How does the mental health and wellbeing of teachers compare to other professions? Evidence from eleven survey datasets

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Social Research Institute

A Sequence-Analysis Approach to the Study of the Transition to Adulthood in Low- and Middle-Income Countries

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Abstract

There is growing concern about the mental health and wellbeing of teachers globally, with the stress caused by the job thought to be a key factor driving many to leave the profession. It is often claimed that teachers have worse mental health and wellbeing outcomes than other occupational groups. Yet academic evidence on this matter remains limited, with some studies supporting this notion, while a handful of others do not. We contribute to this debate by providing the largest, most comprehensive analysis of differences in mental health and wellbeing between teachers and other professional workers to date. Drawing upon data from across eleven social surveys, we find little evidence that teachers have worse health and wellbeing outcomes than other occupational groups. Research in this area should shift away from whether teachers are disproportionately affected by such issues towards strengthening the evidence on the likely drivers of mental ill-health within the education profession.

Keywords: Teachers, wellbeing, mental health, occupational comparisons.

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1. **Introduction**

Over the last decade there has been renewed academic and public policy interest in wellbeing and mental health. This has coincided with a notable increase in reported mental health problems across the UK, including the proportion of individuals taking prescription medicines for illnesses such as anxiety and depression (Iacobucci, 2019). It is well known that the prevalence of mental illness varies by key demographic characteristics, such as age, gender, ethnicity and socio-economic status (Health and Safety Executive, 2019). Yet previous research has also suggested that mental ill-health, and low levels of wellbeing, differs between professions (Johnson et al., 2005).

One occupation where there has been particular concern about mental health problems is teaching (Stansfeld et al., 2011; Johnson et al., 2005), with staff working long hours during term-time (Allen et al., 2019) and under ever increasing pressure from the system of school accountability (Perryman & Calvert, 2019). This has, in turn, contributed to ongoing difficulties with recruiting and retaining sufficient numbers of high-quality teaching staff (Cooper-Gibson Research, 2018), further compounded by the fact that almost 4,000 teachers in England are on long-term sickness leave due to stress (Liberal Democrats, 2017).

But is the problem of low wellbeing and mental ill-health really that much worse for teachers than for other professional groups? Several previous papers – many using data from the UK – have explored this issue. Much of this work has suggested that teachers do indeed have worse wellbeing and mental health outcomes than the population as a whole. For instance, Johnson et al. (2003) investigated work-related stress across 26 occupations, finding that teachers had one of the lowest levels of psychological wellbeing out of any of the professions considered. Surveying 555 teachers using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS), Kidger et al. (2016) suggested that '*the mean teacher wellbeing score was lower than reported in working population samples*', concluding that '*wellbeing is low and depressive symptoms high amongst teachers*'. Similarly, in a random sample of over 1,500 teachers, Travers et al. (1993) found that teachers reported '*stress-related manifestations that were far higher than the population norms and of other comparable occupational groups.*' Based upon an investigation of 290 school leaders, Phillips, Sen and McNamee (2008) found a similar result for headteachers, with this group having '*poor physical and mental health compared to the general population of workers*'. This is consistent with a recent analysis by the school inspectorate in England, Ofsted, who found teachers to have lower levels of life-satisfaction than the population as a whole (Ofsted 2019). Another recent analysis by Worth and Van den Brande (2019) reached a similar conclusion, with teachers feeling tenser and more worried about their job than those employed in other occupations. Likewise, Rose (2003) found that primary teachers had one of the highest levels of work-related stress, while Stansfeld et al. (2011) claim teachers to be at above average risk of suffering mental ill-health. Relatedly, Bamford and Worth (2017) discovered that teachers who left the profession for

another job experienced a large increase in job satisfaction, and a small increase in subjective well-being, compared to those who stayed.

Yet there are also studies that reach rather different conclusions. For instance, Bryson, Stokes and Wilkinson (2019) conclude that '*school staff are more satisfied and more contented with their jobs than like employees in other workplaces*'. Other work has suggested that teachers actually have higher levels of self-worth (one important aspect of personal wellbeing) than workers in other jobs (What Works for Wellbeing 2016). The existing evidence as to whether teachers have lower levels of wellbeing – and face more mental health challenges - than other occupational groups is therefore inconclusive. Whereas some studies provide strong support for this notion (e.g. Travers & Cooper, 1993; Johnson et al., 2005), others do not (e.g. Bryson, Stokes & Wilkinson, 2019).

There are many potential explanations for these conflicting findings. First, most existing work in this area uses information drawn from a single dataset, some of which are designed to be nationally representative (e.g. Bamford & Worth, 2017) while others are not (e.g. Johnson et al 2005) or suffer from low response-rates (Ofsted, 2019). Second, the studies use different measures, some of which are more focused upon wellbeing (What Works for Wellbeing, 2016) or job satisfaction (Bryson, Stokes & Wilkinson, 2019), while others compare teachers to workers in other occupations in terms of stress, burnout and mental health (Johnson et al 2003). Third, different empirical methodologies have been applied. A selection present raw, unadjusted comparisons (e.g. What Works for Wellbeing, 2016; Ofsted, 2019), while others use various different types of statistical analyses (e.g. regression, school fixed-effects) to compare teachers to observationally similar individuals pursuing other careers (Bryson, Stokes, & Wilkinson 2019). Finally, the various studies have been conducted at different time points; e.g. the analysis by Travers and Cooper (1993) refer to data collected in the early 1990s, whereas the work of Ofsted (2019), Worth et al (2018) and Bryson, Stokes and Wilkinson (2019) is much more recent. This could have an impact upon the results if the nature of teaching as a job has changed over time (e.g. increasing workloads, reduction in resources).

Given that the existing evidence base is overall inconclusive, further work in this area is clearly needed. Consequently, the aim of this paper is to provide the largest and most comprehensive investigation of how the prevalence of mental health problems and low levels of wellbeing compares across occupations to date. A unique feature of our analysis is that we bring together evidence from multiple large datasets, encompassing a range of different measures, using a consistent methodology for each. This enables us to triangulate evidence across multiple sources, providing a holistic picture of how the wellbeing and mental health of teachers compares to other occupational groups. Although we are unable to comment upon whether working in a particular job *causes* lower levels of wellbeing, our analysis will nevertheless indicate whether teachers are in particular need of mental health support.

To trail our key findings, we find no evidence that teachers are any more likely to suffer from low levels of wellbeing and mental health problems than those who work in other professions. This holds true across a wide range of constructs, measures and datasets, with teachers actually having somewhat better outcomes in certain areas than other occupational groups (e.g. teachers are amongst the least likely to suffer from low-levels of self-worth). While acknowledging the limitations of the cross-sectional, self-report data that we rely on in this study, these findings lead us to conclude that mental health problems in the teaching profession are not particularly high. In reality, this group suffers from broadly similar levels of stress, depression, unhappiness, life-satisfaction and anxiety as demographically comparable individuals working in other professional jobs.

The paper now proceeds as follows. A concise overview of each of the 11 datasets we analyse is provided in section 2, with our empirical methodology following in section 3. Results are then presented in section 4, with conclusions following in section 5.

2. Measures and Data

Measures

Wellbeing is broad umbrella concept that refers to psychological good functioning and the satisfaction of basic psychological needs (Seaford, 2011). Conversely, mental ill health refers to the psychological dysfunction and absence of wellbeing that occurs when an individual is unable to cope with the normal stresses of life and is unable to fruitfully contribute (World Health Organisation, 2005). Wellbeing can, in turn, be viewed (and measured) from three different perspectives: life evaluation, hedonic and eudemonic (Kahneman, Diener, & Schwarz, 1999). Life evaluation refers to peoples' satisfaction when reflecting on their lives and subsumes concepts such as life satisfaction and job satisfaction. The hedonic aspect of wellbeing refers to feelings experienced in the moment, such as happiness, stress and anxiety. Finally, the eudemonic aspect of wellbeing refers to whether life is experienced as meaningful and purposeful. Positive eudemonic wellbeing is experienced as feelings of self-worth and contentment; while a severe absence may be experienced as depression. Thus, wellbeing and mental health are nuanced, multi-faceted constructs (Pollard & Lee, 2003). A key goal of this article is to provide a holistic picture of the state of the teaching profession. Hence, we employ a similarly wide range of measures which, taken together, are better able to capture the full bandwidth of the wellbeing and mental health concept. Gaining access to such a diverse set of measures also requires us to employ several different datasets, which we now review in turn.

Labour Force Survey (LFS)

The LFS is a household survey of around 38,000 households every quarter. Response rates are around 60 percent in the first quarter that households participate. We pool together data from 2011 (when the current occupational codes were introduced) through to 2018. The total teacher sample size is 16,815

primary, 16,243 secondary, 3,288 SEN teachers and 2,509 headteachers, though for certain questions the number of observations is smaller (where they were only asked in specific years and/or specific waves).

In each wave of the LFS, respondents were asked '*do you have any physical or mental health conditions or illnesses lasting or expecting to last 12 months or more*?', indicating from a list of 17 conditions all that apply. Our focus is the percentage of teachers with a long-lasting problem of either (a) depression, bad nerves or anxiety or (b) mental illness or suffer from phobias, panics or other nervous disorders.

Since 2004, a single quarter of the LFS also asked '*within the last twelve months have you suffered from any illness, disability or other physical or mental problem that was caused or made worse by your job or by work you have done in the past*?' For those that said yes, they were asked to indicate the type of illness (out of 11 options) made worse by their job. The focus of this paper is those that selected *stress, depression or anxiety*.

Annual Population Survey (APS)

The APS is a continuous household survey based upon two waves of the LFS, along with a local boost sample. Addresses (households) are randomly sampled, with all individuals within a household then participating. Around 320,000 individuals from across the UK participate in the APS over a 12-month period. To maximise sample size, we pool data from between March 2011 and December 2018 when personal wellbeing measures were collected. Further details about the APS is available from ONS (2019). The total sample size is 5,841 primary, 5,825 secondary, 1,231 SEN teachers and 868 headteachers.

Since 2011, the APS has included four measures of personal wellbeing via the question:

> *Next I would like to ask you four questions about your feelings on aspects of your life. There are no right or wrong answers. For each of these questions I'd like you to give an answer on a scale of 0 to 10, where 0 is "not at all" and 10 is "completely".*
> - Overall, how satisfied are you with your life nowadays? (Life-satisfaction)
> - Overall, to what extent do you feel that the things you do in your life are worthwhile? (Worthwhile)
> - Overall, how happy did you feel yesterday? (Happiness)
> - On a scale where 0 is "not at all anxious" and 10 is "completely anxious", overall, how anxious did you feel yesterday? (Anxiety)

The ONS defined scores of between 0-4 to mean "low", 5-6 as "medium", 7-8 as "high" and 9-10 as "very high" on the life-satisfaction, worthwhile and happiness scales (Office for National Statistics

2018). Different labels have been attached to the anxiety scale: 0-1 "very low", 2-3 "low", 4-5 "medium" and 6-10 "high". These four measures are the focus of our APS analysis.

<u>UK Biobank (Biobank)</u>

The initial UK Biobank data collection took place between 2006 and 2010. Around half a million volunteers between the ages of 40 and 69 participated in the study. Participants attended an assessment centre, where they completed questionnaires, were interviewed by a trained health professional (to collect accurate information about medical conditions and currently prescribed drugs) and underwent some basic health checks (e.g. blood pressure). Occupational data was also collected and reported as four-digit occupational codes. In total, Biobank includes 4,602 primary, 5,943 secondary, 994 SEN and 1,102 headteachers.

Our analysis of the Biobank data focuses upon the following measures:

- Depression. Within the self-completion questionnaire, respondents were asked four questions about their feelings over the last two weeks (including frequency of depressed mood, tiredness / lethargy, unenthusiastic/ disinterest, tenseness/restlessness). We combine responses to these questions into an overall depression scale (McCormack et al 2015) using a two-parameter item-response theory (IRT) model.

- Prescription of anti-depressants. Respondents were asked about prescribed medications with a trained nurse. We use this information to create a binary variable, coded as one if they take any of standard list of frequently prescribed medications for anxiety, depression or insomnia, and zero otherwise.

- Medical conditions. Participants were asked about any medical conditions they had, including the date/age this was first diagnosed. A binary variable is derived, coded as one if the respondents reported being diagnosed with depression, anxiety, self-harm, stress and insomnia, zero otherwise.

- Happiness. Since 2009, respondents were asked about how happy they are with different aspects of their life, with responses provided using a six-point scale (extremely happy to extremely unhappy). This included how happy they were with their (a) work; (b) family; (c) finances; (d) friends; (e) health; (f) in general.

<u>Health Survey for England (HSE)</u>

Health Survey for England has collected mental health data from a cross-section of respondents in England since 1992. It is a nationally representative survey, with postcodes the primary sampling unit with households then randomly selected within each. Response rates are around 60%, yielding around 8,000 adults each year. Information about prescribed medications is also collected in HSE as part of a nurse visit. In our analysis the HSE is restricted to individuals aged between 20 and 60 who are in

employment or on long-term sick leave. After pooling the HSE data for all years with available data, there is a total of 4,415 individuals working as an 'education professional' (see below for further details).

Our analysis focuses upon the following measures collected within HSE:

- The General Health Questionnaire. The GHQ detects psychiatric conditions (e.g. anxiety, depression) within the general population and has been used extensively in academic research (Gnambs and Staufenbiel 2018). It includes 12 statements such as '*have you recently felt constantly under strain*', '*have you recently felt you couldn't overcome your difficulties*' and '*have you recently been feeling unhappy or depressed*'. Each question is responded to using a four-point scale ('*not at all*' to '*much more than usual*'). Our focus is the percentage of respondents with a GHQ score of four and above, which has previously been used as evidence of a person having at least a moderate psychiatric problem (NHS Digital 2017).
- Prescriptions of antidepressants. This information was collected as part of the nurse visit. See the description under the Biobank entry for further details.
- Warwick Edinburgh Mental Well-Being Scale (WEMWBS). The WEMWBS is a widely used measure of psychological functioning. It presents respondents with 14 statements, asking about their experiences over the last two weeks. Responses to each statement are provided using a five-point scale ('none of the time' to 'all of the time'). Examples of statements include '*I've been feeling good about myself*', '*I've been feeling optimistic about the future*' and '*I've been feeling cheerful*'. Our focus is upon the percentage of teachers with a low WEMWBS score (defined as the bottom quartile).

Work Employment Relations Study (WERS)

Data are drawn from the 2004 and 2011 sweeps of the WERS; a nationally representative survey of employers across the UK. In the first stage of the sample design, workplaces with more than five employees are selected, with response rates of 46% in 2011 and 64% in 2004. A simple random sample of 25 employees is then randomly selected within each of the sampled organisations and asked to complete a questionnaire. The response rate amongst employees was 54% in 2011 and 61% in 2004. The total number of teachers in the WERS sample is 2,191 (1,210 in 2004 and 981 in 2011).

As part of the WERS questionnaire, respondents were asked to respond to a series of statements about the frequency that their job makes them feel certain ways. These were to be answered using five response options (all of the time, most of the time, some of the time, occasionally, never). The question was phrased as follows:

"*Thinking of the past few weeks, how much of the time has your job made you feel each of the following*?"

- Depressed (2011 only)
- Gloomy (2011 only)
- Miserable (2011 only)
- Worried (2004 and 2011)
- Uneasy (2004 and 2011)
- Tense (2004 and 2011)
- Calm (2004 only)
- Relaxed (2004 only)
- Content (2004 only)

Warr (2016) discusses how the first three of these outcomes capture feelings of depression (depressed, gloomy, miserable), the next three anxiety (worried, uneasy, tense) and the last three of comfort (calm, relaxed, content). We therefore derive three scale scores using a one-parameter IRT model. These scales are then divided into quartiles, with our focus upon the percentage of teachers with high levels of depression (top quartile), high anxiety (top quartile) and low comfort (bottom quartile).

Understanding Society (USOC)

USOC is an annual household panel survey that has been running since 2009. It employs a complex sampling design in which postcode sectors are first randomly sampled from within geographic strata, and then individual households are randomly sampled from within these postcode sectors. Household and individual response rates are around 60% and 80%, respectively, depending on the wave. Data on all household members are collected via a face-to-face interview with one adult member of each household. We focus exclusively on data from adults. We observe 395 individuals working as a teacher in the eighth survey wave, conducted in 2017. We focus on the following measures:

- The General Health Questionnaire (GHQ). See entry under HSE above.
- Work Related Anxiety. See entry for the WERS dataset above.
- Work Related depression. See entry for the WERS dataset above.
- Satisfaction with Health/Life/Job. Three single-item measures of satisfaction with health/life/job on a seven point scale from 'completely dissatisfied' to 'completely satisfied'. Our focus is upon the percentage of respondents who selected one of the bottom three categories (completely dissatisfied to somewhat dissatisfied).

Adult Psychiatric Morbidity Survey (APMS)

The APMS collects data on the mental health of adults in England. We use data from the 2007 sweep. It was designed to be nationally representative, with geographic areas first probabilistically selected and then households chosen from within each postcode. One adult in each household was then randomly

selected to be interviewed. These interviews were conducted in two phases. In phase one, respondents were screened for a range of possible mental health issues using standardised instruments. The second phase of the survey was then conducted by clinically trained research interviewers amongst a sub-set of respondents with the greatest risk of having a mental health disorder (based upon the information gathered in the first phase interviews). The survey time for each phase was around 90 minutes. Of those eligible for a phase one interview, 57 percent took part. The total sample size is 3,496, including 209 education professionals. From the APMS, we focus upon the following measures:

- Depression. We use IRT to construct a scale from 13 questions capturing depressive symptoms. This includes a selection of questions about how they felt over the past four weeks (e.g. whether felt downhearted, had a lot of energy, worn out), whether they had a spell of being sad / disinterested over the last month and (for those that did) how long this spell lasted. We focus upon the percentage of education professionals in the most depressed quartile of the population.

- Anxiety. An anxiety scale is derived via IRT encompassing five questions. This includes whether the respondent felt anxious or nervous in the past month, if they felt anxious when in no real danger in the last month, and whether they felt anxious over the past week. Our interest is in those who fall into the most anxious quartile of this scale.

- Work-related stress. IRT is again used to derive a work-related stress scale from a total of 11 questions. These asked respondents the extent that they agree with a series of statements on a four-point scale, such as '*I have constant time pressure due to heavy work load*', '*as soon as I get up in the morning I start thinking about work*' and '*work rarely lets me go, it is still on my mind when I go to bed*'. We focus upon those who fall into the top quartile of this work-related stress scale.

- Percent prescribed antidepressants. Respondents were first asked if they were taking any prescribed medications. If they were, they were shown a list of drugs and asked to indicate which (if any) they were taking. The survey organisers have used responses to these questions to derive a binary variable of whether each person was currently taking any antidepressant medication.

- Percent reporting a mental health problem over the last year. Survey participants were first shown a list of 23 medical conditions. They were then asked if they had (a) ever had any of these conditions and (b) if they had the condition at any point over the last year. Our focus is upon those who said that they had '*anxiety, depression or other mental health issue*' over the last year.

- Percent who received treatment for mental health issue over last year. After being asked the question above, respondents were then asked if they had had any treatment or taken any prescribed medication for their mental health problem over the last year. A derived variable is

again available in the dataset, indicating whether respondents had received any kind of treatment for a mental health problem over the last year.

Next Steps (NS)

Next Steps is a longitudinal dataset, with data collection beginning in 2004. It refers to a group of young people born in 1989/1990, with a baseline sample of 15,770 13/14-year-olds. Respondents were re-contacted annually through to age 19/20 and then again at age 25/26. We focus upon outcome data within the latest survey sweep, based upon the 7,707 young people who took part. The final sample size for teachers in our analysis is 291.

Our analysis focuses upon the following outcome measures:

- Life-satisfaction. Respondents were asked '*how dissatisfied or satisfied are you about the way your life has turned out so far?*' with five options (very satisfied to very dissatisfied). Our focus is upon the percentage of respondents who selected one of the bottom two categories (very dissatisfied or fairly dissatisfied).
- General Health Questionnaire (GHQ) scores. See details under HSE above.

British Cohort Study 1970 (BCS70)

The BCS is a longitudinal dataset, following a cohort of individuals born in one particular week in 1970. These individuals (and their parents) have been surveyed at various points in their life, from birth through to the latest wave at age 46. We focus upon outcome data within the latest survey sweep (age 46), where there was a focus upon health. The total sample size for this survey wave was 6,786, including 202 individuals who were working as teachers.

The following outcome measures are of particular interest within our analysis:

- Warwick Edinburgh Mental Well-Being Scale (WEMWBS). As defined under HSE above.
- Total malaise score. This is a scale score that has been designed to measure psychological stress (Rutter et al, 1970). It is based upon the number of times respondents select 'yes' to nine questions, such as '*do you often feel miserable or depressed*', '*do you often get worried about things*' and '*are you easily upset or irritated*'? Our focus is upon the percentage of individuals with a high malaise score, defined as a score of four and above.
- Role-limitations due to emotional problems score. A scale based upon three questions. These asked respondents how often their emotional problems meant that they (a) cut down time spent upon work or other activities; (b) meant they accomplished less than they would like and (c) meant they had not done work or other activities as carefully as usual. We focus upon individuals in the top quarter of this scale.

12

- Energy/fatigue score. A scale score based upon four questions. These asked about how often the respondent (a) felt full of life; (b) had a lot of energy; (c) felt worn out and (d) felt tired over the last four weeks. We focus upon the percentage of teachers in the most fatigued quartile.

- Emotional Well-Being score. A scale score based upon five questions. These asked about how often the respondent (a) had been very nervous; (b) felt down; (c) felt calm and cheerful; (d) felt downhearted and low and (e) been a happy person over the last four weeks. We focus upon individuals in the bottom quarter (lowest wellbeing) of this scale.

National Child Development Study 1958 (NCDS58)

Like the BCS, the NCDS follows a cohort born in one specific year (1958), with surveys having been conducted at various points in their life. Our focus is upon data collected in 2008 when these individuals were age 50, as this particular survey wave collected a particularly rich array of health data. A total of 5,879 individuals participated in this survey, 279 of whom were working as teachers at the time. The outcomes available in the NCDS are the same as described above for the BCS70.

Parents of the Millennium Cohort Study (MCS2000)

The MCS has followed a cohort of children from birth to age 17. Mothers and fathers of the cohort members have been interviewed as part of the MCS, including some information being collected on their own wellbeing and mental health. We focus upon the fifth wave of the MCS, when cohort members were age 11 (the average age of their parents – the individuals we are interested in within this paper - is 42). In total, around 14,224 parents were interviewed, 541 of whom were recorded as working as a teacher. The outcome measures of interest in this paper are:

- Whether mental health limits activity. MCS parents were asked if they had a long-lasting health problem and whether this affects their mental health. A binary variable is derived, taking the value one if the respondent has a long-lasting problem affecting their mental health, and zero otherwise.

- Whether the parent is currently being treated for depression. Respondents were asked if they are currently being treated for anxiety or depression. We focus the proportion who responded yes to this question.

- Low life-satisfaction. Respondents were asked '*overall how satisfied are you with your life nowadays*?' with responses provided on a zero to ten scale. We define low levels of life-satisfaction as those who reported a life-satisfaction score of six and below.

- Poor work-life balance. On a five-point scale (very dissatisfied to very satisfied) respondents were asked '*How satisfied or dissatisfied are you with the balance between the amount of time you spend with your family and the amount of time you spend at work*?'. A binary variable is

derived, taking the value of one if the respondent said they were dissatisfied or very dissatisfied, and zero otherwise.

- Whether they have elevated levels of anxiety / depression (Kessler scale). A short version of the Kessler scale was given to MCS parents. This involved answering five questions such as how often they felt worthless, nervous, restless, hopeless and that everything was an effort over the last 30 days. Responses were provided on a five-point scale. We use IRT to derive an overall scale which we then divide into quartiles. Our focus is upon those who fall within the top quartile (most anxious / depressed) of this scale.

Summary

Table 1 provides a summary of the datasets analysed in this paper. This includes information on the total sample size of teachers, year(s) of the survey used, key measures and an overview of strength and limitations. The first three datasets (LFS, APS and UK Biobank) will be the focus of our most detailed analysis, where we compare results for primary, secondary, head and SEN teachers to those working in other precisely defined professions (e.g. nurses, accountants, graphic designers). The remaining datasets are used in our comparison of teachers to other professional workers, where these occupational groups are broadly defined. The methodology section that follows provides further details.

<< Table 1 >>

3. Methodology

Throughout our analysis, occupational groups are primarily defined using Standard Occupation Classification (SOC) codes. Details of the jobs that fall into each SOC code can be found at https://onsdigital.github.io/dp-classification-tools/standard-occupational-classification/ONS_SOC_hierarchy_view.html. All of the datasets we use contain SOC codes, but at differing levels of detail. Nine of the datasets (LFS, APS, Biobank, UoS, BCS, NS, MCS, WERS and NCDS) include information at a precise four-digit level. Within these datasets, we define teachers as those working in jobs with the following SOC classifications:

- 2314 = Secondary education teaching professionals
- 2315 = Primary and nursery education teaching professionals
- 2316 = Special needs education teaching professionals
- 2317 = Senior professionals of educational establishments

Where possible, we also use Standard Industrial Classification (SIC) code 852 (primary education) to remove nursey staff from the definition of primary teachers (SOC code 2315). Similarly, for SOC code 2317 (senior professionals of educational establishments), we also restrict this group to those

individuals with a SIC code of 852 (primary education) or 853 (secondary education) whenever possible, so that it more precisely captures headteachers. Using the LFS, APS and Biobank data, the sample size is sufficiently large for us to provide separate estimates for primary, secondary, SEN and headteachers, as well as for 'all teachers' (i.e. the combination of these four teacher groups).

Within the HSE and APMS datasets, SOC data is only generally available at a broader, two or three-digit level. Using these data, we therefore focus upon 'teaching and education professionals' (two-digit SOC code 23), rather than 'teachers' per se. The difference is that the former includes those working in further and higher education, school inspectors and other auxiliary education roles (e.g. tutors). In all datasets, comparator occupations are also based upon SOC codes, at the finest level of detail available (four-digit SOC whenever possible). Our focus is upon differences between teachers and those working in other managerial, professional and associate professional occupations (i.e. those working in a job with a SOC code between 2,000 and 3,999).

To begin, the two largest datasets (LFS and APS) will be used to create an (unconditional) occupational 'ranking' of wellbeing and mental health of staff. The percentage with a poor outcome (e.g. percentage with a mental health problem; percentage with a 'high' anxiety score) will be presented for each occupation. Teachers will be compared to each of the other occupations in these unconditional estimates.

Of course, one challenge with interpreting these unconditional results is that individuals with different characteristics choose to work in different occupations. Consequently, propensity score matching will be used to match each teacher within each dataset to a 'comparable' individual working in each of the other occupations. This will again be done for the largest databases – the LFS, APS and Biobank. One-to-one nearest neighbour matching will be used, with the caliper set to 0.05 to enforce common support (in other words, to ensure that the individuals who are matched to each teacher are indeed similar to them in terms of the observable characteristics included in the matching model). Within all datasets, teachers and workers in other occupations will be matched on at least the following characteristics: age, gender, education, whether working full or part time, ethnicity and marital status. In the Biobank dataset, some additional background information is available that will also be included in the matching model: whether there are children in the household, whether a parent or a sibling has had depression and whether a relative died in the two years before the interview. The occupational ranking will then be represented for each outcome in each dataset, though now focusing upon the difference between teachers and their matched comparators.

Full results from these detailed occupational comparisons will be provided in the appendices. However, in the main body of the paper we have selected some specific occupations to highlight as potentially interesting comparators. This encompasses a wide range of jobs, including finance and investment analysts, authors and writers, graphic designers, civil servants, social workers, journalists, HR officers,

IT professionals, academics, marketing professionals, management consultants, solicitors, accountants and nurses. These occupations, like teachers, are all classed as professional or associate professional jobs (i.e. SOC code is between 2,000 and 3,999) and hence represent reasonable alternative career choices that a wide array of teachers could have made. Yet they are also diverse in terms of some being office jobs (e.g. accountants, HR workers, civil servants), others being potentially stressful-yet-rewarding public sector jobs like teaching (e.g. nurses, social workers), some regularly have tight deadlines and time pressures (e.g. journalists) while others are still within the education sector (e.g. academics). Moreover, sample sizes within the APS, LFS and Biobank are also sufficiently large for inferences about these specific jobs to be reasonably made. Together, these comparators allow us to briefly benchmark the results for teachers against a set of other specific occupational groups.

Next, our analysis will move on to comparing teachers to professional workers overall, rather than other specific occupations. In this context, 'professional workers' will be defined as any individual working in an occupation with a SOC code between 2000 and 3,999. For each outcome in each dataset, we present propensity score matching estimates, following broadly the same approach as outlined above. Within each dataset, teachers and workers in other occupations will again typically be matched upon age, gender, education, whether working full or part time, ethnicity and marital status (where such information is available). Together, this will provide overall summary results of whether teachers have lower levels of wellbeing, and have higher prevalence of mental health problems, than other comparable professional workers.

4. Results

APS comparisons across occupations of personal wellbeing

Figure 1 begins by presenting results for the percent of 'anxious' and 'unhappy' teachers using the APS. Each circle in these graphs represent one of the four-digit SOC occupations, with the dashed lines illustrating the average across all occupational groups. (For instance, the dashed vertical line in panel a on the left indicates that – on average, across occupations – 25 percent of workers are unhappy). The results for primary, secondary, SEN and headteachers are then highlighted. Unconditional comparisons to all other occupations can be found in panel a on the left-hand side of Figure 1, while the matching results (where secondary teachers have been matched to observationally comparable individuals working in other professional jobs) are provided in panel (b) on the right. Full detailed results comparing teachers to all other occupations can be found in Appendix A. Results using the LFS and Biobank datasets will be presented in a similar format in subsequent graphs.

<< **Figure 1** >>

The results for the APS anxiety (vertical axis) and happiness (horizontal axis) questions can be found in Figure 1. Starting with the former, the unconditional results presented in panel (a) suggest that

16

teachers tend to be quite an anxious occupational group. All four of the SOC teacher groups (primary, secondary, SEN and headteachers) sit above the dashed horizontal line (the average across all occupations), suggesting that teachers typically feel more anxious than workers in most other jobs. This is particularly the case for SEN teachers, and for headteachers, who have some of the highest levels of anxiety out of any occupational group. Yet it seems that this result is largely due to occupational selection; once teachers are matched to other workers based upon demographic background characteristics, anxiety levels are around the occupational average. This is illustrated by the fact that, in panel (b) on the right-hand side of Figure 1, the datapoints for the four teaching SOC groups now all sit around the dashed horizontal line. Overall, although teachers tend to have above-average levels of anxiety, this seems to be driven more by who selects into the occupation, rather than it likely being caused by their occupation per se.

Turning to the results for unhappiness (horizontal axis), the unconditional results in panel (a) suggest that teachers are less likely to be unhappy than those in most other occupational groups; the four datapoints for teachers fall to the left of the dashed vertical line. This finding is particularly stark for headteachers who have one of the lowest levels of unhappiness out of any of the occupations considered (16 percent of headteachers are not happy compared to an occupational average of 23 percent). However, the matching estimates presented in panel (b) again draw the results for teachers somewhat closer to the dashed vertical line. Consequently, once demographic background characteristics have been controlled, the proportion of unhappy teachers is similar to the percentage of unhappy employees in other professional jobs. The one potential exception remains headteachers, where there continues to be lower levels of unhappiness than amongst demographically comparable individuals working in other occupations.

Figure 2 provides analogous results for the APS life-satisfaction (vertical axis) and self-worth (horizontal axis) questions. In the unconditional estimates in the left-hand graph, the results for teachers compare quite favourably to those who work in other occupations. The datapoints for primary, secondary, SEN and headteachers all sit in the bottom-left hand quadrant, indicating that teachers are less likely to suffer from problems with low life-satisfaction and low self-worth than workers in most other jobs. Indeed, the results for self-worth are particularly striking, with this aspect of personal wellbeing being much less likely to affect teachers than most other occupational groups. For instance, only around one-in-twenty (approximately five percent) of primary, SEN and headteachers express a problem with low self-worth, compared to an occupational average of around one-in-seven (approximately 14 percent).

<< **Figure 2** >>

The conditional results in panel (b) suggest that, once the demographic background of respondents has been controlled, life-satisfaction amongst primary, secondary and SEN teachers is actually around the

average for workers in professional jobs; the data points for these groups sit close to the dashed horizonal line. Yet teachers still appear to be better-off than other professionals in terms of self-worth; the datapoints for teachers sit to the left of the dashed vertical line, indicating that they are less likely to suffer with this aspect of their wellbeing than their peers in other professions. Again, the results for headteachers are amongst the most promising out of any professional occupational group, with comparatively few reporting low life-satisfaction and low self-worth as a problem. Together, on these two aspects of personal wellbeing, the results for teachers are actually quite favourable.

To conclude our APS analysis, Table 2 compares the matching results for teachers to a handful of purposefully select comparators (full results covering all professional occupations are provided in Appendix A). This highlights how occupations with a lower proportion of anxious staff than teachers include nurses, accountants and human resource officers, while academics and authors / writers tend to have amongst the most anxious staff. For the proportion of workers who are unhappy and have low levels of life-satisfaction, primary and secondary teachers do not particularly stand out from most of our chosen comparators. This reiterates a selection of our findings from Figure 1 and Figure 2, where the happiness and life-satisfaction of teachers was found to be around the professional occupational average. On the other hand, relative to our selected occupational comparators, teachers are much *less* likely to suffer from feelings of low self-worth, and are similar to employees in other public sector jobs in this respect. For instance, only around five percent of primary and seven percent of secondary teachers report a low level of self-worth, which is similar to the percent of nurses (seven percent), social workers (nine percent) and academics (eight percent). The analogous figures are higher for other, mainly private sector, occupations such as for accountants (12 percent), solicitors (13 percent), journalists (14 percent), marketing professionals (14 percent) and those who work in IT (16 percent).

<< Table 2 >>

Thus, in summary, our analysis of the APS does little to suggest that personal wellbeing is lower amongst teachers than demographically similar individuals working in other professional jobs. Indeed, for some selected sub-groups (e.g. headteachers) and for certain aspects of wellbeing (e.g. self-worth) teachers seem to be slightly better off than their peers working in other occupations.

LFS comparisons across occupations of mental ill-health

Figure 3 turns to our analysis of the LFS, comparing the percentage of workers who report having a long-lasting health problem (vertical axis) to those who report having a long-lasting *mental* health problem. (Full results covering all occupations can be found in Appendix B). Focusing upon the matching results reported in panel (b), primary, secondary and headteachers all fall around the average across professional occupations – as indicated by these data points sitting around the intersection of the dashed horizontal and vertical lines. In other words, long-lasting health problems (including mental health problems) are no more prevalent amongst teachers than demographically comparable individuals

pursuing other professional careers. The one potential exception is SEN teachers, where a slightly greater proportion report having a lasting health problem (28 versus 33 percent) and a lasting mental health problem (5 percent versus 3.6 percent) than the cross-profession average. These findings are confirmed by Table 3, where the results for teachers are compared to our selected occupational comparators. Academics, social workers, civil servants and authors/writers are amongst those who are somewhat more likely to report suffering a long-lasting health problem (and particularly a mental health problem) than teachers. On the other hand, some office-based professional groups (e.g. accountants, management consultants, investment analysts) to some degree report fewer long-lasting health problems (including mental health problems) than those pursuing careers in education.

<< **Figure 3** >>

<< **Table 3** >>

Figure 4 continues our analysis of the LFS, but now focusing upon respondents' views as to whether their job has contributed to them developing (or worsening an existing) health problem (vertical axis) or *mental* health problem (horizontal axis) over the last year. Primary and secondary teachers are above the occupational average on both these measures, though in terms of magnitude the difference is relatively small. For instance, in the matching results (panel b), approximately three percent of teachers said that their job has led them to developing or worsening a mental health issue over the last year, compared to an average across professional occupations of two percent. Again, the problem appears worse for SEN teachers, where around nine percent reported their job has led to them developing a health problem (compared to a cross-profession average of four percent) with five percent saying it has led to an issue with their mental health (versus a cross-profession average of two percent).

Table 3 again illustrates how these figures for teachers compare to those for our selected comparators. Civil servants and (particularly) social workers stand out as reporting greater levels of work-induced ill-health than primary, secondary and headteachers. On the other hand, many office-based workers are less likely to say that their job has led to health problems and, particularly, mental health problems. This includes accountants, marketing associates and IT professionals, where only around one percent of workers say that their job has caused or exacerbated a mental health issue over the last year.

<< **Figure 4** >>

Biobank comparisons across occupations

Figure 5 presents results from our final detailed comparison across occupations, based upon data from the UK Biobank. Note that as the Biobank data are based upon a convenience sample, and are therefore not representative, we only present results from the matching analysis. The left-hand panel of Figure 5 provides the proportion of teachers in the top quartile of the Biobank depression scale (vertical axis) and the percent who have been prescribed anti-depressants. Consistent with the main thrust of the

findings from the APS and LFS, the results for teachers do not particularly stand out from those for workers in other professional occupations. For both the depression scale and prescriptions of antidepressants, the datapoints for secondary, head, primary and SEN teachers sit reasonably close to the professional occupation average (the dashed vertical and horizontal lines). Although anti-depressant prescriptions are slightly higher for primary teachers (4.7 percent) and SEN teachers (4.6 percent) than for the professional average (3.3 percent), as Figure 5 illustrates the difference in terms of magnitude is actually quite small. This is further supported by Table 4, where the results for teachers are presented alongside selected occupational comparators. Interestingly, none of the occupations considered particularly stands out, with perhaps the exception that anti-depressant use seems somewhat higher amongst nurses and graphic designers than other groups. Nevertheless, Figure 5 (panel a) and Table 4 generally suggest that variation in depressive symptoms across workers in different professional occupations is reasonably small, with little evidence of a particularly pronounced problem within the teaching profession.

<< Figure 5 >>

<< Table 4 >>

Panel (b) of Figure 5 provides analogous results with respect to whether teachers are unhappy in general (vertical axis) and unhappy specifically at work (horizontal axis). Broadly speaking, a similar finding emerges, with the proportion of unhappy SEN, primary and secondary teachers similar to the cross-profession average. This message in again reinforced by Table 4, which illustrates how teachers do not generally stand out from most of our selected occupational comparators. The one potential exception is headteachers, with the datapoint for this group sitting in the bottom-left hand corner of Figure 5 panel (b). In other words, headteachers are somewhat less likely to be unhappy (both in general and while at work) than demographically similar individuals working in other professional jobs. This is consistent with our findings from the APS.

Teachers compared to other professionals across all measures and datasets

To conclude, Table 5 provides a summary of results drawing together information from across 11 datasets. This includes the three very large resources covered in previous subsections (APS, LFS, Biobank) but also complements this with information from several other nationally representative datasets which include a smaller number of teachers (recall Table 1). By bringing all this information together, we believe this provides the most wholistic and comprehensive overview of teacher mental health and wellbeing – including how this compares to other professional workers – to date.

Results for eight broad indicators are presented (anxiety/depression; prescription of anti-depressants; work-induced stress/anxiety/depression; unhappiness; low levels of wellbeing; low levels of life-satisfaction; reported mental health problem; other) where all teachers in the sample have been matched

to a demographically comparable individual working in another professional job. The percentage of teachers and matched professionals with a low level of wellbeing or mental health issue on each indicator is presented, along with the difference between the two. Note that, as each dataset has used different measures (e.g. the Kessler scale has been used to measure anxiety/depression in the MCS whereas Next Steps includes the GHQ) direct comparisons of estimates should not be made across the different data sources. Rather, one should focus upon the estimated difference between teachers and their matched comparators *within* each dataset, and whether there is a consistent pattern to the results. In other words, across a range of different data, constructs and measures, do we consistently find that teachers have worse mental health and wellbeing outcomes than demographically similar professionals pursuing different careers?

<< **Table 5** >>

In general, the results presented in Table 5 reinforce the central message of this paper. There is little consistent evidence – observed across different datasets, measures and mental health / wellbeing constructs – that teachers are worse off than comparable individuals working in other professions. For some areas (e.g. prescription of anti-depressants, low levels of life satisfaction) the difference between teachers and their matched comparators is always fairly small in terms of magnitude. In some other areas, such as the probability of having low levels of wellbeing, there is either evidence of no difference or of teachers actually being *less* likely to suffer from the problem. Finally, there are examples (such as anxiety/depression and work-related issues) where the direction of the results is unstable; sometimes the outcomes are better for teachers than for other professionals, while at other times they are worse, and sometimes there is no difference at all. This might suggest that comparisons between teachers and other professionals may, in certain areas, be sensitive to the wording of questions, sample selection/design, timing and the outcome scale being used.

Bringing all this information together, we believe that the most appropriate summary of the available evidence is that it provides little support for the notion that mental health problems and low levels of wellbeing are particularly acute amongst teachers. While there are clearly an important number of teachers facing challenges with their wellbeing and mental health, the prevalence of such problems does not seem to be higher than amongst other professional groups.

5. Conclusions

There is widespread global concern about the mental health and wellbeing of the teaching profession. Reports are now widespread across international media about the stresses and strains of working as a teacher (Asthana & Boycott-Owen, 2018; Brennan & Henton, 2017), with particular pressure stemming from the long term-time working hours and due to the scrutiny teachers are placed under from high-stakes testing and school accountability. It has been suggested that this is a key reason why many

individuals are deciding to leave teaching for alternative employment (Cooper-Gibson Research, 2018), with a view that levels of stress, anxiety, depression and other aspects of poor wellbeing are not as prevalent amongst workers in other jobs. Several previous papers and research reports have suggested that mental health and wellbeing outcomes may indeed be worse amongst teachers than other professional groups (Ofsted, 2019; Johnson et al., 2005; Travers & Cooper, 1993; Worth & Van den Brande, 2019). At the same time, a handful of other studies have questioned whether this is really the case, presenting alternative empirical evidence to suggests that teachers have similar (and sometimes even better) wellbeing outcomes than professional employees in general. It hence remains an open question as to whether teachers are at a uniquely high-risk of suffering from low-levels of wellbeing and of developing mental health problems.

Given the conflicts in the existing evidence base, this paper has sought to conduct the largest and most comprehensive analysis of the mental health and wellbeing of teachers in comparison to other professional groups to date. Drawing evidence from across 11 separate datasets, which together cover a wide array of mental health and wellbeing constructs and measures, the paper has presented detailed new evidence on this important policy issue. Our headline conclusion is that teachers actually seem to have very similar mental health and wellbeing outcomes to other professionals. There is little robust evidence to suggest that, on the whole, teachers are particularly anxious, depressed, have lower-levels of life-satisfaction or have poorer wellbeing outcomes than demographically similar individuals in other forms of professional employment. Although there are some exceptions amongst certain subgroups (e.g. SEN teachers tend to have somewhat lower levels of mental wellbeing while the wellbeing of headteachers, on certain measures, is somewhat higher) and for certain outcomes (e.g. comparatively few teachers suffer from feelings of low self-worth) differences between teachers and other professionals are – on the whole – relatively small.

These findings do, of course, need to be interpreted in light of the limitations of this study. First, although we have 'matched' teachers to demographically comparable professionals in other jobs, the number of potential confounders included within our matching models is limited. For instance, we have not been able to control for the wellbeing of study participants before they made their occupational choices. It could therefore be that those who choose to enter teaching start out with very high levels of wellbeing and mental health, which then rapidly decline to around the national average once they start working as a teacher. Such a situation would get masked within our analysis due to our lack of sufficient prior (pre-occupational selection) mental health and wellbeing controls. This is of course part of a much more general caveat that this paper has not been designed to measure the causal effect of choosing teaching as a career. Rather, we have presented a descriptive analysis attempting to establish whether mental health and wellbeing outcomes are worse amongst teachers than other professional groups – and not whether teaching leads to worse outcomes per se.

Second, relatedly, one interpretation of our findings is that they are the result of individuals with mental health problems selecting out of teaching. For instance, those individuals who were working as teachers – but who struggled with their mental health and wellbeing – may have chosen to quit teaching for alternative employment. It is therefore possible that the teachers within our datasets are hence, on average, found to have similar outcomes to other professionals due to all those with mental health problems having chosen to leave. This again is an important caveat that needs to be remembered when interpreting our results – all the analyses are cross-sectional and are in reference to the population of individuals currently employed as teachers at the time of the surveys.

Third, to some extent all the data analysed in this paper are based upon information that has been self-reported by survey respondents. Although we have considered both responses to widely-used and validated instruments and a selection of more objective outcome measures (e.g. prescription of anti-depressants) such indicators are not entirely free from such problems. Indeed, although the stigma attached to mental ill-health may be on the decline, it is possible that this leads some individuals to miss-report. While this issue is unlikely to undermine our substantive conclusions, future work using other measures (possibly including biomarkers and administrative primary care records) would help to strengthen the evidence base still further.

Finally, some of the datasets we analysed included questions that asked specifically about wellbeing related to work, while others were about wellbeing and mental health in general. While there was no obvious difference in the pattern of the results, further research into occupational differences in work-related mental ill-health would be beneficial. For instance, the APMS dataset includes 15 questions specifically about work-related stress, which could provide a much more detailed insight into how this problem compares across occupations. Unfortunately, the sample size for each SOC group in the APMS is too small – and the occupational data made available too coarsely coded – to robustly investigate this issue. Our advice would be that at least a subset of these 15 work-related stress questions are asked within one of the UK's large, flagship surveys (e.g. the LFS or APS) to facilitate such detailed occupational comparisons.

What then are the key directions for future work in this area? In our view, the evidence presented here makes it very hard to sustain the position that wellbeing and mental health outcomes of teachers are worse than for other occupational groups. For researchers in this area, the focus should now shift to better understanding the drivers of poor mental health outcomes amongst teachers, including whether these are indeed mainly work-related, or are actually mainly due to issues outside of their job (e.g. their personal life). Relatedly, we need better evidence on what system and school leaders can do to support their staff. There are, after all, a non-trivial number of school staff facing mental health issues, some of which may be caused or aggravated by their work. Understanding what can be done to help these individuals through this difficult period is key to teaching becoming a happier and healthier profession.

References

Allen, A., Benhenda, A., Jerrim, J., & Sims, S. (2019). New evidence on teachers' working hours. An empirical analysis of four datasets. Accessed 26/09/2019 from https://johnjerrim.files.wordpress.com/2019/09/working_paper_teacher_hours.pdf

Asthana, A., & Boycott-Owen, M. (2018). 'Epidemic of stress blamed for 3,750 teachers on long-term sick leave.' *The Guardian 11th January 2018*. Accessed 06/12/2019 from https://www.theguardian.com/education/2018/jan/11/epidemic-of-stress-blamed-for-3750-teachers-on-longterm-sick-leave

Brennan, C., & Henton, G. (2017). 'Job stress is 'overwhelming' teachers across the UK.' Accessed 06/12/2019 from https://www.bbc.co.uk/news/uk-england-41280360

Bryson, A., Stokes, L., & Wilkinson, D. (2019). Who is better off? Wellbeing and commitment among staff in schools and elsewhere. *Education Economics* DOI: 10.1080/09645292.2019.1623178

Cooper-Gibson Research. (2018). Factors affecting teacher retention: qualitative investigation. Department for Education Research Report. Accessed 13/09/2019 from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/686947/Factors_affecting_teacher_retention_-_qualitative_investigation.pdf

Health and Safety Executive. (2019). Work-related stress, anxiety or depression statistics in Great Britain 2019. Accessed 29/11/2019 from http://www.hse.gov.uk/statistics/causdis/stress.pdf

NHS Digital (2017). Health Survey for England 2016 Well-being and mental health. Accessed 15/11/2019 from http://healthsurvey.hscic.gov.uk/media/63763/HSE2016-Adult-wel-bei.pdf

Iacobucci, G. (2019). NHS prescribed record number of antidepressants last year. *BMJ 364*, l1508.

Johnson, S., Cooper, C., Cartwright, S., Doland, I., Taylor, P., & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology 20*(2), 178-187.

Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Well-being: Foundations of hedonic psychology*. Russell Sage Foundation.

Kidger, J., Brockman, R., Tilling, K., Campbell, R., Ford, T., Araya, R., King, M., & Gunnell, D. (2016). Teachers' wellbeing and depressive symptoms, and associated risk factors: A large cross sectional study in English secondary schools. *Journal of Affective Disorders,* 192, 76-82.

Ofsted (2019). Teacher well-being at work in schools and further education providers. Accessed 12/09/2019 from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819314/Teacher_well-being_report_110719F.pdf

ONS (2017). Suicide by occupation, England: 2011 to 2015. Accessed 29/11/2019 from https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/suicidebyoccupation/england2011to2015

Perryman, J., & Calvert, G. (2019). What motivates people to teach, and why do they leave? Accountability, performativity and teacher retention *British Journal of Educational Studies.* DOI: 10.1080/00071005.2019.1589417

Phillips, S., Sen, D., & McNamee, R. (2008). Risk factors for work-related stress and health in head teachers. *Occupational Medicine, 58*(8), 584–586. https://doi.org/10.1093/occmed/kqn112

Pollard, E., & Lee, P. (2003). Child well-being: a systematic review of the literature, Social Indicators Research, 61(1), 9–78.

Rose, M. (2003). Good deal, bad deal? Job satisfaction in occupations. *Work, Employment and Society, 17*(3), 503-530.

Seaford, C. (2011). Time to legislate for the good life. *Nature*, *477*(7366), 532-533.

Stansfeld, S. A., Rasul, F. R., Head, J., & Singleton, N. (2011). Occupation and mental health in a national UK survey. *Social Psychiatry and Psychiatric Epidemiology 46*(2), 101–110.

Travers, C. & Cooper, C. (1993). Mental health, job satisfaction and occupational stress among UK teachers. *Work & Stress* 7(3), 203-219.

Warr, P. (2016). IWP multi-affect indicator. Accessed 29/11/2019 from https://www.sheffield.ac.uk/polopoly_fs/1.653515!/file/IWP_Multi-affect_Affect_Indicator_10.2016.pdf

What Works for Wellbeing (2016). What's wellbeing like in different jobs? New data, analysis and case study. Accessed 29/11/2019 from https://whatworkswellbeing.org/blog/whats-wellbeing-like-in-different-jobs-new-data-analysis-and-case-study/

World Health Organization. (2005). *Promoting mental health: concepts, emerging evidence, practice*. World Health Organization.

Table 1. Summary of datasets

Dataset	Years	Key outcomes	Teacher* sample	Strengths	Limitations
LFS	2011-2018	Long-lasting depression; whether job made depression worse	38,855	Large sample size; detailed occupational data	Limited mental health measures
APS	2011-2018	Anxiety; Happiness; Life-satisfaction; Self-worth	13,765	Large sample size; detailed occupational data	Self-reported measures.
Biobank	2006-2010	Anxiety; depression; happiness; prescribed medication	12,641	Large sample size; detailed occupational data	Not nationally representative
HSE	1992-2018 (selected)	GHQ; prescribed medication; WEMWBS	4,415	Large sample size; range of outcomes	Education professionals rather than teachers
NS	2015-2016	GHQ; life-satisfaction	291	Recent data collection	Small sample; early career teachers only
BCS70	2016	WEMWBS; malaise; emotional wellbeing	202	Range of outcomes	Small sample; middle age teachers only
NCDS58	2008	WEMWBS; malaise; emotional wellbeing	279	Range of outcomes	Small sample; middle age teachers only
MCS2000	2012	Anxiety/depression (Kessler scale); life-satisfaction; work-life balance	541	Range of outcomes	Small sample; teachers with children only
WERS	2004; 2011	Anxiety; depression; comfort	2191	Specifically focuses upon impact of job	Modest sample size
USoC	2017	GHQ, anxiety, depression	395	Range of outcomes	Modest sample size
APMS	2007	Work-related stress; depression; anxiety; social support; antidepressants	209	Range of outcomes	Education professionals rather than teachers; small sample size

Notes: In HSE and APMS dataset it is only possible to identify 'education professionals' rather than teachers per se. See section 2 for full dataset names. The first three datasets listed (LFS, APS and Biobank) are used for our occupation-by-occupation comparisons. The other datasets are used only when we compare teachers to individuals working in other professional occupations.

Table 2. The personal wellbeing of teachers compared to selected comparator professions. Matching results from the APS.

Occupation	SOC	N	Anxious	Unhappy	Low life-satisfaction	Low-self worth
Authors, writers and translators	3412	1302	24.9	24.1	15.5	14.6
Academics in higher education	2311	2317	24.7	23.5	11.8	8.3
Graphic designers	3421	1060	24.2	21.8	18.2	13.7
solicitors	2413	1452	24.0	24.4	13.4	13.2
Journalists	2471	1000	23.4	21.9	14.1	13.6
Social workers	2442	1462	22.5	26.8	17.8	9.0
Headteacher	2317	858	22.4	15.7	9.7	6.5
Secondary teacher	2314	5823	20.9	21.7	13.4	6.9
Primary teacher	2315	5825	20.9	20.1	11.9	5.4
Marketing associate professionals	3543	2249	20.9	21.5	14.6	14.3
SEN teacher	2316	1219	20.8	24.5	14.1	7.0
Public services (e.g. civil servant)	3561	1533	20.6	24.8	16.9	12.7
Management consultants	2423	2574	20.0	23.3	11.2	12.0
Finance and investment analysts	3534	2436	18.4	20.9	12.5	14.6
Nurse	2231	9643	18.3	24.3	14.7	7.2
IT professionals	2139	2428	17.2	20.3	12.0	15.5
HR officers	3562	1791	16.6	21.4	12.1	11.8
Accountant	2421	2522	16.5	20.1	10.0*	11.9
All professional average			**20.7**	**23.1**	**13.4**	**10.9**

Notes: Figures refer to the percent of workers in the occupation with a low-level of wellbeing on the construct in question. The sample for each occupation has been obtained by matching the secondary teachers in the data to a demographically similar group, based upon age, gender, educational qualification, marital status, ethnicity and whether work part-time. Final row provides the unweighted average across all professional occupations, with the full results provided in Appendix A. Darker green shading (when reading vertically) indicates a lower level of wellbeing for that group.

Table 3. The mental health of teachers compared to selected comparator professions. Matching results from the LFS.

Occupation	SOC	N	% lasting health problem	% lasting mental health problem	N	% job led to ill-health	% job led to mental ill-health
SEN teacher	2316	3274	27.9	5.0	623	8.9	4.9
Nurse	2231	25229	27.8	3.6	4553	7.8	3.3
Public services (e.g. civil servant)	3561	3986	27.7	4.5	739	7.6	5.3
Authors, writers and translators	3412	3120	27.0	6.1	579	2.4	1.3
IT professionals	2139	7213	25.5	3.1	1344	1.8	0.6
Academics in higher education	2311	6232	25.3	4.6	1196	4.2	2.1
Social workers	2442	3707	24.2	4.6	652	9.4	5.9
Graphic designers	3421	3450	24.1	3.5	604	3.7	1.1
Marketing associate professionals	3543	6777	24.0	3.6	1176	2.7	1.2
Headteacher	2317	4294	23.4	3.0	807	2.3	1.7
Secondary teacher	2314	16737	23.2	3.4	3113	5.5	3.2
HR officers	3562	5425	23.2	3.8	944	3.1	1.7
Primary teacher	2315	16194	22.4	3.6	2992	4.7	3.0
Journalists	2471	2904	22.4	4.0	536	3.3	1.4
Accountant	2421	7959	20.7	2.1	1469	2.0	1.1
Solicitors	2413	4713	20.7	3.7	865	3.3	1.5
Management consultants	2423	6982	20.6	2.1	1265	3.6	2.4
Finance and investment analysts	3534	7105	18.3	1.8	1248	2.9	1.2
All professional average			**23.4%**	**3.6%**		**4.0%**	**1.9%**

Notes: Figures refer to the percent of workers in the occupation with a health problem. The sample for each occupation has been obtained by matching the secondary teachers in the data to a demographically similar group, based upon age, gender, educational qualification, marital status and whether there are children in the household. Final row provides the unweighted average across all professional occupations, with the full results provided in Appendix B. Darker green shading (red vertically) indicates a lower level of wellbeing for that group.

Table 4. The wellbeing mental health of teachers compared to selected comparator professions. Matching results from the UK Biobank.

Occupation	SOC	N	Top quartile depression index	Prescribed antidepressant	Unhappy	Unhappy with work
Finance and investment analysts	3534	1245	27.3	2.4	3.0	12.6
Authors, writers and translators	3412	955	24.5	3.7	3.8	8.0
Graphic designers	3421	560	23.9	7.9	14.9	5.3
Public services (e.g. civil servant)	3561	2219	21.8	5.2	7.3	17.7
SEN teacher	2316	994	21.4	4.6	5.7	6.1
Social workers	2442	1733	21.0	5.1	8.3	14.3
Journalists	3431	649	20.9	4.4	4.9	9.6
HR officers	3562	1115	19.9	3.3	2.0	13.0
IT professionals	2131	2123	19.6	2.0	8.8	15.9
Primary teacher	2315	4602	19.4	4.7	4.0	8.8
Academics in higher education	2311	3609	19.2	3.1	5.6	7.8
Secondary teacher	2314	5943	19.2	3.9	4.6	10.9
Marketing associate professionals	3543	743	18.4	3.0	10.7	9.9
Management consultants	2423	2325	18.0	2.6	6.4	10.7
solicitors	2411	2066	18.0	3.7	5.7	10.8
Nurses	3211	6742	17.6	6.1	3.9	9.6
Accountant	2421	1907	17.1	3.3	4.5	9.4
Headteacher	2317	1102	14.4	3.0	2.0	4.4
All professional average			**20.0%**	**3.3%**	**5.0%**	**9.8%**

Notes: Figures refer to the percent of workers in the occupation with the stated health problem. The sample for each occupation has been obtained by matching the secondary teachers in the data to a demographically similar group, based upon age, gender, whether born in the UK, whether has a partner in the household, whether there are children in the household, whether hold a degree, whether parent or a sibling has depression and whether a relative died in the two years before the interview. Final row provides the unweighted average across all professional occupations, with the full results provided in Appendix C. Darker green shading (read vertically) indicates a lower level of wellbeing for that group.

Table 5. The mental health and wellbeing of teachers in comparison to other professional jobs. Summary of the evidence from across 11 datasets.

Construct	Measure	Source	Teachers / Ed professional	Matched professional	Difference % points
Anxiety + depression	% elevated depression (top quartile)	APMS	23%	25%	-2.5%
	% high GHQ scores	HSE	15%	13%	2.2%
	% top quarter depression scale	Biobank	19%	20%	-1.6%
	Being treated for depression	MCS	8%	5%	3.4%
	Long-lasting depressive problem	LFS	3%	4%	-0.6%
	High GHQ scores	USoC	18%	16%	2.1%
	High GHQ scores	Next Steps	18%	20%	-1.6%
	High Malaise	BCS70	8%	13%	-4.8%
	High Malaise	NCDS	5%	9%	-3.8%
	Depress or Anxious (Kessler)	MCS	20%	20%	0.2%
	% elevated anxiety (top quartile)	APMS	20%	26%	-6.5%
	% who felt anxious today	HSE	19%	14%	4.3%
	% anxious	APS	19%	20%	-0.2%
	Unweighted average		**15%**	**16%**	
Anti-depressant medication	Taking antidepressants	APMS	3%	3%	0.0%
	% currently prescribed antidepressants	HSE	5%	5%	0.7%
	% currently taking antidepressants	HSE	5%	5%	0.6%
	% prescribed antidepressants	Biobank	3%	4%	-0.6%
	Unweighted average		**4%**	**4%**	
Work-related issues	% high work-stress (top quartile)	APMS	37%	30%	7.2%
	% dissatisfied with work	USoC	12%	12%	0.3%
	Job leads to depression (quartiles)	USoC	28%	24%	4.4%
	Job leads to anxiety (quartiles)	USoC	27%	25%	1.7%
	% unhappy with work	Biobank	9%	11%	-2.0%
	Job made ill in last year	LFS	5%	4%	0.9%
	Job led to depression in last year	LFS	3%	2%	0.9%
	Poor work-life balance	MCS	21%	19%	1.7%
	Job leads to depression (quartiles)	WERS	22%	25%	-2.4%
	Job leads to anxiety (quartiles)	WERS	30%	28%	1.8%
	Job leads to discomfort (quartiles)	WERS	15%	18%	-2.9%
	Unweighted average		**19%**	**18%**	

Table 5 cont. The mental health and wellbeing of teachers in comparison to other professional jobs. Summary of the evidence from across 11 datasets.

Construct	Measure	Source	Teachers / Ed professional	Matched professional	Difference % points
Unhappiness	% unhappy	APS	20%	23%	-3.1%
	% unhappy with health	USoC	17%	19%	2.2%
	% unhappy	Biobank	4%	5%	-0.9%
	% unhappy with health	Biobank	13%	11%	1.8%
	% unhappy with family	Biobank	6%	7%	-1.1%
	% unhappy with friends	Biobank	4%	5%	-0.1%
	% unhappy with finance	Biobank	12%	13%	-1.4%
	Unhappy in relationship	MCS	11%	14%	-2.9%
	Unweighted average		**11%**	**12%**	**-0.7%**
Low wellbeing	% low wellbeing (bottom WEMWBS quartile)	HSE	18%	18%	0.2%
	Low WEMWBS	BCS70	6%	19%	-13.2%
	Low emotional wellbeing	BCS70	10%	21%	-10.8%
	Low WEMWBS	NCDS	22%	22%	-0.3%
	Low emotional wellbeing	NCDS	16%	23%	-7.2%
	Unweighted average		**14%**	**21%**	**-6.3%**
Low life satisfaction	% low life satisfaction	APS	14%	14%	-0.8%
	% low life satisfaction	USoC	14%	13%	1.1%
	% low life satisfaction	Next Steps	5%	5%	0.2%
	% low life satisfaction	MCS	13%	12%	1.4%
	Unweighted average		**11%**	**11%**	**0.5%**
% reported mental health problem	Mental health problem in last year	APMS	6%	11%	-4.8%
	Received mental health treatment in last year	APMS	4%	5%	-1.5%
	% reporting lasting mental health problem	HSE	3%	3%	0.2%
	% reporting mental health condition	Biobank	5%	6%	-0.7%
	Mental health limits activity	MCS	3%	2%	0.6%
	Unweighted average		**4%**	**5%**	**-1.3%**
Other	% low social support (bottom quartile)	APMS	14%	20%	-6.3%
	Low social functioning	BCS70	16%	20%	-4.7%
	Low social functioning	NCDS	26%	26%	-0.3%
	Energy / fatigue problem	BCS70	18%	21%	-2.9%
	Energy / fatigue problem	NCDS	23%	24%	-1.2%
	% top quarter Neurocisim scale	Biobank	21%	22%	-1.1%
	% low self-worth	APS	6%	11%	-5.3%

Figure 1. The percentage of teachers who are anxious and unhappy compared to other occupations. Analysis of the APS.
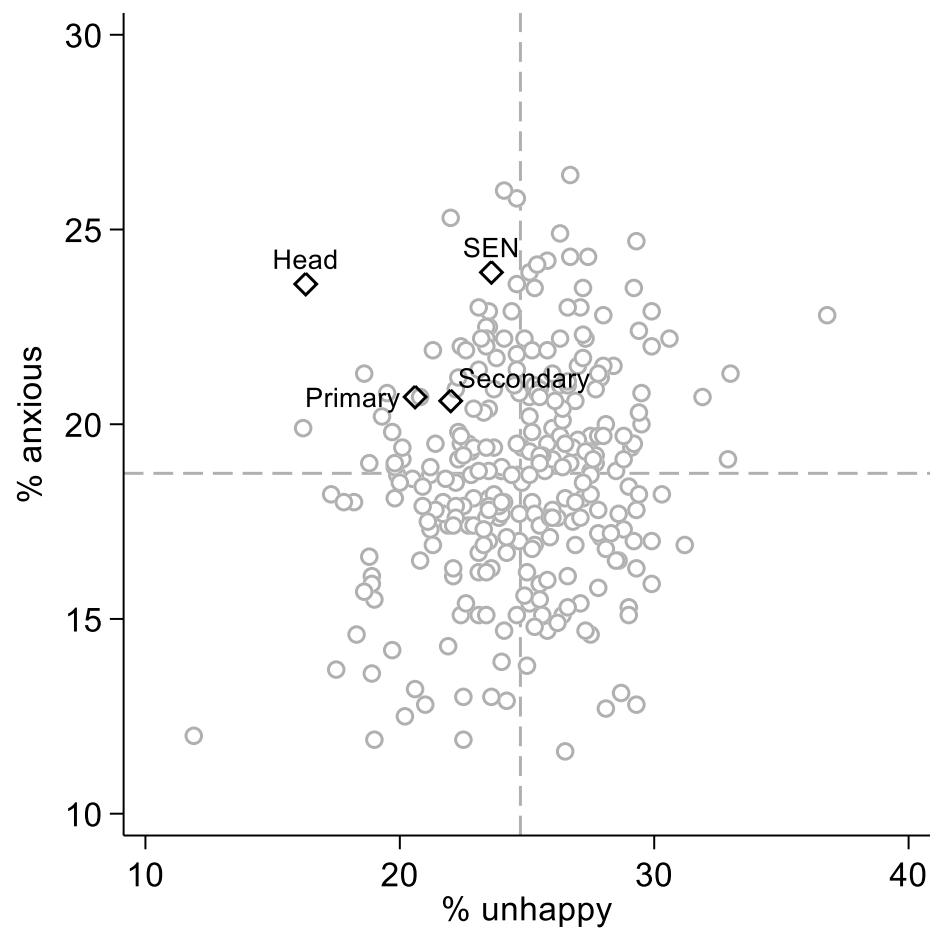
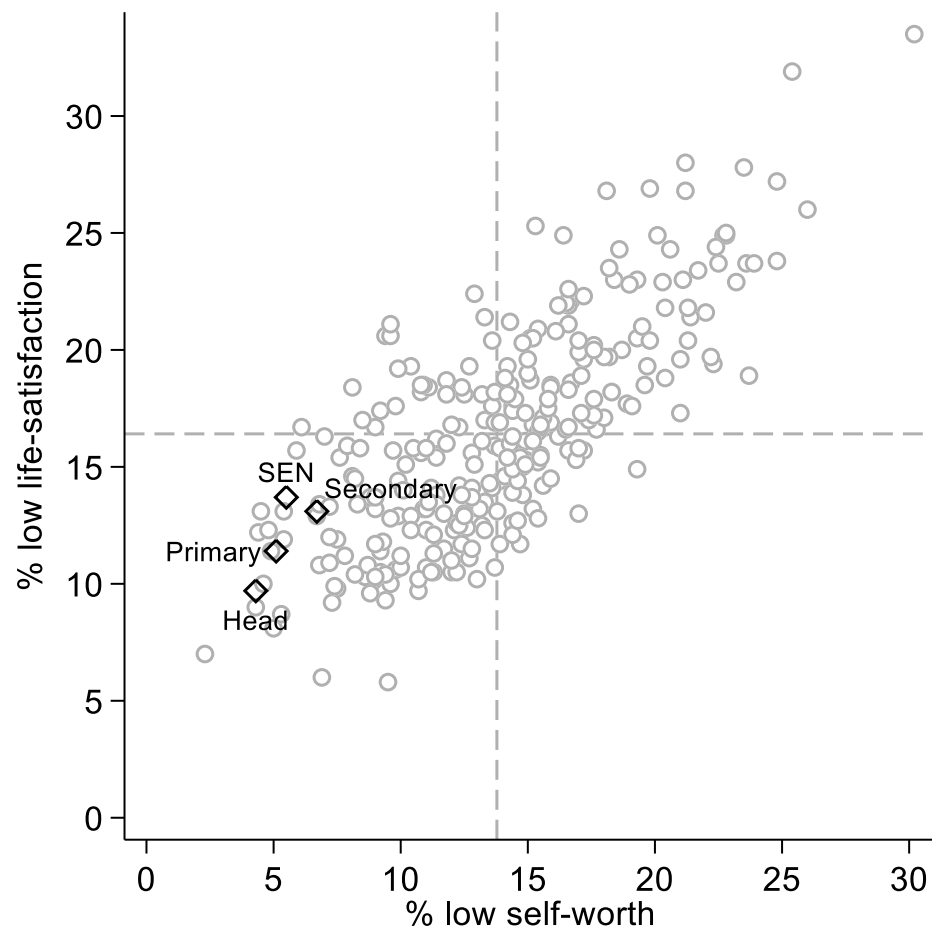(a) Unconditional (all occupations)　　　　　　　　(b) Matched to other professions
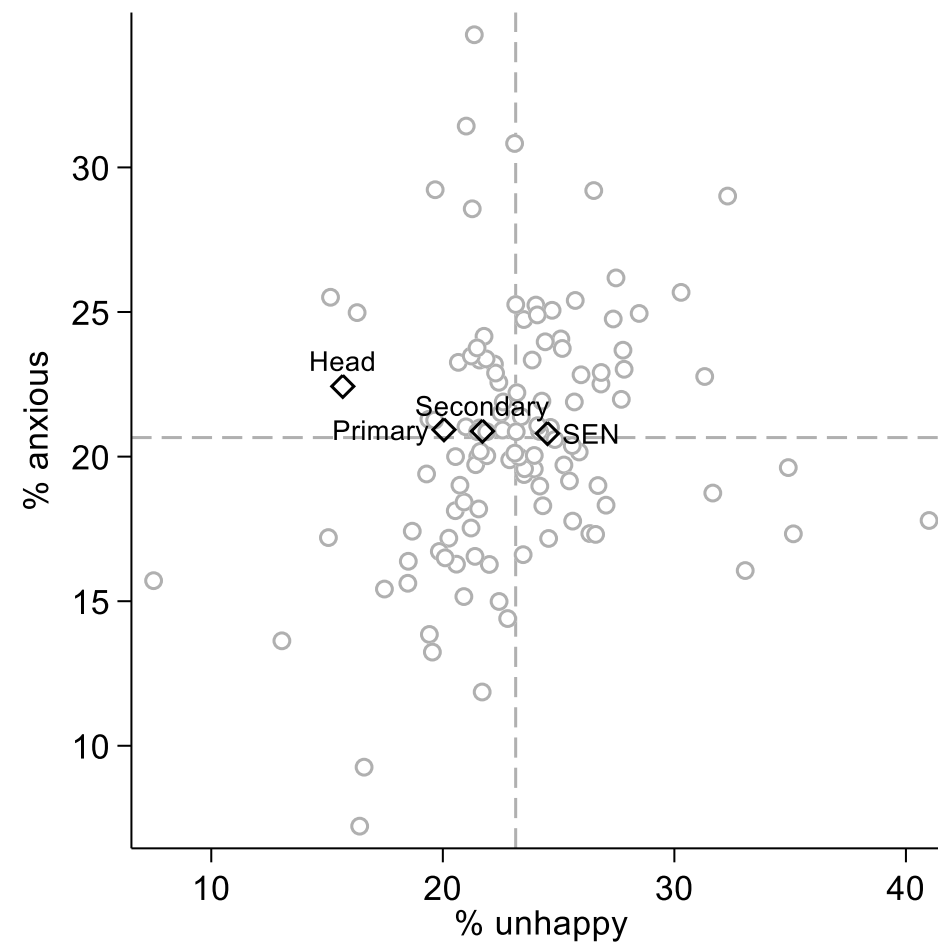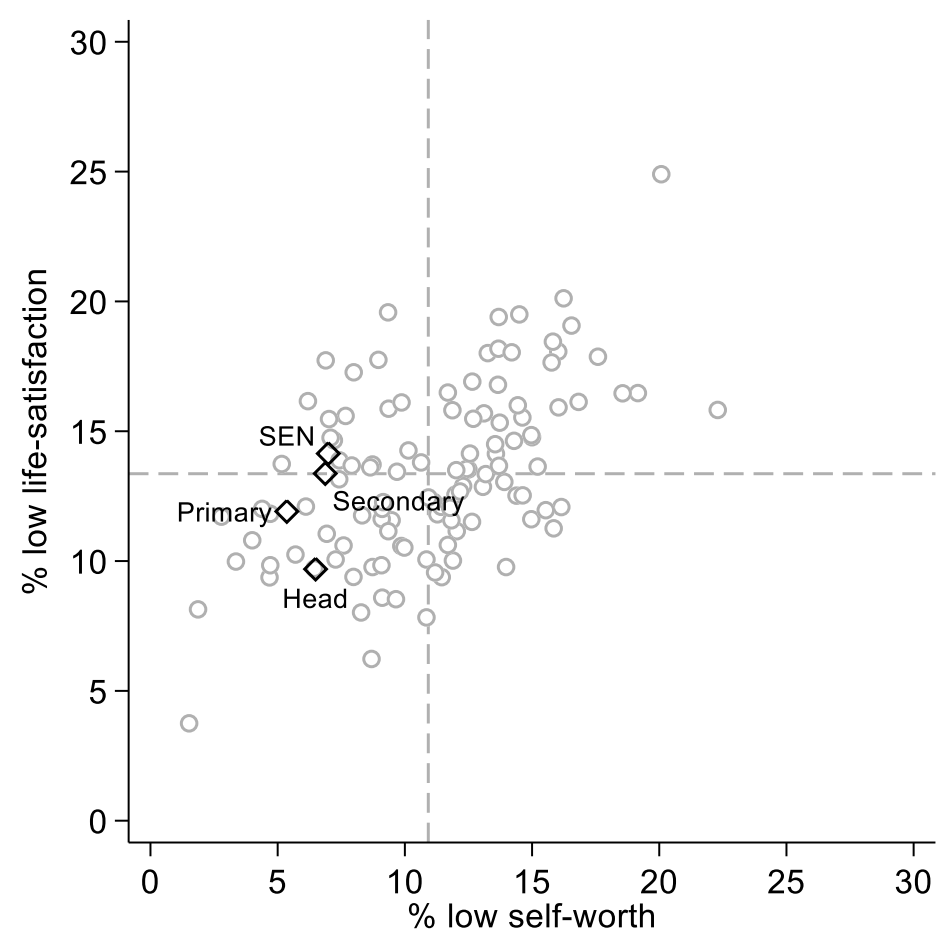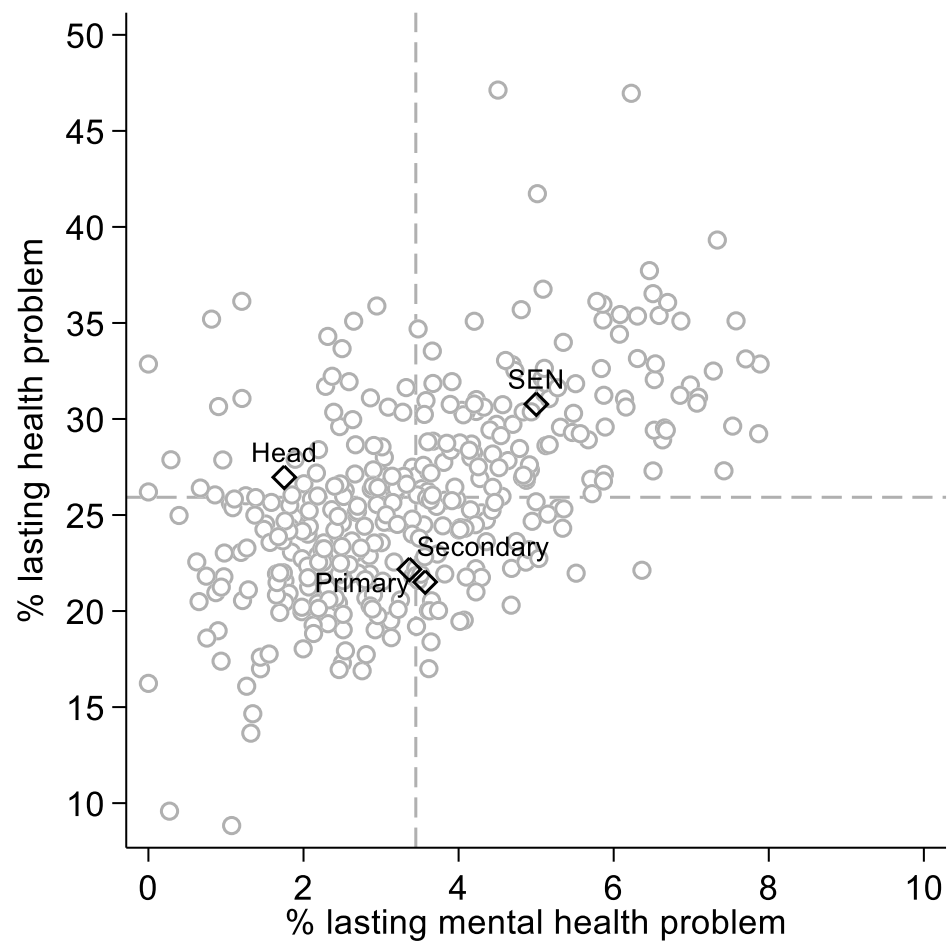

Notes: Each datapoint represents one SOC occupation. Figures refer to the percent of workers who are unhappy (horizontal axis) and anxious (vertical axis). Dashed lines illustrate the unweighted occupational average. The graph on the left presents the unconditional estimates for all occupations. The graph on the right presents the matching results, where comparators have been restricted to those working in professional jobs. Results restricted to occupations where the sample size is above 250.

Figure 2. The percentage of teachers who have low life-satisfaction and low self-worth compared to other occupations. Analysis of the APS.

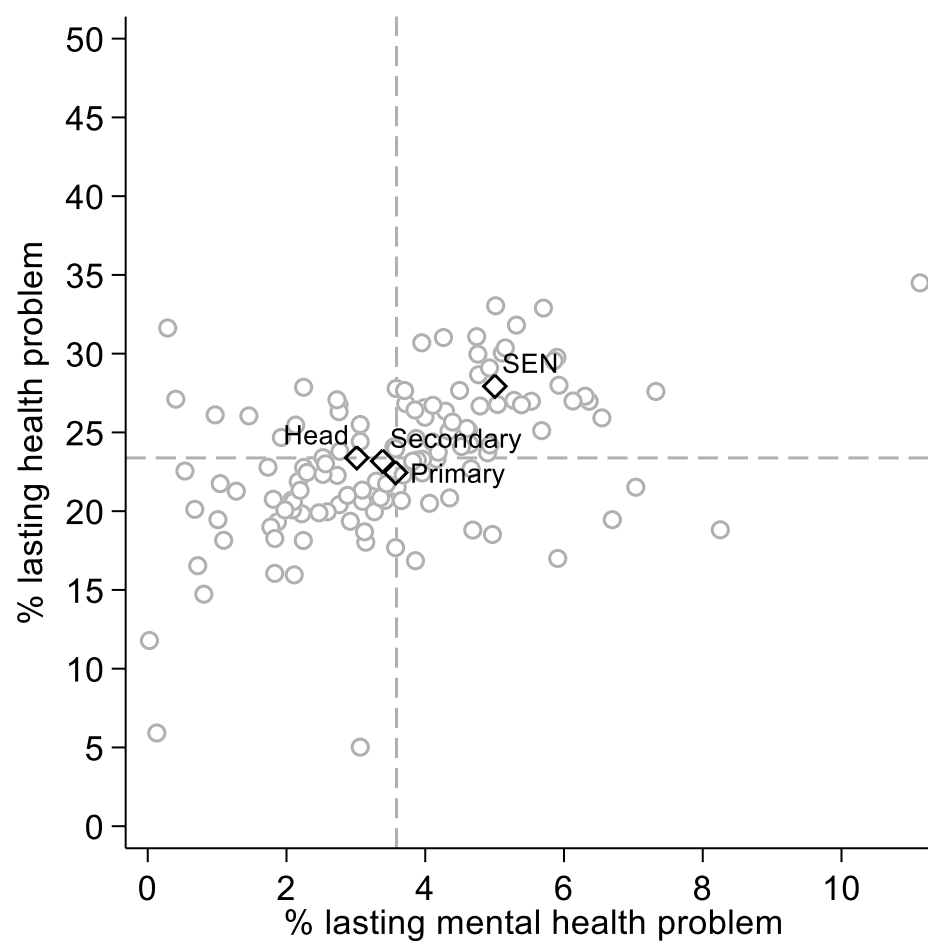(a) Unconditional (all occupations)

(b) Matched to other professions

Notes: Each datapoint represents one SOC occupation. Figures refer to the percent of workers who have low self-worth (horizontal axis) and low life-satisfaction (vertical axis). Dashed lines illustrate the unweighted occupational average. The graph on the left presents the unconditional estimates for all occupations. The graph on the right presents the matching results, where comparators have been restricted to those working in professional jobs. Results restricted to occupations where the sample size is above 250.

Figure 3. The percent of teachers with a long-lasting illness and those with a long-lasting mental illness compared to other occupations (LFS).

(a) Unconditional (all occupations)
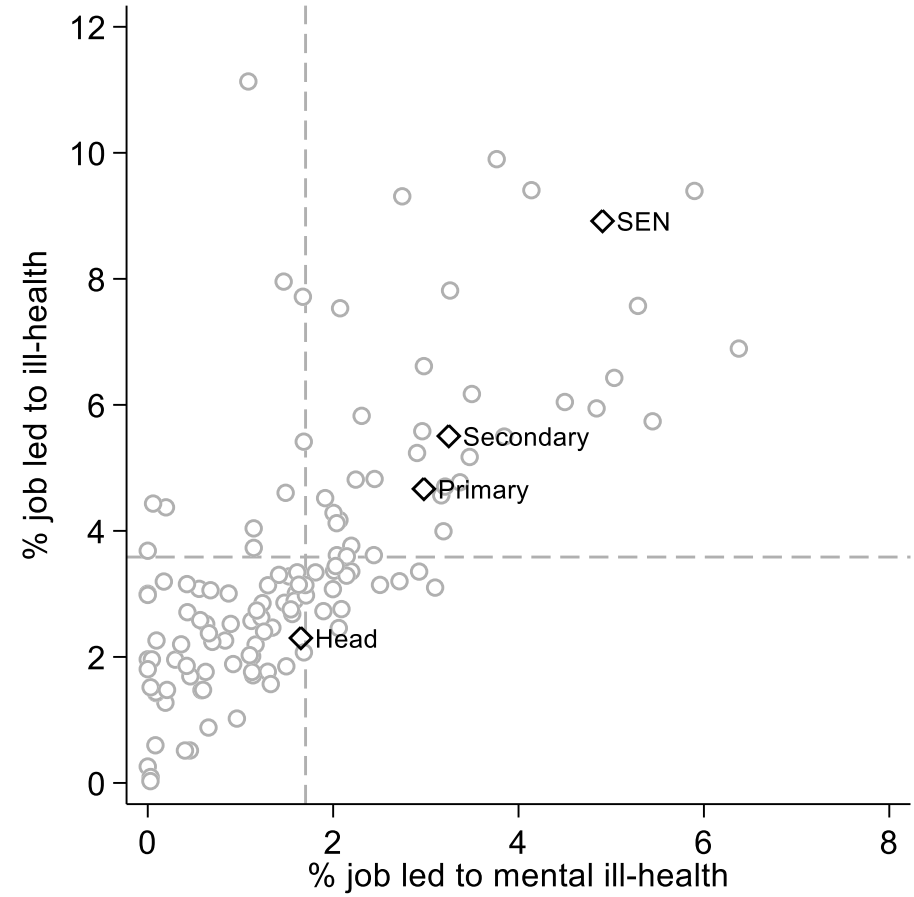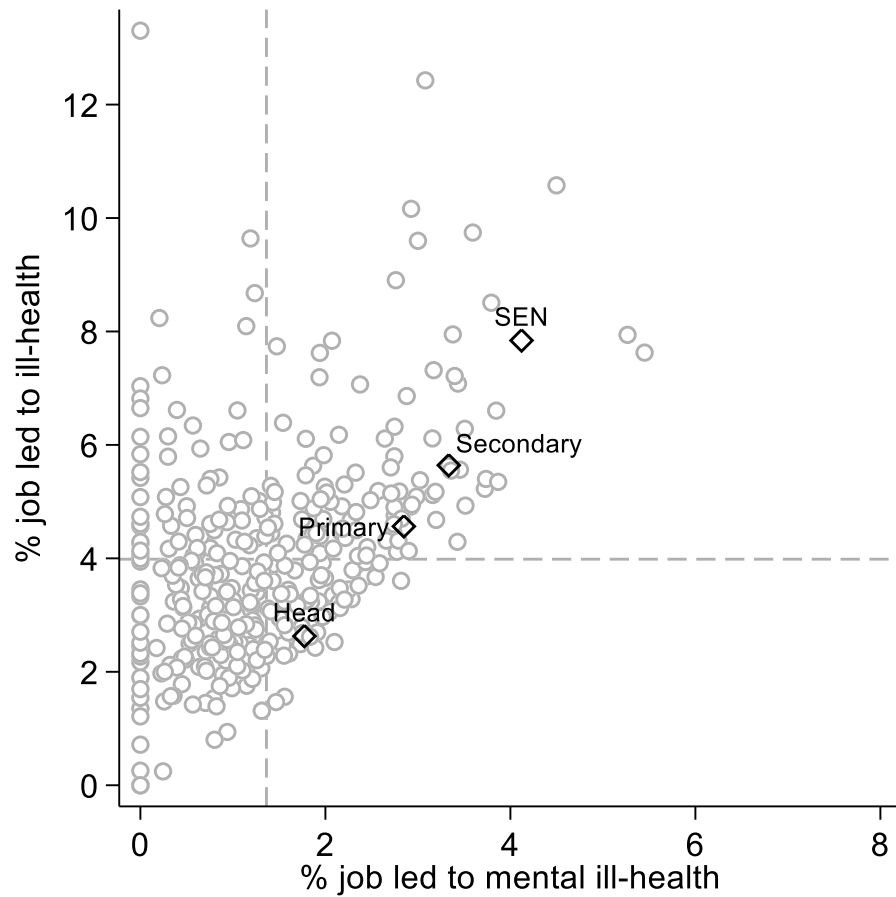
(b) Matched to other professions

Notes: Each datapoint represents one SOC occupation. Figures refer to the percent of workers who have a long-lasting health problem (vertical axis) and a long-lasting mental health problem (horizontal axis). Dashed lines illustrate the unweighted occupational average. The graph on the left presents the unconditional estimates for all occupations. The graph on the right presents the matching results, where comparators have been restricted to those working in professional jobs. Results restricted to occupations where the sample size is above 250.

Figure 4. The percent of teachers who reported their job led to ill-health and mental ill-health compared to other occupations (LFS).

(a) Unconditional (all occupations)   (b) Matched to other professions

Notes: Each datapoint represents one SOC occupation. Figures refer to the percent of workers who said that their job has led to a lasting problem with ill-health (vertical axis) and a lasting problem with their mental health (horizontal axis). Dashed lines illustrate the unweighted occupational average. The graph on the left presents the unconditional estimates for all occupations. The graph on the right presents the matching results, where comparators have been restricted to those working in professional jobs. Results restricted to occupations where the sample size is above 250.

Figure 5. The percent of teachers who are unhappy or have depression compared to other occupations. Matched analysis using Biobank

(a) High depression scale vs antidepressant use
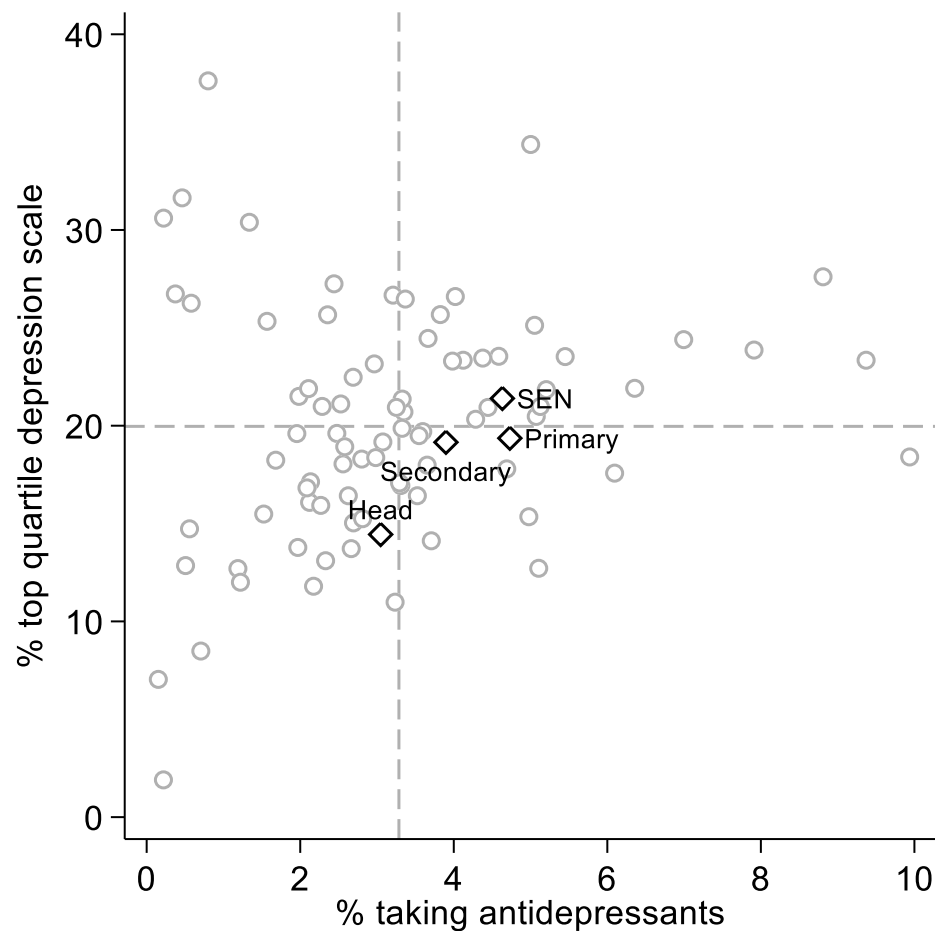
(b) % unhappy vs % unhappy with work
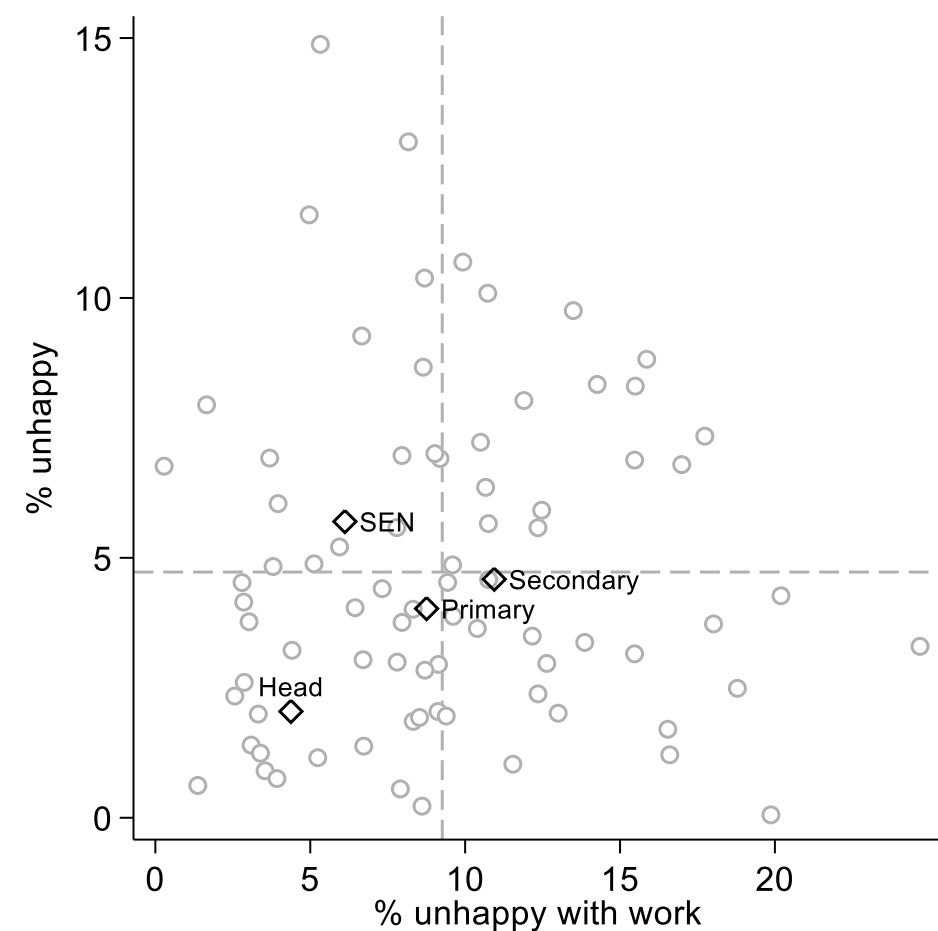
Notes: Each datapoint represents one SOC occupation. Dashed lines illustrate the unweighted occupational average. Both graphs present the matching estimates, where comparators have been restricted to those working in professional jobs. The left-hand graph compares the percentage of workers in each occupation who have been prescribed anti-depressants (horizontal axis) to the percentage of workers in the top quartile of the Biobank depression scale (vertical axis). The graph on the right presents analogous results for the percentage of workers in each occupation who say they are unhappy (vertical axis) and unhappy with work (horizontal axis). Results restricted to occupations where the sample size is above 25