. Work intensity has been a marginal issue within that debate. Our findings provide new evidence about why this needs remedying. They make a case for broadening the terms of the debate about what good work is beyond the current focus on lower-paid workers to also consider the conditions and well-being of higher-paid workers. The paper also makes a new connection between work intensity and work-related challenges that have taken on new urgency since the COVID-19 pandemic such as presenteeism and the higher prevalence of remote working.

The paper begins with a review of the literature on work intensity, noting the existing evidence about the causes and effects of work intensification and the challenges of investigating work intensification. The next section describes our data and empirical approach. Our findings are then presented before a discussion section and short conclusion.

## 2 | THE WORK INTENSITY DEBATE

Work intensity is a measure of work effort and is defined by Green (2001, p. 56) as 'the rate of physical and/or mental input to work tasks performed during the working day'. Work

intensification is an increase in this rate. Green distinguishes between 'extensive effort', the amount of hours in a day that individuals spend working, and 'intensive effort', the intensity of that work. The United Kingdom has seen a long-run trend of declining average working hours although this trend halted in the last decade (Bangham, 2020). Although the stalling of reductions in average working hours is an important feature of understanding contemporary work, this paper focuses on intensive work effort.

Finding a 'steady process of moderate work intensification' in the United Kingdom between 2001 and 2017, Green et al. (2022, p. 478) document significant work intensification across nearly all industries, occupations and regions. This follows periods of work intensification in the United Kingdom in the 1980s and early 1990s (Gallie et al., 1998).

Rising work intensity in recent decades is a widely experienced phenomenon around the world, across public and private sectors and industries (for a comprehensive overview, see Green et al., 2022). Studies have shown work intensification for UK healthcare workers (Adams et al., 2000), Australian teachers (Wang et al., 2018) and for US information technology workers (Kelly & Moen, 2020). Between 1995 and 2010, 9 out of 15 European countries experienced an overall intensification of work (Green et al., 2013); a trend that has continued across Europe in the last decade (Eurofound, 2017).

Scholars have sought to identify the determinants of work intensification by investigating the effects of organizational changes (Kelliher & Anderson, 2010): increased insecurity for workers and the use of temporary labour (Gallie & Zhou, 2013) and the introduction and usage of new technologies and processes (Chesley, 2014). Green et al. found that just over half of work intensification in the United Kingdom between 2001 and 2017 can be accounted for 'using variables that measure effort-biased technological change, effort-biased organizational change, the growing requirement for learning new things, and the rise of self-employment' (2022, p. 458). However, the authors note that 'as yet, no evidence has suggested a general account of sustained, modern-day generic work intensification' (p. 7). The need for new research into the sources of work intensification, as called for nearly two decades ago (Green, 2004), remains.

Answering that call remains a challenge because, as the literature attests, processes of work intensification are not uniform and how employees experience and respond to high intensity work is highly varied. This presents difficulties for scholars seeking to unpack the complex interactions between individual and employer effects that can lead to work intensification. Changes to jobs made by employers such as the introduction of new technologies to improve productivity, or the encouragement of higher levels of self-employment, may lead to work intensification, but the agency of workers should also be considered so as to not overlook the possibility of individuals choosing to work with greater intensity. This invites scholars to consider the motivations of individuals who work at higher levels of work intensity, yet it also underscores the challenge of identifying the determinants of work intensity. For example, to what extent may job characteristics such as pay or job satisfaction encourage individuals to work at high intensity or to put in extra discretionary effort beyond what is required, and is it possible to isolate such behaviour from actions taken, or anticipated actions, by employers? That challenge is increased because measuring intensive work effort relies on self-reporting. However, self-reporting higher work intensity may be different from actually experiencing it (Green et al., 2018). Long-run representative cross-sections of populations that investigate work effort such as the skills and employment survey are required but are rare. These challenges demonstrate why the need remains for new research and data on work intensification and also for research into the motivations of individuals reporting high work intensity. This paper's new evidence on the relationship between high work intensity and the anxiety that some individuals

have about their future pay and hours provides new insights into possible motivations for why some individuals may work with higher levels of intensity.

Despite uncertainty about the causes of work intensification, there is broad-based consensus about its negative effects for health and well-being (see, among others, Gallie et al., 1998; Warr, 1987). Work intensification is associated with symptoms that include exhaustion (Eurofound, 2019), low job-related well-being (Green et al., 2016) and burnout (Demerouti et al., 2001). Our findings highlight a new association between high work intensity and working while sick. As we discuss, this suggests working at high intensity may have spillover effects for others and opens new questions about the link between work intensity and presenteeism.

Given the weight of evidence about the association between high work intensity and negative consequences for workers' health and well-being and the evidence showing that UK workers experience high levels of work intensity, it is puzzling that work intensity is largely absent in contemporary discussion in the United Kingdom about what constitutes good work (e.g., Lockey & Wallace-Stephens, 2020). More puzzling is that work intensification is not more readily identified with 'bad work'. Only a brief reference to work intensity was made in The Taylor Review (Taylor et al., 2017), and it is not mentioned in the Government's Good Work Plan (BEIS, 2018). Where work intensification does feature in policy debates about job quality and good work, it is often cited as an issue experienced by low-paid employees (Chartered Institute of Personnel and Development [CIPD], 2020; Low Pay Commission, 2018).

Extensive empirical evidence using the demand-control model (Karasek, 1979) and effort-reward imbalance model (Siegrist, 2002) shows that individuals in lower-skilled occupations, who are typically lower paid, have higher levels of job strain and suffer the most negative health effects (e.g., Rigó et al., 2021). It is right that policy debates about job quality should focus on seeking to remedy this. Existing evidence and the new evidence in this paper shows that work intensity and its negative consequences are *also* experienced by higher paid, permanent employees. The 2015 European Working Conditions Survey showed that the 'highest levels of work intensity are found among employees on indefinite contracts' (Eurofound, 2017, p. 47) and previous analysis of the 2017 Skills and Employment Survey indicates that individuals reporting high work intensity are in professional occupations and also in full-time employment, typically not the lowest-earners (Green et al., 2018). As such we argue that the terms of the policy debate around good work need broadening. It highlights the need for fresh evidence about which individuals in the UK experience high levels of work intensity, why, and with what effects. Our findings provide new insights into these questions.

### 3 | DATA AND EMPIRICAL APPROACH

This paper uses the 2017 Skills and Employment Survey (SES), a cross-sectional representative survey of individuals in employment aged 20 to 65 from across Great Britain (Green et al., 2019). The data used are for Great Britain (England, Wales and Scotland) with no one from Northern Ireland completing the 2017 SES; however, in our analysis, we make inferences that apply to the United Kingdom. A total of 3306 respondents were interviewed in their homes. The survey contains a weight to account for the differential probabilities of sample selection, oversampling of particular areas and small response rate variations between narrow groups. The proceeding empirical analysis uses this weight.

Our key measure of work intensity is derived by exploiting answers to three survey questions: 'My job requires that I work very hard', 'How often does your work involve working at

very high speed?' and 'How often does your work involve working to tight deadlines?'. These are identified as suitable measures of work intensity by Green et al. (2018), and for comparison purposes, we follow their variable construction. That is, individuals who 'strongly agree' to the first statement are coded as working very hard; individuals who answered 'all the time' and 'almost all the time' for the second question are coded as being in a job that involves working at very high speed; and individuals answering 'all the time' and 'almost all the time' to the third question are classified as being in a job that involves meeting tight deadlines.<sup>1</sup> To capture the underlying notion of 'work intensity', we take the mean of the three binary indicators, which eases the interpretation.<sup>2</sup>

We estimate ordinary least squares (OLS) regressions that allow us to control for a host of individual, geographic and industry observable characteristics with (initially) work intensity as the dependent variable. Our standard errors are clustered at the region level throughout.<sup>3</sup> Tables S1 and S2 provide a full description of all variables used in the analysis and descriptive statistics.

## 4 | FINDINGS

### 4.1 | Who works at high intensity and how?

The SES' detailed information about respondents enables empirical analysis of the characteristics of individuals who report high work intensity. To this end, we run a series of regressions that progressively include sets of controls and fixed effects. Table 1 presents our findings.

First, we find that the hourly wage is positively and significantly associated with work intensity (Panel A). Panel B shows that it is individuals earning over the median hourly wage who report higher work intensity. We find no effect of work intensity for the lowest paid workers. Those in the upper third and fourth pay quartile are more likely to report higher levels of work intensity relative to those in the bottom quartile. We find that individuals who receive an incentive payment, bonus or commission directly linked to either their own performance, their work-group's performance, or results achieved by their organisation or workplace are no less likely to work with higher intensity than someone who does not. We also find that individuals in full-time employment are more likely to work with high work intensity than those in part-time employment and that women are more likely to work with high work intensity than men. Controlling for contract status, we find no significant effect on work intensity whether an individual's employment is permanent or not. With our reliance on cross-sectional data, we are unable to make causal claims. However, to capture some degree of individual heterogeneity, in column (5), we introduce the 'Big Five' personality trait controls (Brown & Taylor, 2014; Felstead et al., 2020). This specification is our most restrictive model in terms of control variables and allows us to discuss associations while holding many other characteristics constant. We use this specification for all our subsequent analysis.

Implicit in the notion of working at high intensity is the assumption that workers who report working at a high degree of intensity are doing something different to other workers, who by implication work at lower intensity. To investigate how this manifests, we estimate regressions to model the association between work intensity and several work-orientated factors. We estimate OLS regressions of four work factors on work intensity while controlling for all characteristics in Table 1 column (5). This adds more detail to our picture of which individuals work at high intensity by considering *how* they work.

TABLE 1 Demographic and socio-economic correlates of work intensity

	Work intensity				
	(1)	(2)	(3)	(4)	(5)
Panel A					
Ln (hourly pay)	0.010 (0.015)	0.013 (0.016)	0.040* (0.018)	0.048** (0.020)	0.043* (0.019)
Female	0.044** (0.018)	0.045** (0.019)	0.090*** (0.025)	0.085*** (0.022)	0.071** (0.024)
Age	0.004 (0.006)	0.004 (0.006)	0.003 (0.007)	0.004 (0.006)	0.006 (0.007)
Age squared	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)
White	−0.009 (0.017)	−0.014 (0.018)	−0.017 (0.023)	−0.025 (0.024)	−0.025 (0.027)
Has children?	0.002 (0.023)	0.002 (0.022)	0.014 (0.022)	0.011 (0.022)	0.005 (0.021)
Married	0.013 (0.029)	0.015 (0.030)	0.008 (0.024)	0.002 (0.024)	0.005 (0.025)
Living as a couple	−0.007 (0.021)	−0.007 (0.022)	−0.017 (0.020)	−0.020 (0.020)	−0.021 (0.020)
Widowed	0.115 (0.112)	0.109 (0.112)	0.157 (0.109)	0.164 (0.110)	0.162 (0.114)
Separated or divorced	0.053 (0.029)	0.054 (0.031)	0.069* (0.031)	0.066* (0.034)	0.053 (0.035)
Education level 1	0.096 (0.057)	0.095 (0.056)	0.088 (0.060)	0.080 (0.060)	0.062 (0.063)
Education level 2	0.036 (0.054)	0.042 (0.054)	0.041 (0.054)	0.035 (0.052)	0.024 (0.053)
Education level 3	0.055 (0.062)	0.058 (0.062)	0.050 (0.057)	0.035 (0.055)	0.019 (0.058)
Education level 4 and above	0.051 (0.052)	0.054 (0.051)	0.032 (0.054)	0.017 (0.052)	0.001 (0.053)
Full-time			0.104*** (0.028)	0.103*** (0.028)	0.093*** (0.026)
Permanent contract			−0.010 (0.041)	−0.007 (0.044)	−0.000 (0.044)
Public sector			0.041 (0.027)	−0.015 (0.033)	−0.003 (0.034)
Region FEs		Yes	Yes	Yes	Yes
Industry FEs				Yes	Yes



TABLE 1 (Continued)

	Work intensity				
	(1)	(2)	(3)	(4)	(5)
Personality traits					Yes
Mean dep. var.	0.420	0.420	0.421	0.421	0.422
R-squared	0.014	0.022	0.046	0.060	0.076
Observations	2237	2237	2003	2003	1991
Panel B					
Hourly pay (2nd quartile)	0.031 (0.030)	0.032 (0.031)	0.009 (0.027)	0.015 (0.026)	0.010 (0.027)
Hourly pay (3rd quartile)	0.064* (0.031)	0.068** (0.030)	0.042 (0.027)	0.046 (0.029)	0.039 (0.031)
Hourly pay (4th quartile)	0.082** (0.030)	0.090** (0.029)	0.062** (0.027)	0.073** (0.028)	0.070** (0.029)
Controls	Yes	Yes	Yes	Yes	Yes
Region FEs		Yes	Yes	Yes	Yes
Industry FEs				Yes	Yes
Personality traits					Yes
Mean dep. var.	0.422	0.422	0.422	0.422	0.422
R-squared	0.014	0.022	0.046	0.060	0.076
Observations	1991	1991	1991	1991	1991

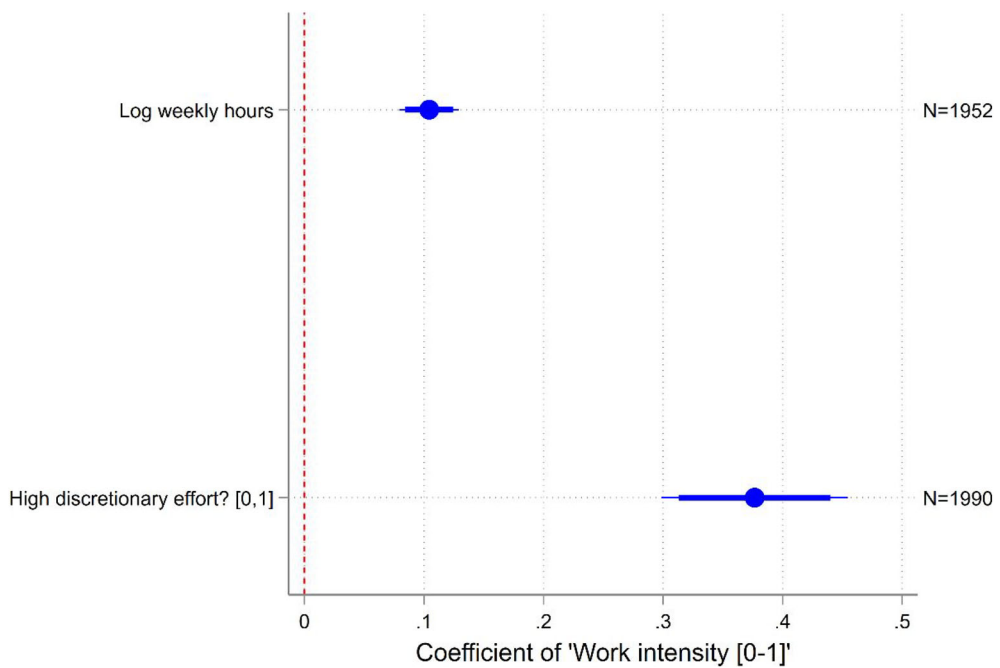
Note: The dependent variable is 'work intensity'. Panel B replaces 'Ln (hourly pay)' with a set of binary indicators for the quartile of hourly pay, where the lowest quartile is the omitted category. 'Controls' refers to the covariates listed in the corresponding columns in Panel A that are omitted for brevity. Standard errors, clustered at the region level, are reported in parenthesis.

\* $p < 0.1$ . \*\* $p < 0.5$ . \*\*\* $p < 0.01$ .

Although our focus is on intensive work effort, it is instructive to consider the extensive work effort of high intensity workers. Figure 1 plots the average marginal effect of work intensity for two outcomes. We find that they work about 10% longer per week relative to the mean. Those with the highest level of work intensity work, on average, 3.75 h longer per week than those with the lowest level.

To further unpack how those with the highest level of work intensity work, we exploit answers to the question 'How much effort do you put into your job beyond what is required?' and code a variable with the value 1 if individuals answer 'a lot', and 0 otherwise. We find a positive and statistically significant effect, indicating that high intensity workers put in high discretionary effort. The effect of work intensity is about 10 percentage points from no work intensity (0) to the highest level (1). Not only are the highest intensity workers working very hard, at high speed and to tight deadlines, but they are putting in significant additional effort beyond what is required. This finding invites us to consider their motivations for doing so. Whether these individuals freely choose to put in additional effort is an open question. High discretionary effort may signify an individual's dedication to their job but equally could be interpreted as





**FIGURE 1** The effect of work intensity on work behaviour I. The figure reports coefficients from OLS regressions, controlling for variables in Table 1 column (5). The vertical axis indicates the dependent variable. Fat (thin) lines signify the 90% (95%) confidence interval [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

action taken because they feel a degree of compulsion to go beyond what is required of them and to work at high intensity.

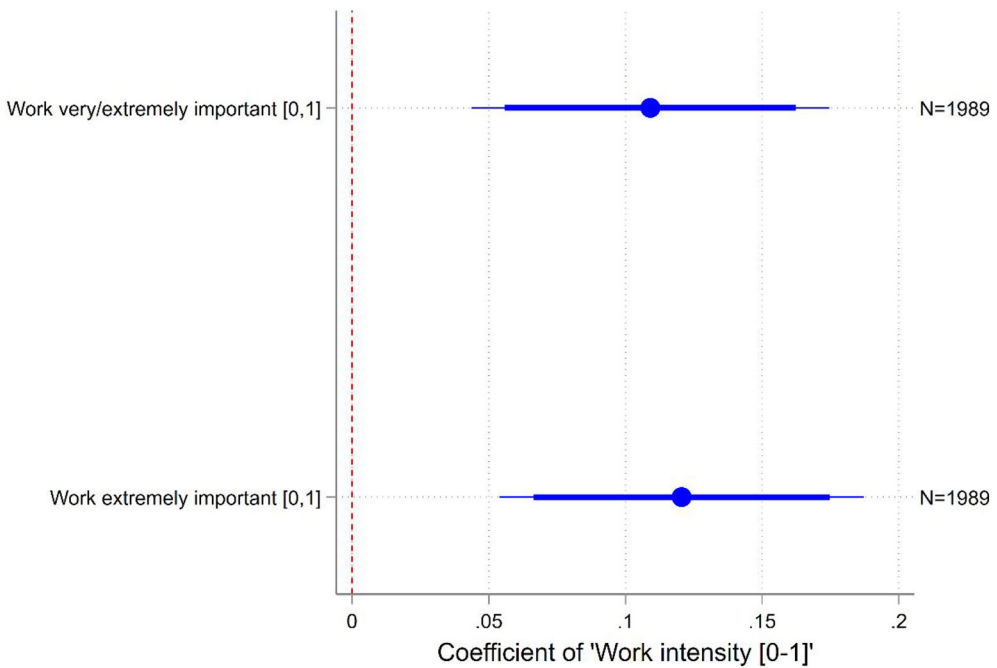
## 4.2 | Attitudes and anxieties about work

To further explore the motivations behind *why* individuals who report working with high intensity might be doing so we examine a range of attitudes and anxieties towards work that the SES asks respondents about.

First, we plot the average marginal effect of work intensity for two further outcomes (Figure 2). Considering a broad and narrow measure of work importance, we find individuals working at high intensity are about 12 percentage points more likely to believe that work is very or extremely important to their life compared with individuals who do not work at high intensity.

To further investigate potential motivations for working at high intensity, we estimate three OLS regressions of work intensity on three anxieties towards work, again controlling for all observable characteristics in Table 1 column (5).

We plot the average marginal effect the anxieties have on work intensity (Figure 3). We consider features of work that may directly motivate the choices people make about how they work (rows 1 and 2). We show that individuals who are anxious about future changes at work that may reduce their pay and those who are anxious about unexpected changes to their hours of

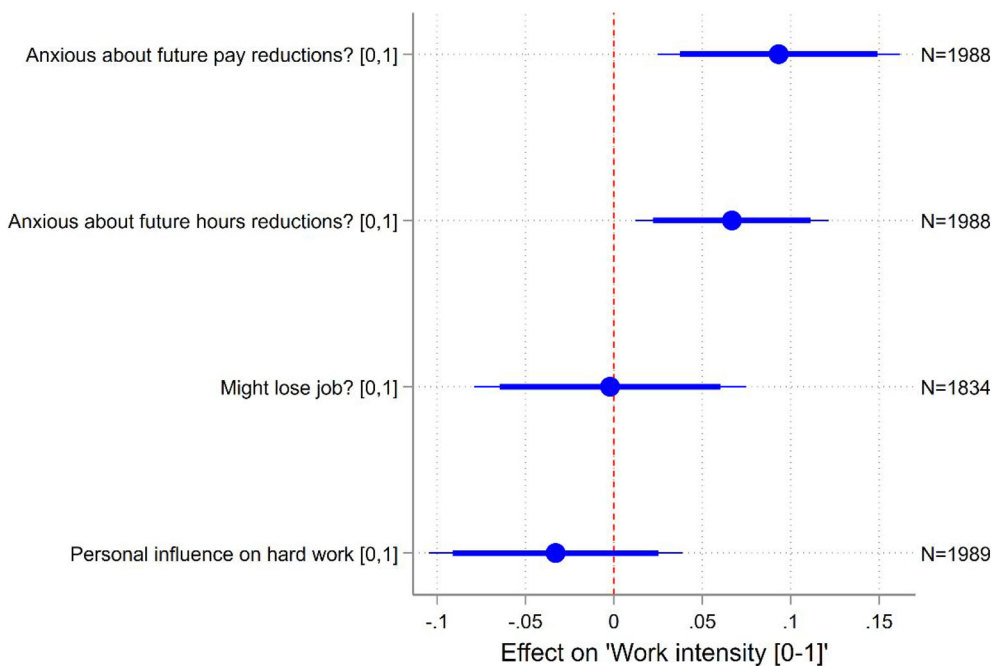


**FIGURE 2** The effect of work intensity on work behaviour II. The figure reports coefficients from OLS regressions, controlling for variables in Table 1 column (5). The vertical axis indicates the dependent variable. Fat (thin) lines signify the 90% (95%) confidence interval [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

work are significantly more likely to report working at a higher intensity. We also consider whether an individual believes they might lose their job in the next year and find this has precisely zero effect upon an individual's degree of work intensity (row 3). This suggests that individuals may work more intensely as a result of uncertainty about potential changes to specific features of their job (in this instance, pay and working hours), rather than being motivated to work with high intensity because they fear losing their job. This finding, discussed below, adds weight to the argument that a more comprehensive concept of job insecurity is required, which includes job status insecurity as well as job tenure insecurity (Gallie et al., 2017). Finally, we consider the role of personal motivation in determining work intensity. We exploit answers to a question that elicits how much influence an individual personally has on how hard they work. The results, in row 4, show those workers who report that they can influence how hard they work to 'a great deal' or 'a fair amount' do not have a higher degree of work intensity. This further supports the notion that the motivations for work intensity are related to unease about pay and hours, not personal (intrinsic) motivations.

### 4.3 | Impacts of working at higher intensity

We next consider the impacts of high intensity work on the individual. SES respondents were asked: 'Thinking of the past few weeks, how much of the time has your job made you feel each of the following ...?' and given a series of adjectives that describe different feelings (a series

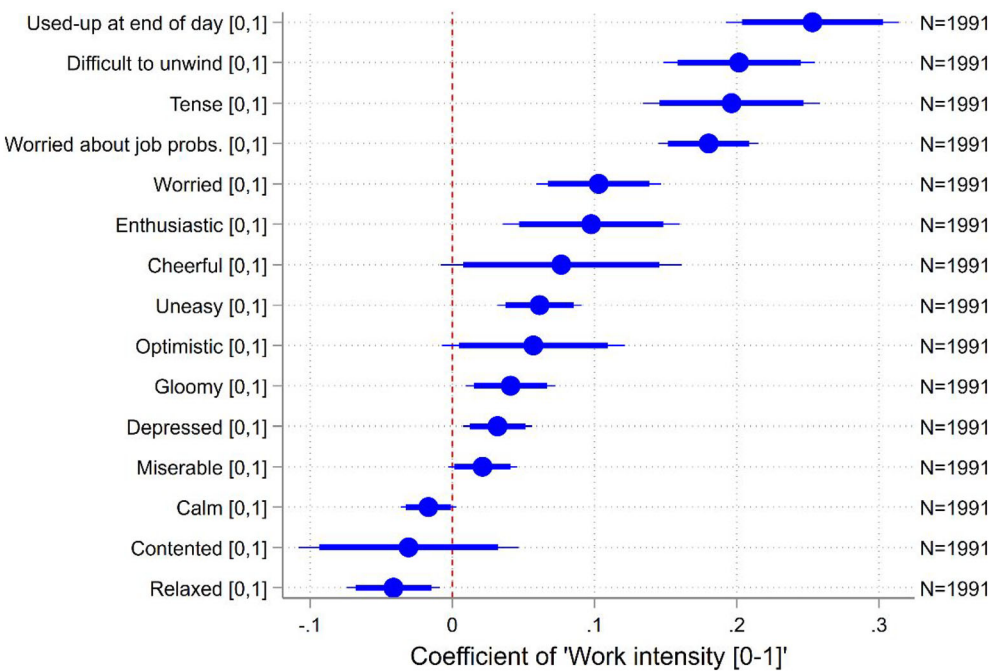


**FIGURE 3** The effect of attitudes on work intensity. The figure reports coefficients from OLS regressions, controlling for variables in Table 1 column (5). The dependent variable in all rows is 'work intensity [0–1]'. The vertical axis indicates the independent variable. Fat (thin) lines signify the 90% (95%) confidence interval [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

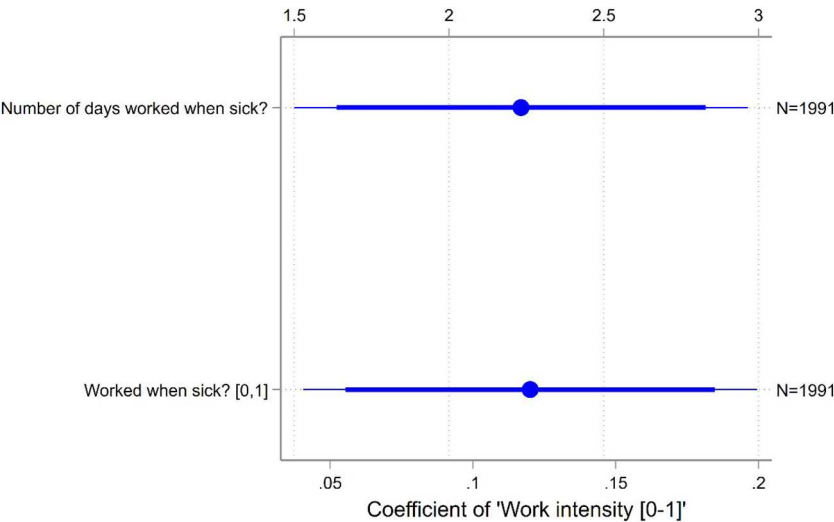
derived from a multidimensional job-related well-being scale developed by Warr, 1990). We dichotomise the responses taking the value 1 if an individual responds that their job has made them feel, for example, gloomy in the past few weeks, and 0 if not. For simplicity, we estimate OLS regressions of each outcome variable on work intensity and include all covariates from Table 1 column (5).<sup>4</sup>

Figure 4 depicts the average marginal effect of work intensity on our outcomes. Working at a high intensity is associated with a higher probability of an individual reporting that they feel 'used-up at the end of a workday' by 23 percentage points, that they find it 'difficult to unwind at the end of a workday' by 18 percentage points and that they 'worry about job problems after they leave work' by 17 percentage points relative to individuals not working at high intensity. The effects extend to other self-evaluations of well-being with individuals with higher work intensity more likely to report that their job has made them feel tense, worried and uneasy in the past few weeks. We also find the effect of high work intensity is significantly associated with an increase in the probability of an individual reporting that their job has made them feel gloomy, depressed or miserable. Consistent with this increase in negative sentiments, we also find a decrease in positive states of well-being. Individuals working at higher work intensity are less likely to report that their job has made them calm, contented and relaxed in the past few weeks than those not working at high intensity.<sup>5</sup> Such findings present a troubling picture of the emotional and psychological impact of working with high intensity.

Further troubling findings comes from analysis of the question 'Over the past 12 months did you work when you were sick?' (shown in Figure 5). Individuals with higher work intensity



**FIGURE 4** The effect of work intensity on worker well-being. The figure reports coefficients from OLS regressions, controlling for variables in Table 1 column (5). The vertical axis indicates the dependent variable. Fat (thin) lines signify the 90% (95%) confidence interval [Colour figure can be viewed at [wileyonlinelibrary.com](#)]



**FIGURE 5** The effect of work intensity on working while sick. The figure reports coefficients from OLS regressions, controlling for variables in Table 1 column (5). The vertical axis indicates the dependent variable. Fat (thin) lines signify the 90% (95%) confidence interval [Colour figure can be viewed at [wileyonlinelibrary.com](#)]

are more likely to report that they have worked while sick. Specifically, at the extensive margins, moving from no work intensity to the highest level, workers are approximately 12 percentage points more likely to report they have worked while sick and the effect is highly statistically significant. At the intensive margins, this is approximately 2 days spent working while sick. This finding provides evidence of significant spillovers from high work intensity onto other workers. Working while sick could impact the health and recovery of the unwell individual but also their colleagues. In turn, this may also draw down on a firm's marginal productivity rate.

## 5 | DISCUSSION

Our findings make new contributions about work intensity and work intensification which we now discuss. The paper has presented new evidence about the relationship between working at high intensity and insecurity at work. We find that individuals who are anxious about future changes at work that may reduce their pay and that individuals who are anxious about unexpected changes to their hours are significantly more likely to report working at a higher intensity. This provides new insights into the effects upon individuals' behaviour that may be caused by working in situations which they perceive to not be permanent or predictable and which they are concerned could change detrimentally, for example by receiving lower pay. These findings about the potential effects of anxiety about one's working conditions and arrangements help to advance our theoretical understanding of how insecurity at work manifests. We make a further new contribution by presenting evidence about the negative association between work intensity and harmful health and well-being effects. We find that individuals who work with high intensity are more likely to experience negative effects upon their emotional and psychological well-being and are more likely to work while sick. This latter new finding highlights the risk that high work intensity could delay recovery from sickness and lead to lower productivity. It also raises the potential of high work intensity having harmful spillovers for others, for example, exposure to infections.

### 5.1 | Working at high intensity and insecurity at work

Our analysis indicates that people most likely to report working with high intensity are individuals whose hourly pay is in the upper pay quartile, individuals in full-time employment and women. We find strong associations between high work intensity and high discretionary effort and with a belief that work is very important. From this, one could conclude that individuals working at high intensity are dedicated to their job, perhaps due to being generally well remunerated, and that this leads them to go beyond what is required and to work longer hours. Although this may hold true for some individuals, further evidence suggests it is a partial depiction.

We found that individuals who are anxious about future changes at work that may reduce their pay and that individuals who are anxious about unexpected changes to their hours are significantly more likely to report working at a higher intensity. This, we argue, is significant because we find no effect on work intensity resulting from a concern that individuals may lose their job in the next year. Moreover, we return to the aforementioned findings that people who work with high intensity are more likely to be in full-time and in higher-paid jobs and that there is no significant effect on work intensity relating to receiving performance-related pay.

Full-time work, high and stable pay are job characteristics that most reasonable observers would agree typically indicate secure good work. And yet the anxieties expressed about changes to pay and hours and the association with high work intensity complicate this picture and raise new questions: Why are these individuals anxious about possible changes to their pay and hours, and what does that say about the quality of their employment; what is the likelihood that these changes will occur, and what is the relationship between their anxiety and the higher intensity that they work with? Are individuals working harder because they fear losing income? As discussed earlier, for researchers seeking to understand the determinants of work intensification, it is a challenge to unpack the interactions between employer-led changes at work and the extent to which they impact upon an individual's work intensity. These new questions add complexity to this challenge and invite further scholarly inquiry.

Our finding of a relationship between work intensity and anxiety about potential changes to pay and hours lends weight to the argument made by Gallie et al. (2017) that a more comprehensive concept of job insecurity is required, one in which a conceptual distinction is made between 'job status insecurity', relating to anxiety about changes to valued features of a job, such as hours and pay, and 'job tenure insecurity', relating to fear of loss of employment. But we go further and draw on our evidence to suggest that a comprehensive concept of job insecurity should also take the *effects* of job status insecurity upon individuals into account. The new evidence we present suggests that anxiety about changes to valued job features could have behavioural effects, in this case by increasing the likelihood of working with a high degree of intensity.

To explore the association between job status insecurity and work intensity, its determinants and crucially, its effects, further research is required. In considering future investigation, we note the context in which the 2017 SES was conducted. In 2017, although unemployment was falling and employment rising (Office of National Statistics [ONS], 2020), the United Kingdom was experiencing a protracted period of low pay growth with real average pay still lower than at the time of the 2008 financial crisis (Institute for Fiscal Studies [IFS], 2021). Although unemployment's scarring effects are well-known (Gangl, 2006), it is interesting to consider whether a decade-long squeeze on household finances may have similar effects. If individuals expect that wages will not rise, or only rise very modestly, then is their anxiety about the possibility of reduced pay heightened and if so, with what effects? Whether this backdrop of low pay growth is a factor behind the pay-related anxiety that we highlight and whether this may lead individuals to work with higher work intensity are questions inviting further research. Research shows that concerns among 'just about managing' middle-class individuals that automation may cause relative declines in their economic and social status leads to shifts in voting behaviour (Kurer, 2020). New contributions to the work intensity debate could consider whether anxiety about pay reductions may reflect similar concerns about a perceived loss of status and whether fears of status loss could influence work intensity.

## 5.2 | Working at high intensity and health and well-being

We make a further fresh contribution through our analysis of the relationship between high intensity work and harmful effects for health and well-being outcomes. Consistent with existing literature, we find that working with high intensity heightens the likelihood of an individual reporting symptoms associated with lower emotional and psychological well-being and poor mental health, specifically relating to stress, depression and burnout which can lead to physical

health deterioration. But we make a new intervention with our highly statistically significant finding that individuals working with higher work intensity are more likely to report that they have previously worked while sick. This new evidence of 'presenteeism' further underscores the need for inquiry into the effects of work intensification, not just for individuals working with high intensity but for employers and other individuals who may suffer from harmful spill-over effects.

The implications of this new evidence about the link between work intensity and presenteeism are wide-ranging. Research shows that people are significantly less productive when unwell (Garrow, 2016) and that presenteeism risks spreading infection (Webster et al., 2019). At the time of writing, during a global pandemic, we suggest this association between presenteeism and work intensity should be seen as a particularly acute concern for public health outcomes through the risk it presents in undermining efforts to limit the spread of COVID-19 and common illnesses such as seasonal flu.

### 5.3 | Work intensity and good work

Given these contributions, we make a new call for work intensity and its effects to feature more prominently in the aforementioned policy-focused debate in the United Kingdom about good work. Our findings call into question whether a job can be considered 'good', regardless of the contractual status or pay it provides, if individuals performing that job are working with high or increasing work intensity given the ill effects we have shown. Our findings emphasise the need to expand the scope of the good work debate beyond its current focus on low-paid workers and those in atypical forms of employment to also consider the working conditions of higher-paid individuals in full-time and arguably good jobs. Despite not typically facing the job tenure insecurity, lack of employment rights and risk of in-work poverty that low-paid workers are more likely to experience, these individuals who work at higher intensity are experiencing significant job-related anxiety and negative consequences for their health and well-being. Scholars can inform this debate through future research into the motivations behind why individuals in the UK work at high intensity and the drivers of increasing work intensity.

The case for new evidence to answer these questions is compelling. A total of 38.8 million working days were lost due to work-related ill health in 2019/20, with stress, depression or anxiety accounting for a majority of work-related ill health cases. The cost of new cases of work-related ill health in 2018/19 was estimated at £10.6 billion (Health and Safety Executive, 2020). Better understanding of the influence of work intensity on these costs could inform efforts by policymakers, employers and unions to find solutions to address the underlying causes and reduce ill effects for individuals. Furthermore, new evidence about the causes and effects of high work intensity and work intensification could provide new understanding about the United Kingdom's 'productivity puzzle'. Why the United Kingdom has experienced low productivity growth since 2008 has been widely discussed (e.g., Bryson & Forth, 2015), and although there is no settled view, there is broad consensus that people with poor well-being or suffer from mental health problems work with suboptimal levels of productivity. In light of our findings, we suggest the association between increasing work intensification in the United Kingdom and low productivity growth invites new inquiry.

New research on work intensity would also consider issues that have drawn more attention during the pandemic particularly those resulting from the greater prevalence of remote working (Adams-Prassl et al., 2020). These include concerns about longer working hours



(Osborne, 2021) and burnout (International Labour Organization, 2020). Such findings are significant because they corroborate scholarship that shows remote working can lead to higher work intensity (Kelliher & Anderson, 2010). Understanding work intensity and its effects may become more pressing in a post-pandemic context when greater remote working is expected. Our findings can inform new scholarship into such emerging issues and their potential effects.

## 6 | CONCLUSION

This paper has explored the causes and effects of work intensity in the United Kingdom. It sheds new light upon the motivations that may lie behind why some individuals work with high work intensity and on the harmful effects of working with high intensity for individuals' health and well-being. It provides new evidence about the relationship between working at high intensity and insecurity at work and new evidence about potentially harmful spillovers from high work intensity. By analysing skills and employment survey data, we make new contributions to show that individuals who are anxious about future changes at work that may reduce their pay and that individuals who are anxious about unexpected changes to their hours are significantly more likely to report working at a higher intensity. These new findings advance our understanding of how insecurity at work manifests and add new evidence to support the argument that a more comprehensive concept of job insecurity is required (Gallie et al., 2017). We have argued that through new inquiry into the *effects* of job status insecurity, such as the new link we make to working with high intensity, we can advance our theoretical understanding of job insecurity. The paper also contributes by finding that individuals who work with high intensity are more likely to experience negative effects upon their emotional and psychological well-being and are more likely to work while sick. This new contribution to the literature about a link between work intensity and presenteeism raises new questions for inquiry into spillover effects from work intensification.

Nearly two decades ago, Green called for new inquiry into the sources of work intensification (Green, 2004). Since then, significant work intensification in the United Kingdom across nearly all industries, occupations and regions has been documented. Despite this, gaps in our understanding about the determinants of work intensity, and the complex interactions between employer effects and the motivations of why some individuals work with high intensity, remain. Our findings do not establish causality but provide a series of useful associative insights about the causes and effects of work intensification. Worker level experiments may be required to provide a causal link between work intensity and worker outcomes. The need for new research is pressing because as we have shown work intensification can have profoundly negative health and well-being effects. The issue of work intensity is therefore one that actors concerned with improving job quality, not least policymakers and employers, but also unions and public health officials, should study. Our findings provide evidence for why work intensity and work intensification should feature more prominently in the policy-focused debate around good work and how to improve job quality.

The question of what good work is and could be remains unclear. It is therefore important that new research seeks to help answer this question. To do so without taking work intensity into consideration overlooks an important issue that provides insights into insecurity among the UK workforce and one that is having negative health and well-being effects for those working at high intensity. Moreover, if the trend towards greater work intensification persists, it may lead to the worsening of those negative impacts for the individuals concerned and to similar impacts being experienced by a greater number of people.

## ACKNOWLEDGEMENTS

We are grateful to the editor, Peter Nolan, and two anonymous referees for providing thoughtful comments that improved the paper considerably. We would also like to thank Nils Braakmann, Sarah Brown, Colin Hay, Ian Gregory-Smith, Tony Payne and Liam Stanley for their helpful comments. The usual disclaimer applies.

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## ENDNOTES

- <sup>1</sup> Results are robust to an alternate definition where we create a binary variable using the broad definition of the first statement, that is, the responses 'strongly agree' and 'somewhat agree', and then recalculating the measure of work intensity.
- <sup>2</sup> As a robustness check, we constructed several alternate measures of work intensity. First, we used principal component analysis to derive the underlying work intensity measure. Using the first principal component to capture work intensity, which is similar to the mean, results remain the same. Second, we created a binary indicator that captures work intensity if at least two of three components are 1, and 0 otherwise. Repeating our estimations using either a linear probability model or a probit does not change our inferences. Thirdly, we exploited the full range of responses to the three components and, as before, took the first principal component to capture the underlying degree of work intensity. The results presented in Figure S1 show that our results are robust to the individual components and their standardised principal component.
- <sup>3</sup> The number of clusters is small, 11, which may be problematic (Cameron & Miller, 2015). We re-estimated our results without clustering, and our results remain unaffected.
- <sup>4</sup> As these outcomes may not be independent from one another, the error terms from each regression would then display meaningful correlation and lead to an inefficient estimate. To account for this correlation, we repeated the 15 regressions as a set of simultaneous equations in a joint modelling framework. Our results, presented in Table S4, are very similar to those when each regression is estimated independently.
- <sup>5</sup> These findings are consistent when tested in different regions of Britain (Figure S2).

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## SUPPORTING INFORMATION

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**How to cite this article:** Hunt, T., & Pickard, H. (2022). Harder, better, faster, stronger? Work intensity and 'good work' in the United Kingdom. *Industrial Relations Journal*, 1–18. <https://doi.org/10.1111/irj.12364>