

OXFORD REVIEW OF EDUCATION
2021, VOL. 47, NO. 3, 386-403
<https://doi.org/10.1080/03054985.2020.1847719>

British teachers' declining job quality: evidence from the Skills and Employment Survey

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ABSTRACT

I analyse trends in teachers' job quality in Britain, using the framework of the European Foundation for Living and Working Conditions, with data from the British Skills and Employment Survey. The issue of increasing concern is not work hours, which have remained long but stable; rather, teachers are working considerably more intensively than in earlier years. Moreover, their task discretion, their participation in work organisation and their training have declined. Their working time has also become less flexible. While the chances of promotion have increased since 1992, wages fell after 2006. Three indicators of teachers' work-related well-being – Warr's scales of Enthusiasm and Contentment, and the frequency of end-of-day exhaustion – have worsened since 2006. The changes in job quality account in part for the changes in well-being. Poor job quality is potentially important for understanding the problem of declining teacher retention.

KEYWORDS

Work intensity, task discretion, working time, well-being, pay, retention

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Introduction

Teachers' jobs are commonly described by the trends in their pay and working hours. A teacher's job quality, however, like that of any other worker, also includes other significant components – both other extrinsic factors such as promotion prospects, and intrinsic factors such as the degree of task discretion (OECD, 2014). In this paper I use the British Skills and Employment Survey (SES) series to provide a wider perspective on teachers' job quality, covering several components. While these data have been extensively used for the analysis of job quality, skills utilisation and employment relations in general, it is hitherto an untapped data source for understanding teachers' jobs and their work-related well-being.

Teachers' job quality is an important concern, not only from the perspective of existing and prospective teachers, but also from that of education ministers tasked with ensuring a nation's supply of teachers. Since at least 2011, schools in England have experienced a falling rate of teacher retention, the effect of which is more serious at a time of increasing demand for teachers with rising pupil numbers (DfE, 2018a; Foster, 2019; Lynch et al., 2016; Sims, 2017; Worth & Van den Brande, 2019). While retention rates vary according to subject specialisms and region, in Britain recent public discourse surrounding the cause of declining teacher retention has focused on teachers' workloads and relative pay. The conundrum which, in part, motivates this paper is that neither work hours – commonly taken as the measure of workload – nor pay offer a potentially satisfactory account as to why retention rates have declined. British teachers' working hours are long when compared with other countries (Sellen, 2016), but do not exhibit an upward long-term trend; nor is there a rise in evening or weekend working (Allen et al., 2019). The pay of teachers covered by the Pay Review Board declined in real terms between 2005 and 2015, but the fall was not significant once

the changing demographic composition of the teacher workforce was controlled for; nor did teachers' salaries fall especially fast when compared with those of other professions (Bryson & Forth, 2017).

There are relatively few sources around the world of individual, nation-wide survey data on jobs and work which permit identification of a subset of teachers. SES is one of these. My intention is to contribute to the discourse surrounding teacher supply in Britain, but at the same time to demonstrate the utility of application of such surveys for specific populous occupations anywhere, providing that good sampling methods are deployed and that sufficiently disaggregated occupation codes are included. I find that in several domains there has been a decline in teachers' job quality in Britain, and that the trends are consistent with changes in teachers' work-related well-being. Given earlier findings that link work-related well-being with employee turnover, the findings are consistent with the emergence of increasing teacher wastage in recent years.

Job quality and well-being

In 1992, when the data begin, there were still five years of the Thatcher/Major years of government to run. In these years neo-liberal reforms of education were already being introduced, while spending per pupil stagnated; the pupil-teacher ratio (PTR) had been increasing since 1990. With the New Labour government of Blair, the first few years were fiscally constrained. By 2001, however, education spending was beginning to rise again, and the PTR to fall; expenditure increased by more than 5% a year through the 2000s (Belfield & Sibbetta, 2016). Then, following the financial crisis and the subsequent severe fiscal austerity, real-terms spending per pupil declined by 8% in England between 2009–10 and 2017–18,¹ though rather less in Wales² and less still in Scotland. Broadly reflecting that spending path, the PTR in England bottomed out at 17.7 in 2012, rising to 18.9 by 2018³; in Wales, the PTR was rising from 2010⁴; in Scotland, the PTR began increasing as soon as the financial crash hit in 2008, but levelled out from 2012.⁵ The period since 2010 also saw the extension of independent governance for schools in England that converted to become 'academies' and the inauguration of autonomous 'free schools'. With an ongoing regime of regular inspection, intensified competition for pupils through performance league tables and changing performance indicators, the external pressures on schools to succeed despite their constrained budgets were sustained.

In these circumstances, substantive changes in the experience of working in teaching could be expected. Many of these changes may be characterised with the use of three related concepts: job quality, work-related well-being and job satisfaction. A multi-dimensional concept, job quality is defined as those objective job characteristics which affect how people's needs are met through work (Green, 2006). These characteristics have been classified into a set of domains (e.g. Green & Mostafa, 2012; Muñoz de Bustillo et al., 2011; OECD, 2014). The classification adopted by the European Parliament sorts characteristics into seven domains: four 'intrinsic' domains – work intensity, skills and discretion, social support and physical working conditions, and three extrinsic domains – pay, prospects (including security), and working time quality (including hours) (European Parliament, 2014–2019).

Job quality is conceptually distinguished from work-related well-being – that is, the hedonic or eudaemonic well-being that is specifically associated with work life. Indicators of work-related well-being can be measures of affect or a measure such as job satisfaction that involve cognitive assessment (Warr, 2007, p. 28). Yet all theories of job quality predict a positive relationship between job quality and well-being. In economics, for example, the utility of a job is a direct function of its pay and working conditions. Leading theories within occupational psychology are the job demands and control theory (Karasek, 1979), the Effort-Reward Imbalance theory (Siegrist, 1996) and the Job Demands-Resources model (Bakker & Demerouti, 2007). While these theoretical approaches expect positive relationships between job quality and health or well-being, they hypothesise that the effects are non-linear, and that job quality domains interact in their effects. For example, in the demands-control model, a job with high work intensity is expected to have

a more detrimental effect on mental well-being if it also allows the worker little latitude or task discretion (that is, little control).

Job satisfaction is perhaps the most widely used measure of work-related well-being, both for large generic worker samples and for individual workplaces. However, this cognitive assessment is typically thought to incorporate comparison with past or other potential jobs for the individual subject. It is generally a useful predictor of turnover (Brown et al., 2012; Green, 2010). For a teacher, then, job satisfaction would not be solely dependent on conditions in the subject's current school.

A considerable body of evidence supports the theorised connections between job quality and well-being. In the context of teaching, Ferguson et al. (2012) found that workload is one of the key predictors of depression, anxiety and low job satisfaction in northern Ontario. Torres (2016) finds an inverse link between teachers' perceptions of workload manageability and decisions to quit from US Charter Management Organisations, while Huyghebaert et al. (2018) report that work intensity among teachers in France is associated positively with emotional exhaustion and presenteeism, and negatively with job satisfaction and (self-rated) performance. Wang et al. (2018) found that school principals' job satisfaction, also, was negatively influenced by work intensification. In Britain, Barmby (2006) found that workload and marking are the two most frequently cited reasons given for considering leaving. Bryson et al. (2019) find substantive and significant correlations between indicators of intrinsic job quality and both 'job contentment' and job satisfaction. These studies of teachers are just part of a growing literature filling out our knowledge of the relationships between job quality and worker well-being across multiple occupations (Eurofound, 2019).

Drivers and trends in teachers' job quality

The drivers of job quality can be external to an organisation – macroeconomic or aggregate factors such as economic growth, technological advances, fiscal expansion or contraction (especially relevant for public sector jobs), or changes in the regulation of jobs – or internal, linked to management, job design and control. In the case of teachers, changing spending per pupil, consequent changes in the pupil-teacher ratio and other alterations in educational regulation are key external factors. Given the changes outlined above, a decline in job quality might be expected during the 1990s, and in the period of fiscal austerity following the financial crisis. By contrast, in the early 2000s when teachers were benefiting from more resources and educating fewer pupils, one might expect to see rising job quality.

Existing evidence on teachers' changing job quality in Britain is largely focused on pay and hours. Pay is important for teachers' retention (Hendricks, 2014; Sims, 2017); yet, as noted above, relative teachers' pay has not obviously deteriorated. The debate about the impact of teachers' workload is expressed in hours (e.g. Higton et al., 2017). And yet, English teachers' hours problem has been characterised as their excess over international norms and their failure to decrease, rather than as a secular increase (Allen et al., 2019; Sellen, 2016; Worth et al., 2018; Worth & Van den Brande, 2019).

There is relatively little direct evidence on other key elements of teachers' job quality. Exceptions are Sellen (2016), who shows that British teachers in their early years have relatively low levels of training, and Sims (2019) who finds that teacher job satisfaction is significantly correlated with student discipline, hours, leadership support and scope for career progression, and support from headteachers. Qualitative research compares some British teachers' jobs with those in Finland (Webb et al., 2004) and with Norway (Lloyd & Payne, 2012). There are no studies, to my knowledge, of job quality *trends* among British teachers, other than those which examine wages or hours.

Nor are there studies of trends in British teachers' affective well-being. We do, however, learn something about trends in job satisfaction: between 2010 and 2017, there is stability in teachers' job dissatisfaction (Hillary et al., 2018; Worth & Van den Brande, 2019); but between 2013 and 2018 there is rising job dissatisfaction among lower-secondary teachers (Jerrim & Sims, 2019).

In light of the above, in the analysis that follows, using the SES data series I address three research questions: a) What is the long-run trend in teachers' job quality in Britain? b) What are the trends in indicators of teachers' well-being at work? c) Is the well-being trend consistent with the trend in job quality?

Data on teachers in the Skills and Employment Survey (SES)

The SES (Felstead et al., 2019) series provides information on several facets of job quality that can contribute to our understanding of teachers' jobs in Britain. The SES collected data from working adults in England, Wales and Scotland who were interviewed in their own homes. Relevant information on job quality starts in 1992, with subsequent waves in 1997, 2001, 2006, 2012 and 2017. In each case the sample was drawn using random probability principles subject to stratification based on socio-economic indicators. One eligible respondent per address was randomly selected for interview, and the response rate ranged from 72% in 1992 to 49% in 2012. For each survey, weights were computed to take into account the differential probabilities of sample selection, the over-sampling of certain areas and some small response rate variations between groups (defined by sex, age and occupation). All of the analyses that follow use these weights.

Though designed for all workers, school teachers are covered in sufficient numbers with the statistical power to afford informative estimates of trends in teachers' job quality. Teachers are identified as those with SOC codes 2314, 2315 and 2316, covering teachers in nursery, primary, secondary and special schools. From 2006 all persons aged 20 to 65 were eligible, but before 2006 SES covered only those up to 60. The probability for a sample respondent to be a teacher depends neither on the year of the survey nor on region. For consistency the base sample analysed here comprises those aged 20 to 60 living in Britain, excluding the Scottish Highlands, in total 857 teachers. Of these, 72% were female; 86% were in England, 4% in Wales and 9% in Scotland; 45% were aged 40 and under, and the proportion in the private sector was 13%. These proportions are relatively close to estimates from the Quarterly Labour Force Survey (QLFS), even though QLFS uses a different sampling methodology from SES (QLFS is a household, predominantly telephone-based survey).

Job quality indicators in SES

Work Intensity may be defined as 'the rate of physical and/or mental input to work tasks performed during the working day' (Green, 2001, p. 56). Made up of several elements, it is experienced in complex and differentiated ways by workers, not least by teachers (Ballet & Kelchtermans, 2009; CooperGibson Research 2018). Multiple indicators are called for to tap different aspects. Measurement relies on workers' self-reports and has no obvious metric unit equivalent to, for example, working hours. To measure work intensity generically, I use three variables. First, respondents were asked whether they agreed with the statement 'My job requires that I work very hard', using a 4-point scale ('strongly agree/agree/disagree/strongly disagree'). Second, they were asked 'How often does your work involve working at very high speed'; they could answer against a 7-point frequency scale. Third, using the same scale jobholders were asked 'How often does your work involve working to tight deadlines'. These three variables are positively correlated. I define an index, *Required Work Intensity*, to be the first principal component. As validation, this index correlates as expected with well-being, and with a measure of how many factors control work effort; among all workers, those who work in more intensive jobs receive a compensating pay premium, as economics predicts (Green, 2006).

Work intensification, within any group, is defined as the change in *Required Work Intensity* between survey waves.

Skills and Discretion is measured in SES with four variables. First, 'task discretion' includes measures which assess how much influence people report: deciding what tasks they are to do, how the tasks are done, how hard they work and the quality standards to which they work. The response options are 'a great deal', 'a

fair amount', 'not much' and 'none at all'. A summary index was constructed and normalised to the range 1–4, with 4 indicating 'high discretion'. Second, 'organisational participation' is a 0/1 dummy variable, where '1' indicates that respondents reported that they would have 'quite a lot' or 'a great deal' of say in any change in their place of work which affected how their job is done. Third, training participation measures participation in any of several types of training activity in the past year. Fourth, 'training quality' is a dummy variable indicating whether the most recent spell of training received had 'improved their skills a lot'. In addition, the demand-control model implies that high work strain stems from having low discretion and high work intensity in a job. To capture this possibility I computed a dummy variable for high work strain, equal to one if respondents *both* strongly agreed that their job required them to work very hard *and* reported task discretion below 2.0.

Pay and Prospects are measured using three variables: Hourly Pay (in 2015 prices, before tax), High Security (dummy for whether respondents feel that there is no chance, or that it is very unlikely, that they will lose their job and become unemployed in the coming year), and High Promotion Expectation (dummy for whether respondents report a 75% chance or more of being promoted in the next 5 years in their present organisation).

Working Time Quality is measured with three variables: Usual Weekly Hours (including overtime whether paid or not; full-time workers), Schedule Rigidity (dummy for whether respondents disagree/strongly disagree that they can decide start or finish times of their work), and Time-Off Rigidity (dummy for whether somewhat or very difficult to take time off during work hours for family or personal matters).

Trends in the two remaining job quality domains delineated by the European Parliament's classification – namely, physical working conditions and social support – are not covered in the SES series.

Well-being indicators in SES

From 2001 onwards the SES data contain Warr's two scales for affective well-being: 'Depression→Enthusiasm' and 'Anxiety→Contentment'. These capture the structure of feelings and emotions arising from either work or non-work settings (Warr, 1990, 2007); I abbreviate these henceforth as Enthusiasm and Contentment. These two dimensions affect quitting and absenteeism, and both are related to mental health indicators, organisational commitment and job satisfaction (Green, 2010; Warr, 2007).

SES also collects data about a further specific aspect of work-related well-being (encompassing also travel-to-work): respondents are asked how often they 'come home from work exhausted'. I create a dummy variable equal to one for those who answer at the top two points ('often' or 'always') of the 5-point response scale.

Finally, respondents state how satisfied they are with their jobs, both overall and according to fourteen facets.

Findings

The analysis that follows is primarily descriptive, using the above indicators. I use other professional occupations (those, other than teachers, coded as in SOC Major Group 2) as a point of comparison for teachers' jobs in each wave. I also use regression modelling for two purposes: to assess the significance of the time trend in each aspect of teachers' job quality, after including controls for demographic and other changes in workforce composition; second, to decompose the observed changes in teacher well-being into those that can, in a statistical sense, be 'accounted for' by simultaneous observed changes in job quality indicators, and those that cannot.

I now turn to the first research question and investigate what has been the trend in teachers' job quality.

Trends in teachers' job quality

Work intensity

Teachers' work intensity (Table 1) was in all years higher than that of other professionals, and moreover for all other occupations together (the population mean for the *Required Work Intensity* index is zero). Indeed, no other occupations, for which there is a large enough sample to make the comparison, work as intensively as do teachers: their nearest rivals are Health and Social Services Managers, and Legal Professionals.

Table 1. Work intensity, 1992–2017 (Table view)

	Strongly agree 'job requires I work very hard' (% of jobs)	Work involves working at very high speed at least $\frac{3}{4}$ of the time (% of jobs)	Work involves working to tight deadlines at least $\frac{3}{4}$ of the time (% of jobs)	Work Intensity Index
1992				
Teacher	53.6	16.1	na	na
Other Professional	35.9	9.8	na	na
1997				
Teacher	77.1	na	na	na
Other Professional	43.0	na	na	na
2001				
Teacher	82.5	50.4	67.2	0.60
Other Professional	42.6	34.0	59.6	0.05
2006				
Teacher	75.8	51.0	56.9	0.48
Other Professional	42.0	30.8	64.3	0.01
2012				
Teacher	79.7	41.7	73.3	0.57
Other Professional	50.8	35.8	64.2	0.23
2017				
Teacher	89.7	57.9	73.7	1.05
Other Professional	51.8	35.3	59.7	0.18
Annual trend for teachers [†]	+ 0.15 **	+ 0.24 **	+ 0.12 **	+ 0.13 **
n	829	734	628	618

Base: those in work aged 20–60, all waves with available data pooled.

[†] Beta coefficient on year when underlying variable regressed with weights on year, sex, age, age squared, education stage, hours of work, among teachers; significance of year coefficient: * $p < 0.05$, ** $p < 0.01$.

Teachers' work intensity has increased since 1992 in two stages. The proportion reporting that they are required to work very hard rose from 54% to 82% between 1992 and 2001; similarly, the proportion reporting that they worked at very high speed at least three quarters of the time rose from 16% to 51% over the same period. There followed a period of reprieve during the 2000s. The *Work Intensity Index* dipped between 2001 and 2006 then rose back to nearly the same level in 2012 as 2001. Between 2012 and 2017 the index again soared. By 2017 a remarkable 90% strongly agreed that their job requires them to work very

hard. This proportion compares with just 44% for all other occupations, and 52% for Other Professional occupations. In sum, taking the whole period, work intensity has followed a statistically significant upward trend for each indicator and for the *Required Work Intensity* Index. No other large occupation has shown anything like this degree of work intensification.

Skills and discretion

Table 2 shows that teachers have also gone through two periods of declining task discretion since 1992. First, in the 1992–2001 period, teachers' task discretion declined by 0.46 points; this decline was part of a generalised decline across all professional and other occupations in the 1990s, though with different timing in the public and private sectors (Gallie et al., 2004). Second, teachers' discretion declined further after 2012. All four elements of the discretion index declined, but to illustrate with one of the responses that lie behind this fall: the proportion of teachers in the SES sample who reported that they had 'a great deal of influence' over deciding how to do their tasks was 48% in 2012, but 31% in 2017.

Table 2. Skills and discretion, 1992–2017 (Table view)

	Task Discretion	Organisational Participation ^a (% of jobs)	Training Participation in Past Year (% of jobs)	Training Quality ^b
1992				
Teacher	2.68	45.2		
Other Professional	2.50	45.8		
1997				
Teacher	2.48			
Other Professional	2.50			
2001				
Teacher	2.22	40.2		
Other Professional	2.29	42.7		
2006				
Teacher	2.27	31.0	91.6	40.6
Other Professional	2.34	34.5	81.2	36.0
2012				
Teacher	2.26	30.2	88.5	38.6
Other Professional	2.29	24.8	79.0	36.5
2017				
Teacher	2.13	20.1	86.0	31.4
Other Professional	2.28	37.8	83.3	48.7
Annual trend for teachers [†]	– 0.23 **	– 0.17 **	– 0.12 *	– 0.06
n	829	734	460	407

Base: those in work aged 20–60, all waves with available data pooled.

a. 'Quite a lot', or 'a great deal' of say in changes affecting how job is done.

b. For those participating, per cent for whom the most recent training episode 'improved skills a lot'.

† Beta coefficient on year when underlying variable regressed with weights on year, sex, age, age squared, education stage, hours of work, among teachers; significance of year coefficient: * $p < 0.05$, ** $p < 0.01$.

High work strain – the combined indicator of low task discretion and high work intensity – showed a remarkable increase over the long term: the proportion of teachers working under high strain has gone from

virtually none in 1992 to 21.3% in 2012 and to 27.3% in 2017. Taken over the whole period, teachers are nearly twice as likely as other professionals to be working under high strain (16.2% compared with 8.5%).

There has also been a dramatic decline in the extent to which teachers report that they can participate in decision-making in their schools. Back in 1992, some 45% of teachers reported that they had either 'quite a lot' or 'a great deal' of say over organisational changes; this proportion had reduced by 2017 to just 20%. This decline has occurred within both primary and secondary sectors, and cannot be simply associated with governance changes stemming from the move to academy control (primarily, after 2010).

Echoing the concerns of Sellen (2016), who held that good quality training was being crowded out by job demands, the SES data here reveal that the overall participation rate in training has declined from 92% in 2006 to 86% in 2017. The perceived training quality reported by those that did receive training did not compensate. Indeed the estimate of training quality fell: the proportion who said that their recent training spell raised their skills a lot was 41% in 2006 and 31% in 2017.

Pay and prospects

As shown in Table 3, pay has no long-term trend since 1997. It rises up to a peak in the 2006 wave; by 2017 it had fallen in real terms by 13% since that peak. After conditioning on year, sex, age, age squared, school sector, and hours of work, this post-2006 decline remains significant. Meanwhile, teachers' pay relative to other professional workers fell from 80% in 2006 to 71% in 2017.

Table 3. Pay and prospects (Table view)

	Hourly Pay (2015 £)	High Job Security ^a (% of workers)	High Promotion Expectation ^b (% of workers)
1992			
Teacher			15.2
Other Professional			34.3
1997			
Teacher	14.7	81	
Other Professional	19.3	67.2	
2001			
Teacher	17.7	91.8	
Other Professional	20.8	82.4	
2006			
Teacher	19.6	89.1	24.8
Other Professional	24.5	82.7	30.9
2012			
Teacher	16.6	79.7	32.5
Other Professional	24.6	70.6	31
2017			
Teacher	15.4	85.7	
Other Professional	21.6	88.3	
Annual trend for teachers [†]	+ 0.01	+ 0.02	+ 0.05 *
n	625	704	439

Base: those in work aged 20–60, all waves with available data pooled.

a. No chance, or very unlikely to lose job and become unemployed in the coming year.

b. At least a 75% chance of being promoted in the next 5 years in present organisation.

† Beta coefficient on year when underlying variable regressed with weights on year, sex, age, age squared, education stage, hours of work, among teachers; significance of year coefficient: * $p < 0.05$, ** $p < 0.01$.

While current pay is a central indicator of teachers' ability to meet their material needs, also relevant both financially and psychologically are the prospects for future pay. Teachers had a notably better chance of promotion in 2012 than they had in 1992. They have always experienced relatively high job security, not only compared with average workers but also in comparison with other professional workers (see Table 3). There is no notable trend in perceived job security since 1997; but the advantage over other professional workers disappeared in 2017, with other professionals catching up with teachers' high security.

Working time quality

Finally, Table 4 confirms that there is no major long-term trend in working hours for full-time teachers, consistent with Allen et al. (2019). The table also brings in other aspects of Working Time Quality. Scheduling Rigidity, where employees have no control over the start and finish of work times, is much worse for teachers than for other professionals in all three waves for which there is information. There is no significant trend either in the extent of teachers' Scheduling Rigidity or in the gap with Other Professionals. Then, in the final two waves SES also covered another negative aspect of time quality. Time-Off Rigidity is also much worse for teachers than for Other Professionals, and has increased in recent years: by 2017 over three quarters (78%) report that it is somewhat or very difficult to take time off during work hours, up from 63% in 2012.

Table 4. Working time quality indicators (Table view)

	Usual weekly hours incl. overtime (full-time workers)	Schedule Rigidity ^a (% of workers)	Time-Off Rigidity ^b (% of workers)
1997			
Teacher	45.9		
Other Professional	45.1		
2001			
Teacher	48.2		
Other Professional	45.5		
2006			
Teacher	45.3	78.9	
Other Professional	41.4	37.1	
2012			
Teacher	45.1	81.2	63.4
Other Professional	41.3	30.2	17.3
2017			
Teacher	46.2	74.6	78.1
Other Professional	41.3	30.0	20.1
Annual trend for teachers [†]	- 0.03	- 0.03	+ 0.04 *
n	551	459	229

Base: those in work aged 20–60, all waves with available data pooled.

a. Disagree or strongly disagree can decide start and finish times.

b. Somewhat or very difficult to take time off during work hours for family/personal matters.

† Beta coefficient on year when underlying variable regressed with weights on year, sex, age, age squared, education stage, among teachers; significance of year coefficient: * $p < 0.05$, ** $p < 0.01$.

Trends in teachers' work-related well-being

Table 5 shows the trends in teachers' work-related well-being. There is a long-term decline in teachers' well-being according to two of the measures. According to the Contentment indicator, there was no significant change in well-being over 2001 to 2012, but it fell considerably between 2012 and 2017. The fall in this period (-0.249) amounts to 0.41 of the standard deviation of the Contentment index. In the same interval, the proportion often or always coming home from work exhausted rose from 75% to 84%, after having oscillated in earlier years. In every year, teachers' Contentment score is substantively below that of other professional occupations; and a very much higher proportion of teachers, than of other professionals, report coming home from work exhausted: by 2017 the gap had reached 85% versus 45%).

Table 5. Work-related well-being (Table view)

	Enthusiasm	Contentment	Often or always comes home from work exhausted (% of workers)
1997			
Teacher			72.0
Other Professional			43.7
2001			
Teacher	0.050	-0.434	77.3
Other Professional	-0.009	-0.236	45.5
2006			
Teacher	0.265	-0.386	72.2
Other Professional	0.104	-0.081	37.0
2012			
Teacher	0.262	-0.409	75.3
Other Professional	-0.014	-0.33	40.2
2017			
Teacher	-0.019	-0.658	84.9
Other Professional	-0.043	-0.199	45.0
Annual trend for teachers [†]	-0.02	-0.09 *	+0.05
n	630	630	715

Base: those in work aged 20–60, all waves with available data pooled.

[†] Beta coefficient on year when underlying variable regressed with weights on year, sex, age, age squared, education stage, hours of work, among teachers; significance of year coefficient: * $p < 0.05$, ** $p < 0.01$.

There is more of a distinct U-shape in the trajectory of the Enthusiasm scale among teachers. There was a considerable, statistically significant rise, from 2001 to 2006 ($+0.26$, i.e. 0.28 of its standard deviation). This scale remained high in 2012 but collapsed between then and 2017 by 0.28.

To what extent can the dynamic path of well-being be accounted for by changes in job quality? There are no instrumental variables in the data with which to set up a causal model of well-being. Nevertheless, in the light of previous literature linking job quality to well-being (noted above) it is of interest to model how strongly the cross-sectional variation of each well-being indicator is associated with cross-sectional variation in job quality, and then ask whether the change in well-being over time can be predicted from the change in job quality, under the naïve assumption that the cross-sectional association is an unbiased estimate of the time-series association. This conventional method of decomposition is presented in Table 6. For each scale, the coefficient in the first model gives the raw change and its significance of each part of the U-shape: the rise between 2001 and 2006, then the fall between 2006 and 2017. The second model shows the same coefficient, after controlling for job quality. Comparing the coefficient between the two columns shows the

extent to which the well-being change is accounted for. The full regression estimates are presented in the online Appendix.

Table 6. Accounting for teachers' well-being changes, 2001 to 2006, and 2006 to 2017 (Table view)

Period of change	(1) Enthusiasm Scale	(2) Enthusiasm Scale	(3) Contentment Scale	(4) Contentment Scale	(5) High Exhaustion	(6) High Exhaustion
2001 to 2006	0.226* (2.32)	0.266** (2.95)	0.0530 (0.53)	0.0486 (0.53)	- 0.0498 (- 1.15)	- 0.0268 (- 0.66)
2006 to 2017	-0.225* (-2.14)	-0.109 (-1.11)	-0.248* (-2.30)	-0.0642 (-0.64)	0.121** (2.64)	0.0546 (1.24)
Job Quality	No	Yes	No	Yes	No	Yes
n	601	601	601	601	618	618

t statistics in parentheses: * $p < 0.05$, ** $p < 0.01$

Coefficients are the estimated change over each period. The job quality variables included in models (2), (4) and (6) for each period of change are: *Work Intensity Index*, *Task Discretion Index*, the interaction between work intensity and task discretion, organisational participation, high job security, working hours. All models control for age and gender. Full regression estimates are shown in the online Appendix.

The table shows that, in each case, more than half of the decline in well-being between 2006 and 2017 is accounted for by associated decreases in job quality. For example, the Contentment of teachers fell by 0.25, but if hypothetically there had been no change in job quality the associated decline in well-being is only 0.06 and statistically insignificant. More detailed analysis shows that the job quality variables that are most strongly associated with the declines in well-being are the *Required Work Intensity* index, *Task Discretion* and their interaction: together, comparing the 2006 and 2017 levels, these variables account for 30% of the decline in Enthusiasm, 78% of the decline in Contentment and 37% of the rise in the proportion of teachers returning home exhausted at the end of the day.⁶ In contrast, working hours contributed little to the changes in well-being.

The earlier rise in Enthusiasm between 2001 and 2006 is not accounted for by any of the observed measures. Whatever may have caused this increase, it is not something that observably varied between individuals.

Two extensions: differences by sector and by nation, and facets of job satisfaction

To this point I have treated all teachers together. Given the differential education spending and policies between Britain's nations, and the resource gaps between the private and state sectors, it is of interest to test whether job quality differs significantly along these two dimensions. I do this by pooling waves. However, even with the clustered random sampling methodology and some oversampling of the smaller nations in some years, the underlying sample numbers are quite low, implying that only substantial differences in the underlying populations could expect to be detected with sufficient statistical power.

First, teachers in Scotland report much lower work intensity than elsewhere in Britain (by 0.39 on the *Work Intensity Index*, equal to 0.34 of a standard deviation) and higher job security. Second, private school teachers systematically report lower levels of work intensity (by 0.33 of a standard deviation); in contrast, the training that they receive is self-reported to be of lower quality. There are no other statistically significant observed job quality differences between the sectors and nations. Moreover, no differences in the trends between nations or sectors are detected.

Corroborative evidence of the importance of work intensity and discretion is found in respondents' job satisfaction about multiple job facets (see online Appendix). Compared with other professional occupations,

teachers are *more* satisfied with their promotion prospects, their job security, the opportunity to use their abilities, the ability and efficiency of management and the variety in their work; but they are much *less* satisfied with the amount of work they have to do, with the hours worked and with their influence over their jobs. Over time, teachers in the years subsequent to 2006 reported job satisfaction reductions in nine facets out of fourteen, with other facets unchanged. The facets of job satisfaction that fell most were in the 'hours worked' and in 'the amount of work'. Meanwhile, the proportion of teachers expressing a desire for much more influence over how they do their job rose from 15% to 24%.

Discussion

These findings contribute a broader general characterisation of the problem concerning the job quality of teachers in one country, Britain, beyond just pay and hours. On the positive side, the prospects of promotion for teachers increased notably, so that by 2012 the chances of being promoted were as high as for other professional occupations, while the job security of teachers has remained high throughout. Consistent with Allen et al. (2019), I also confirm that teachers' job quality has *not* shown a deterioration in terms of hours worked. Nor has there been a decline in real pay, taken over the whole sweep of available SES data since 1997. Real pay rose to its highest in the 2006 wave.

Between then and 2017, however, real pay declined, somewhat faster than the pay of other professionals. This contrast with the study by Bryson and Forth (2017), which found no significant downward pay trend between 2005 and 2015, might be accounted for by methodological differences. Their analysis is based on the government's Annual Survey of Hours and Earnings, which uses formal working hours, and only covers teachers within the remit of Pay Review Boards (excluding private school teachers and academy school teachers (potentially including some school managers); the pay data are employer-reported with a much larger sample.

The most striking aspect of job quality revealed by the SES data is teachers' high work intensity and high work intensification. Compared to other professional workers and all other occupations, teachers work more intensively during their work hours, and their work intensity has risen to unprecedented levels. The issue is highlighted by the following stark statistic: nine out of ten teachers in 2017 'strongly agreed' with the statement that their job 'required (them) to work very hard'. That compares with only a half of workers in other professional jobs, and with 44% for the whole population; over time it compares with only 54% of teachers back in 1992.

The SES data also reveal, for the first time, declines in other key elements of job quality: their influence over what they have to do, their methods and the quality standards to which they must conform fell sharply in the 1990s and then again between 2012 and 2017; their organisational participation has fallen away remarkably since the start of the 1990s; their continuing training participation has declined in the years since 2006 when SES began tracking it consistently, and the quality of that training did not make up for the declining quantity. Their working time quality became, if anything, also slightly worse, with decreased flexibility with respect to time off for dealing with personal or family matters.

These changes in job quality – especially the work intensification in combination with the decline in task discretion – account in part for some of the changes observed in teachers' well-being. During the early 2000s an increase was recorded according to Warr's Enthusiasm scale, but particularly since 2012 there has been a fall in well-being according to both of Warr's scales. The proportion reporting that they come home from work exhausted also reached an unprecedented level (85%) in 2017. Meanwhile, most facets of teacher job satisfaction have fallen since 2006, a deterioration consistent with the downward trend in lower-secondary teachers' job satisfaction between 2013 and 2018 recorded by Jerrim and Sims (2019).

The limitations of these findings should be noted. For a start, physical working conditions and social support are not covered in SES, while other domains of job quality are not fully covered. The SES sample sizes are large enough to determine trends for teachers as a whole, but not for detailed breakdowns

concerning trends in sectors, levels and localities. A further limitation is that the modelling of the connection between job quality and well-being is cross-sectional, as is typical of standard decomposition techniques; the 'accounting' for change derives from these associations, rather than from causal modelling of how job design affects well-being. Finally, while the relevance of the declining job quality for retention can be imputed from theory and from cited research, the SES affords no new direct evidence surrounding potential links between job quality and teacher retention.

My findings do not provide direct evidence about reasons for the decline in teachers' job quality; nor have I attempted to unpack the factors constituting work intensification for teachers. One external factor – the overall spending per pupil – has been advanced in previous research as an explanation for job quality decline among teachers in Tasmania (Easthope & Easthope, 2000). In a similar vein, it is suggestive that the period of relative stability in many aspects of job quality and of well-being in the 2000s coincided with rising state education expenditures, while the strongest work intensification and the steepest declines in, for example, task discretion and organisational participation, occurred during periods of declining spending. One mechanism could simply be that, with less to spend, each teacher has more pupils to serve in multiple ways. Another could be that the funding squeeze has been accompanied by a growing culture of accountability and performance management (Allen & Sims, 2018; Perryman & Calvert, 2020), experienced as greater work pressure and as a loss of opportunities for creative expression.

The potential role of internal factors, including school management, is recognised by the response of government to the teacher retention problem in recent years. The issue of 'workload' is prominent in this discourse. Workload is the totality of the tasks to be performed in a job, hard to measure generically since it depends on the specifics of the job. Unfortunately workload is commonly but inaccurately proxied by working hours. The workload and the allocated work time together determine the work intensity, which comprises one of the intrinsic domains of job quality. In October 2014 England's Department for Education (DfE) launched a 'Workload Challenge'. Subsequent reports on marking, planning and resources and data management were produced, with policy recommendations for workload reduction. Yet the response was low (CooperGibson Research, 2018, p. 48) and the DfE announced a strategy to support teacher retention (DfE, 2018b): an intention to simplify the system of accountability for headteachers with the aim of reducing teachers' workloads, an increase in early career professional development, pay incentives, and an encouragement to headteachers to allow more flexible working (part-time and off-site working) in order to promote improved working time quality.

Like many other professions, teachers' jobs have been seriously disrupted by the 2020 pandemic, including school closures and home-working. Any improvement in teachers' job quality that can be achieved in a post-COVID-19 environment should be beneficial, not only from the perspective of teachers, but also for schools and the pupils whose education depends so much on the quality of teaching. Just as, more widely, improving job quality can improve productivity (Irvine, 2020), so also teachers with better jobs may become better teachers. What my findings add to the discourse surrounding teacher dynamics is that key to success for any improvement strategy will be whether reforms can reverse the tide of falling autonomy in teachers' daily tasks, their decreasing sense of participation in a school's decision-making and, above all, the intensification of their work.

Notes

1. <https://www.ifs.org.uk/election/2019/article/school-spending>. A DfE report shows expenditure flatlining in the 2010s, rather than declining, with spending per pupil at the same level in 2016–17 as it had been in 2011–12 (DfE, 2018c).
2. <https://sibietaeconed.files.wordpress.com/2019/04/school-spending-in-wales-090419-2.pdf>.
3. National statistics, School Workforce in England 2011 <https://www.gov.uk/government/statistics/school-workforce-in-england-november-2011>; National Statistics, School Workforce in England 2018 <https://www.gov.uk/government/statistics/school-workforce-in-england-november-2018>.
4. <https://stats.wales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Schools-Census>;

<https://gov.wales/sites/default/files/statistics-and-research/2019-05/school-census-results-2014.pdf>;

<https://gov.wales/schools-census-results-january-2019>.

5. <https://www.webarchive.org.uk/wayback/archive/20150219054229/http://www.gov.scot/Topics/Statistics/Browse/School-Education/Summarystatsforschools>. Note that Scotland's education system has long been structurally distinct from that of England and Wales, and that since the time of New Labour the disposition of education spending has been the responsibility of the devolved national administrations of Scotland and Wales.

<https://www2.gov.scot/Topics/Statistics/Browse/School-Education/Summarystatsforschools>. Note that Scotland's education system has long been structurally distinct from that of England and Wales, and that since the time of New Labour the disposition of education spending has been the responsibility of the devolved national administrations of Scotland and Wales.

6. These percentages are computed using a linear Oaxaca decomposition analysis, pooling the 2006 and 2017 waves.

Acknowledgments

For the Skills and Employment Survey series, the primary funder has been the Economic and Social Research Council (ESRC). Additional funding for individual surveys came from the Department for Education (and its predecessors), the UK Learning and Skills Council, the UK Commission for Employment and Skills, FutureSkills Scotland, the East Midlands Development Agency, the Department for Employment and Learning (Northern Ireland), Highlands and Islands Enterprise, the Wales Institute of Social and Economic Research, Cardiff University, the Welsh government. A consortium of 27 funders including the Leverhulme Trust and the Employment Department funded the 1992 survey. The surveys were designed and led by Duncan Gallie, Francis Green and Alan Felstead, with contributions to individual waves from David Ashton, Bryn Davies, Ying Zhou, Hande Inanc and Golo Henseke.

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

This work was supported by the Economic and Social Research Council [ES/P005292/1; ES/T001526/1].

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Supplementary material

Supplemental data for this article can be accessed [here](#).

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