

Mental distress and temporary employment: Empirical evidence from the UK

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Abstract

Lower health status is known to be associated with poor labour market outcomes. This paper presents an investigation into the relationships between three aspects of mental health (psychological distress, psychological anxiety, and life dissatisfaction), an indicator of general health status, and the probability of movement between temporary and permanent employment. Using data from the British Household Panel Survey, we find evidence of poor health acting as a stimulus for permanent workers to select into temporary work arrangements; and that this employment type switch is significantly influenced by job dissatisfaction. The implications of these findings are that cross-sectional studies will tend to overestimate the effect of contract type on mental well-being, while fixed effects estimation will likely exert a downward bias.

Keywords: Labour market outcomes; Psychological distress; Anxiety; Life satisfaction

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1. Introduction

Evidence suggests that lower general health status is associated with a deterioration of labour market status. Dominant explanations focus on health as a medically classified condition (Oliver, 1990) and emphasise the impacts of clinical factors on an individual's probability of being in employment *per se*. Empirical evidence is scant on the influences of lower health status on transitions between permanent and temporary employment. This research aims to fill this gap in the literature via the use of a panel data set, to better understand the relationship between health status (mental health in particular) and transitioning between permanent and temporary employment.

Several studies have examined the existence of the reverse relationship, i.e. that lower labour market status is associated with a deterioration of health status. For instance, Blaxter (1990) concludes that the primary cause of the apparent health inequalities along class lines is income inequality, and hence employment status. Silla *et al.* (2005) find that temporary workers, specifically those low in volition and employability, experience relatively poor health outcomes, with respect to well-being. Martens *et al.* (1999), with a sample of 480 employees, found that temporaries (employees on temporary contracts, working irregular hours, or working compressed working weeks) reported significantly more (up to 40 per cent more) health complaints than those with non-flexible work schedules. There is also much evidence that points to temporary workers experiencing more physical health issues, such as higher fatigue and stress levels, backache and muscular pains (Benavides and Benach, 1999; Benavides *et al.*, 2000). However, while there is ample research on the range of temporary employment arrangements and their resulting influence on health outcomes, Horwitz and Scheid (1999) argue that social disadvantage (e.g. via a temporary work arrangement) is potentially be both a cause and a consequence of poor health.¹

Much of the past literature that investigates the relationship between employment type and health tends to focus on general health issues. Researchers often group or must employ data that combines physical and mental health issues in one measure, thereby resulting in limited literature focusing specifically on the associations between mental health and employment type and/or propensity. Nevertheless, several important papers exist, such as Wagenaar *et al.* (2012) who find lower general health and higher emotional exhaustion can

¹ It is important to recognize that past studies that find a causal link between temporary work arrangements and poor health, may be capturing a degree of justification bias (see Butler *et al.*, 1987) whereby individuals who are not working in permanent employment report their health in a worse state in response to social pressure to justify not working.

predict future unemployment of permanent employees, and Anthony *et al.* (1995) who demonstrate that a diagnosis of poor mental health is not a reliable predictor of work capacity but may predict the likelihood of being in employment. García-Gómez *et al.* (2010) make use of the British Household Panel Survey and find that both general self-assessed health and a GHQ index to measure psychological well-being are important determinants of employment transitions in and out of the workforce. In spite of these important contributions, the extant research remains divided on whether mentally ill people become poor because of social selection or whether the poor become mentally ill because of social causation (Beresford, 2002).

This paper aims to fill a gap in the literature by presenting an investigation into the associations between three subjective indicators of mental health (psychological distress, psychological anxiety, and life satisfaction), an overall indicator of general health, and transitions between temporary and permanent employment. Our analysis exploits the panel nature of the British Household Panel Survey (hereafter BHPS), which is crucial in understanding whether the link between employment type and health status is more of a causal outcome, and /or a selection effect. If for instance the temporarily employed are identified as having lower mental health status than those in permanent employment then it is consistent with two mutually inclusive possibilities: (i) temporary employment may generate adverse mental health effects and/or (ii) a selection effect whereby individuals with below average mental health may be drawn away from permanent and into temporary employment.² If the latter reason is more prominent relative to the former, than previous cross section studies that estimate a negative influence of temporary employment on mental health status may be upwardly biased.

Another factor taken into consideration in this study is the role of job satisfaction, both in terms of its impact on mental health indicators, as well as its potential to reduce the role of employment type per se on mental health. In the following empirical analysis, we attempt to tease out the importance of unhappiness in the workplace when workers with poor mental health status transition from permanent to temporary employment.

The remainder of this paper is organized as follows: Section 2 will outline the relevant literature on this front, Section 3 provides a description of the data set sourced from the BHPS over the period of 1991 to 2009, and details the ordered logit approach undertaken; Section 4 presents the results and interprets key findings, while Section 5 concludes.

² Virtanen *et al.*'s (2005) literature review of the empirical association between temporary employment status and psychological morbidity suggests that many results may be confounded by selection bias.

2. Literature review

Many scholars have highlighted the increasing role of temporary employment arrangements in the workplace, as well as the diverse range of temporary settings (De Cuyper et al., 2008). Nollen (1996) notes that as many organizations adapt and learn to compete in an increasingly globally competitive environment, heterogenous employment contracts and greater flexibility is sought. The risks associated with limited time contracts are reduced hours and this frequently equates with increased pressure, less protection, and the potential for negative influences on health. Temporary employment is often assigned to the secondary sector within the hypothesized dual labour market and is regularly associated with more hazardous conditions for both physical and mental health.

De Jong et al (2009) acknowledges the possible mechanisms by which workers find themselves in temporary employment. First, free choice whereby workers choose temporary contracts for their positive qualities such as greater flexibility. Second, the lack of suitable permanent work opportunities may force some individuals into temporary work. Many of these workers may therefore enter temporary employment with the hope that it turns into a permanent contract. For example, Morris and Vekker (2001) find that for the United States, the majority of temporary workers would prefer a permanent placement (67 percent specifically). Understanding whether poor mental health is a factor driving the decisions of these individuals, or purely a potential outcome is the key focus of this study.

It is surprising that health does not feature more prominently in the literature investigating transitions between different employment types. For instance, Corsini and Guerrazzi (2007) evaluate the probability of transition from temporary to permanent employment in Tuscany, and find that demographic factors such as age and gender are particularly relevant, in addition to labour market characteristics such as past unemployment experience. However, most likely due to data constraints, as in many other similar empirical studies, health (whether good or bad) was not investigated as a possible driver of these transitions.

Polivka (1996) notes that there is a growing concern regarding the impacts of temporary employment on the individual. Booth et al (2002) finds that temporary workers in the UK report on average, lower levels of job satisfaction. However, the evidence is not consistent on this front. Connelly and Gallagher (2004) find evidence that points to equal,

lower, and higher levels of job satisfaction among temporary workers, relative to permanent workers. Such conclusions lead to the inevitable question, does a change in employment type precede the change in well-being / health status, or vice versa, or is this a two way street? De Cuyper and De Witte (2007) investigate the influence of employment type, and volition (contract preference) on one measure of well-being at the workplace (job satisfaction). Using a cross sectional survey in Belgium in 2004, they found that permanent employment was negatively related to job satisfaction, while volition was positively related. Such cross sectional evidence makes it difficult to pinpoint causal directions, and there is scant evidence from longitudinal data sources. The exceptions to this are Anthony et al (1995), Wagenaar et al (2012), Jones et al (2010), and García-Gómez et al (2010). By employing two waves of the Netherlands Working Conditions Cohort Study in 2008 and 2009, recent research by Wagenaar et al (2012) examined the existence of the hypothesized healthy worker effect, i.e. that healthy workers move ‘up’ in employment status, while those less healthy move ‘down’ in labour market status into temporary employment, or unemployment. This research used a range of health measures (including ‘general health’, ‘musculoskeletal symptoms’, ‘work satisfaction’, etc.) to examine whether employment contract changes from 2008 to 2009 could be predicted by health status. The two closest proxies for mental health status were ‘emotional exhaustion’ and ‘mental work ability’, and partial evidence was found to show that poorer health with respect to both variables led to downward employment trajectories. A key indication for future research highlighted by Wagenaar et al (2012) was to conduct longitudinal research over a longer time frame and to differentiate permanent employment from various types of temporary employment. The research conducted in this study does take this direction, and makes use of 18 waves / years of BHPS data, as well as differentiates fixed term contracts from seasonal / agency temping, and casual contracts, given the marked differences between these two forms of temporary work arrangements.

Other relevant research includes that by Anthony et al (1995), who closely followed a cohort of 275 individuals with severe mental illness and found that subjects that underwent a psychosocial rehabilitation programme experienced improvements in their work skills and those that became employed had lower symptom scores. While such analysis is narrow in its focus and cannot be generalised to the population, it does highlight the possible causal link between changes in health status and future changes in employment per se.

Another study that focussed on a sub-sample of the working age population is Jones et al (2010). They followed individuals as they retire (using twelve waves of the BHPS) to investigate whether health shocks precede and influence retirement age. Using both a self-

assessed measure of general health, as well as a constructed index for health stock, Jones et al (1995) find evidence for both men and women that health shocks are a key determinant of the hazard of early retirement.

A final piece of recent research, relevant to this study, is that by García-Gómez et al (2010), who also make use of the longitudinal nature of the BHPS. With data from twelve waves (1991 to 2002) they estimate the influence of health on the hazard of becoming employed or not. The health measures used encompassed both general health status and a GHQ measure of psychological well-being. They find, as expected, that a worsening of mental health increases the hazard ratio of non-employment, with this impact being greater for men, relative to women. Strangely, they also find that for those not working, a worsening of mental health either had no significant impact on the hazard of employment, or actually increased it. The authors argue that these unexpected results can be attributed to the worsening dimensions of “capable of making decisions”, and “enjoying day to day activities”. They therefore conjecture that those less happy with their situation of not working, and stressed with regard to their non-employment status, are more likely to return to employment. These results highlight the complex nature of the relationship between mental health and employment status. Differentiating between permanent and temporary employment, as well as between different forms of temporary employment may help to disentangle this relationship.

It is worth noting that both García-Gómez et al (2010) and Jones et al (2010) attempt to correct for reporting bias in the use of subjective measures by employing a latent variable approach to predict an objective index of health. However, given the focus of this research design, we theorise that it is the perceived health status of the individual from their own point of view that is paramount in its relationship with employment type and status, hence use of subjective health indicators is required.

Given the limited past literature on the role mental health plays with respect to an individual’s labour market status, this study aims to tackle several unanswered questions: (i) Does poor mental health status have a significant influence on the transition from permanent to temporary employment? (ii) Does mental health status differ significantly between individuals who never transit into temporary employment and those about to switch into that employment state? (iii) Does the effects described within (i) and (ii) differ for different types of temporary employment? E.g. Fixed term contracts versus seasonal / agency temping and casual (iv) Are the findings robust to different measures / proxies for mental health state? (v) Does job dissatisfaction play a role in the relationship between mental health and

employment type. We attempt to respond to these questions empirically in the remainder of this paper.

3. Data and Methodology

We employ the first 18 waves of the BHPS, 1991-2009, which is a nationally representative random sample annual survey of more than 5,000 households and approximately 10,000 individuals. It contains self-reported data covering household composition, demographic information, housing, training and education, health and caring, values and opinions, and labour market behaviour. It is with respect to this last domain that we make use of the variable that indicates whether the respondent's work contract is either permanent or non-permanent (i.e. temporary). The sample used here is restricted to those individuals of working age, who reported they were currently in paid-employment and who gave a valid response to being on either a permanent or non-permanent contract; this limits our sample to a maximum of 68,991 individuals, across the 18 years. It is also possible to partition our sample of non-permanent employees based on whether they hold a seasonal, agency temping, or casual contract versus those with fixed term contracts.

Our investigation into the associations between mental health and transitions between temporary and permanent employment exploits the panel nature of the BHPS. More specifically, we compare the mental health of respondents in permanent employment who never become temporarily employed (hereafter '*Nevers*')³ with five other groups within our panel: (i) those currently in permanent employment who subsequently become temporarily employed ('*Futures*'); (ii) those currently in permanent employment who were previously in temporary employment contracts ('*Pasts*'); (iii) those that report a transition into non-permanent employment in the next period ('*Switchers-In*'); (iv) those who report a transit out of temporary employment from the previous period ('*Switchers-Out*'); and (v) those currently in a spell of temporary employment ('*Temps*'). It is important to understand the differences between *Switchers-In* and *Futures*, and likewise between *Switchers-Out* and *Pasts*. *Switchers-In* are those who report a transition into non permanent employment between the present and the next year, whereas *Futures* are those who report further in the future a change into temporary employment. Similarly *Switchers-Out* are those who report a transition out of

³ *Nevers* are identified as never being in temporary employment during the sample period. Some may enter temporary employment after the 18 year sample time-frame, in which case the tendency is to under record the extent of the mental distress difference with *Futures*.

temporary employment between the present and the previous year, compared to *Pasts*, who are those who report further in the past a transit out of temporary employment.

To explore the association between employment type and mental health status we next require the use of data that relate to mental health status. Specifically, we use information sourced from three questions (see Bardasi and Francesconi, 2004; Taylor *et al.*, 2009):

1. **Psychological distress** – this uses the General Health Questionnaire (GHQ, 12 point measure) asked at each wave. The GHQ is widely used especially in the medical literature as an indicator of minor psychiatric morbidity and psychological distress. The GHQ has twelve items which each have a four (from 0 – 3) point scoring system that ranges from a ‘better/healthier than normal’ option, through a ‘same as usual’ and a ‘worse/more than usual’ to a ‘much worse/more than usual’ option. High scores correspond to low feelings of wellbeing and hence a measure of higher psychological distress. This provides us with a GHQ score of psychological distress ranging from 0 to 36. We collapse this index to a 12 point scale which indicates the number of items with which an individual ‘strongly agrees’ with each statement. It is important to note that while the following analysis employs the 12 point scale, results presented in the subsequent sections are robust to the 36 point scale.
2. **Psychological anxiety** – respondents are asked in each wave “*Do you have any of the health problems or disabilities listed on this card? Anxiety, depression or bad nerves, psychiatric problems.....*” Responses are binary and take the value of 1 if an individual suffers a mental health problem related to anxiety or depression and 0 (zero) otherwise.
3. **Life dissatisfaction** – in waves 6–10 and waves 12–18 respondents were asked “*How dissatisfied or satisfied are you with your life overall?*” Responses were given on a decreasing 7-point Likert scale ranging from ‘not satisfied at all’ to ‘completely satisfied.’ We reorder the variable so that it is decreasing in life satisfaction and retain the same range.⁴

We also make use of a general health indicator, which permits comparison of the relationship between mental health and employment type versus general health and employment type.

⁴ The correlations between the three measures of mental distress are sufficiently small to indicate that they measure different aspects of mental distress. In particular, the largest correlation is between psychological distress and life dissatisfaction (0.47), with the remaining correlations between psychological anxiety with respect to life dissatisfaction and psychological distress being markedly lower (0.20 and 0.29, respectively),

Tables 1a and b summarises the distribution and variation of the three mental health and one general health indicator amongst the six sample groups described earlier: *Nevers*, *Futures*, *Switchers-In*, *Temps*, *Switchers-Out* and *Pasts*. Table 1a presents these descriptive statistics in the case where temporary employment is classed as seasonal / agency temping / or casual, whereas Table 1b presents descriptives for the same sample where temporary work equates to fixed term contracts. The first of these tables shows that individuals who have been in temporary employment (whether it be seasonal, agency temping or casual) at some time over the sample time frame tend to be younger, female, single and have fewer dependent children in their household, relative to those that don't enter temporary employment during the same time frame (*Nevers*). A similar pattern emerges for Table 1b, with the exception of a marginally higher average age for *Pasts*, relative to *Nevers* (38.758 versus 38.302). Interestingly, there isn't an obvious pattern with regard to educational attainment, whether viewing Table 1a or 1b. *Temps*, *Switchers-Out*, and *Pasts*, are more likely to have university qualifications, relative to *Nevers* in Table 1a; and in Table 1b, *Nevers* are the group that is least likely to have university qualifications.

Table 1a indicates that *Temps* are more likely to own their home outright, relative to the five other groupings of workers. On the other hand, *Nevers* appear to be more likely to own with a mortgage. The first of these findings may reflect older workers who work part-time, and have paid off their home if they are at the end stage of their careers. As expected, with regards to labour market characteristics, those in non-permanent employment throughout the sample period work more hours on average, relative to other individuals in our sample. Additionally, these individuals are more likely to be managers, have promotion opportunities available, have a bonus or profit share as part of their employment agreement, and have an employer provided pension. These characteristics are expected, as they indicate the better job security and opportunities often available in the primary labour market.

In terms of flexibility with respect to work location (whether it be at home, employers' premises, etc), there doesn't appear to be a clear pattern illustrating greater flexibility is afforded to those that are *Nevers* versus others.

The descriptives within Tables 1a and 1b suggest that both mental and general health is better on average for individuals who never enter temporary employment. More specifically, *Nevers* have, almost exclusively, the lowest means of all three mental health status indicators. Interestingly, *Futures* have similar or worse mental health status to *Temps* across the table, a potential indicator that poor mental health (relative to the *Nevers*) is not a

consequence of becoming a temporary worker, but rather already in play for workers who will be in temporary employment in the future.

{Insert Tables 1a and 1b about here}

Using all health measures as our dependent variables, the next section reports the empirical results of regression analyses designed to identify whether these *prima facie* descriptive statistical disparities persist after account has been made for individual and workplace characteristics. We employ ordered logit regression, in which the dependent variable distinguishes our four indicators of health status. Prior literature has determined a number of factors which influence the mental health of an individual, including: age, gender, marital status, education, job type, and employer characteristics. Therefore in-line with the existing literature (e.g. Araya, et al., 2001; Breslau, et al., 2008; Lindstrom & Rosvall, 2012), all three mental health equations have covariates including personal and workplace-related variables, as well as sets of regional and year dummies. For instance, gender is included as it is well documented that women are more commonly associated with high levels of depression relative to men. In particular, they are found to be more likely to suffer from neurotic disorders such as stress and anxiety (e.g. Gove & Tudor, 1973; Weissman & Klerman, 1977; Rosenfield, 1980; Romans, et al., 2011). Men on the other hand, are more likely to suffer from mental disorders such as substance abuse (e.g. Robbins, 1989), and personality disorders (e.g. Dohrenwend & Dohrenwend, 1976). Further, where females have traditionally been more prone to self-harm (e.g. Hawton, 2000; Yates, 2004)⁵, men are more likely to commit suicide (e.g. Hawton, 1992; 2000; Middleton & Gunnell, 2000; Dye, et al., 2012). One explanation for the gender difference in mental health symptoms is that the sex roles defined by society lead women to internalise their distress (i.e. it is not socially acceptable for women to show aggression openly), whereas males are more likely to direct their distress outwardly (e.g. Bloch, 1973; Horwitz & White, 1987)⁶.

Marital status is another relevant piece of demographic information that needs to be controlled for when explaining health status. Unmarried, divorced, and widowed individuals also have a greater likelihood of poor mental health (e.g. Akhtar-Danesh & Landeen, 2007; Masacco, et al., 2008; Lindstrom & Rosvall, 2012). One explanation put forward is that these

⁵ Some recent evidence exists to suggest that men and women are equally likely to self-harm (e.g. Briere & Gil, 1998; Klonsky, et al., 2003), but that traditional definitions of self-harm obscured this fact, with women being more likely to cut themselves, while men are more likely to burn or hit themselves (Claus, et al., 2007).

⁶ See Rosenfield (1980) for a review of the various theoretical explanations for sex differences and depression.

individuals are lonelier, and lack the emotional and practical support of their married counterparts (Lindstrom & Rosvall, 2012). There are also interesting dynamics between mental health and educational attainment. While there is evidence that pre-existing mental health disorders negatively impact on the attainment of education (e.g. Kessler, et al., 1995; Akhtar-Danesh & Landeen, 2007, Breslau, et al., 2008), there is also some evidence to suggest individuals that obtain higher levels of education go on to experience mental health issues such as stress, anxiety, and depression (e.g. Akhtar-Danesh & Landeen, 2007). While the former is quite intuitive, the latter is less so, although one possible explanation might lie in job-related stressors (see for example, Maslach, et al., 2001 regarding job burn-out).

To justify the use of employer type information in the forthcoming analysis, we rely on evidence from Bogg and Cooper (1995) that found variation in mental health among public versus private sector employees. More specifically, their research documented that UK civil servants were less satisfied with their jobs and more prone to mental and physical ill health compared to their private sector counterparts. In particular, they perceive more stress from factors intrinsic to their job, such as excessive hours of work and comparatively poorer pay.

4. Results

Tables 2a and 2b present the odds ratio (and *significance levels*) estimates of ordered logistic regressions designed to identify how the probability of having low mental health status (psychological distress, psychological anxiety and life satisfaction) or poor general health, varies across groups on the basis of temporary employment status and transition. Inspection of the raw data reveals that out of all the recorded transitions into temporary employment, 65.93 percent are from permanent paid employment, 19.36 percent are from self-employed and 11.58 percent are from long-term sick/disabled; this leads us to believe that our sample should be a good representation of people that make up those who are temporarily employed.

{Insert Tables 2a and 2b about here}

It is important to remember that the higher the value of the odds ratio (when greater than 1), the more likely the individual will be distressed, anxious, dissatisfied with life, or experiencing worse general health. Table 2a reports the results for the sample where temporary employment is classed as seasonal, agency temping, or casual. Firstly, the

probability of low mental health increases with age, in particular, older workers are in general, more anxious and less satisfied with life; and females are significantly more likely to be distressed or anxious. Results with regard to the covariates concerning educational attainment are interesting. On the one hand, higher educational attainment seems to decrease the likelihood of poor general health, with the odds ratio for degree qualifications indicating that individuals with a degree are 27.6% less likely to experience worse general health, relative to individuals with no qualifications. On the other hand, greater educational attainment appears to have the opposite effect on the mental health status of the individual, with increased probability of psychological distress, and life dissatisfaction for individuals with post-school qualifications, relative to those with no qualifications. While this latter result may seem to be at odds with expectation, similar findings have been made in past literature with respect to job satisfaction, with the dominant explanation being that the higher the educational qualification, the higher the expectations of the individual, and often this results in the less likely that these expectations will be met.

Turning to the main focus of this paper, comparison of health by employment status, we first concentrate on mental health and therefore the 1st three columns of Table 2a. Recalling that the base category in all our regressions is *Nevers*, there are several findings that are worth emphasizing.

First, individuals who have experienced temporary employment at some time over the sample period, are significantly more likely to suffer from an inferior level of at least one of the three forms of mental health issues, relative to those who are always in permanent employment. However, a key finding is that this can be attributed mostly to those currently in or transitioning towards temporary employment (i.e. *Temps*, *Switchers-In*, and *Futures*)

Those that have been in temporary employment in the past (whether *Pasts* or *Switchers-Out*) do not appear to be experiencing significantly worse health, relative to *Nevers* with the exception of increased life dissatisfaction for *Switchers-Out*). Why those that have recently switched out of temporary employment towards permanent work are experiencing greater life dissatisfaction could reflect individuals' dissatisfaction at working full time. Perhaps, individuals who have had a recent shift from temporary to permanent employment, miss the positive attributes of temporary work, such as more leisure time, and greater flexibility.

Second, and consistent with existing studies, individuals currently in temporary employment (*Temps*) are significantly more likely to be associated with greater psychological distress and life dissatisfaction relative to those in permanent employment, but we find no

statistically significant relationship between *Temps* and psychological anxiety, even though the odds ratio is above one.

Third, individuals who are currently in permanent employment but will move into seasonal, agency or casual temporary employment in the next time period or further into the future (i.e. *Switchers-In* or *Futures*) are much more likely to be experiencing mental distress, relative to *Nevers*. Infact, *Switchers-In* are likely to be experiencing all three types of mental health issues, while *Futures* are likely to be experiencing two out of the three (psychological distress and life dissatisfaction). These findings raise the question about whether individuals with more mental health issues choose to leave permanent employment status of their own volition or whether such individuals are *encouraged* to leave. A future direction for further research on this front (when suitable data is available) is to also investigate whether *Futures* and *Switchers-In* experience higher levels of discrimination (whether real or perceived) in the work-place, whilst in permanent employment.

Importantly, finding similar impacts on mental health between individuals classed as *Switchers-In* and *Temps* corroborates the view that seasonal, agency or casual temporary employment does not necessarily create poor mental health levels and instead people with poor mental health levels are selected into these types of temporary work, either through choice or cohesion. Moreover, the higher odd ratios on the *Switchers-In* dummy relative to *Futures* suggests that wellbeing (in terms of psychological anxiety and life dissatisfaction) worsens up to and peaks at the point of transition.

Results from Table 2a also indicate that the effects of mental health on the transition into permanent employment for *Switchers-Out* and *Pasts* are small and not statistically significant, except for *Switchers-Out* and life satisfaction where there is a positive and significant relationship (at the 5 per cent level). This suggests that if temporary employment does negatively affect mental health then the effects are only short-lived once back in permanent employment.

The final column of Table 2a repeats the analysis for poor general health, rather than the previous indicators of mental health. The odds ratios and significance levels for employment type dummies when the dependent variable is poor general health are not as strong as those for psychological distress and life dissatisfaction. This may be a signal that it is mental health issues in particular, rather than overall subjective health that drives selection into temporary employment. In particular, the estimates in the final column of Table 2a reveals that both *Pasts* and *Futures* are significantly more likely (albeit at just the 10% significance level) to have poorer general health, relative to *Nevers*.

Table 2b repeats the analysis for those who hold fixed term contracts. These results are generally much weaker, compared to the comparable estimates in Table 2a, and consequently indicate the heterogenous nature of different forms of temporary employment, in terms of its relationship with mental health indicators. There is some evidence that individuals with low life satisfaction select into this form of temporary contract. There appears to be no significant and positive relationship with any of the mental health measures and *Temps*. Instead, we only find evidence significant at the 5% level or better that individuals who switch into temporary employment in the next time period experience greater levels of life dissatisfaction.

Is poor job satisfaction a catalyst?

One possible explanation of the results in Tables 2a and 2b is that individuals who are categorised as *Switchers-In* or *Futures* (i.e. workers moving from permanent to temporary employment either in the next time period or later) have unusually poor permanent jobs, and that these poor jobs influence both employment transitions and well-being. For instance, these individuals could be experiencing higher levels of job-related stress in their permanent jobs which is reflected in low life satisfaction and greater psychological distress, and consequently encourages such individuals to change their employment type, which in this case is onto a temporary contract. The BHPS does not have a particularly rich set of variables that would be able to fully describe differences in working conditions and the effect that these may have on individual level well being. However, to test this proposition, we include job satisfaction as a right hand side control. This variable is measured in each wave of the BHPS, respondents are asked “*All things considered, how satisfied or dissatisfied are you with your present job?*”. As with the life dissatisfaction measure, responses were given using the same 7 point likert scale and rescaled so that it is decreasing in job satisfaction, i.e. increasing in job dissatisfaction. Results for this empirical exercise are provided in Table 3, where we report the odds ratios for the different employment types and the new control of job dissatisfaction. Other control variables provided in the analysis contained within Tables 2a were included in the specification, but not reported for the sake of brevity.

< Insert Table 3 here >

Across the entire sample, regardless of whether temporary workers are seasonal / agency temping / casual or fixed term contract, job dissatisfaction acts as a significant precursor to all three indicators of mental distress (rising levels of psychological distress / anxiety and life dissatisfaction)⁷, and the one indicator of overall poor general health. For the first classification of temporary workers (seasonal / agency temping or casual), odds ratios and significance levels of employment type variables in Table 2a need to be compared with the top half of Table 3. For example, in terms of psychological distress, the inclusion of job dissatisfaction as a right hand side control, significantly reduces the size of the odds ratios. In particular, the *Futures* dummy moves from significant at the 1% level (OR = 1.232) to just significant at the 10% level (OR = 1.133). While the impact on psychological distress of being classed as *Temps*, relative to *Nevers*, remains significant at the 1% level, the odds ratio falls from 1.493 to 1.309. These findings suggest that accounting for job dissatisfaction, acts to reduce / mitigate the impact of employment type on psychological distress, for those either in temporary employment or entering into temporary work in the future. For the same sample with respect to psychological anxiety, the only significant impact was on the dummy for *Switchers-In* in Table 2a and this effect moves from 10% significance to insignificant when viewing Table 3. In terms of life dissatisfaction, the inclusion of job dissatisfaction removes significance from the *Temps*, *Switchers-In* and *Future* dummies.

We next compare the odds ratios for employment type in Table 2b (in the case where temporary work is fixed term contracts) with the bottom half of Table 3. There are no longer any significant impacts of employment type on mental health status, once we control for job dissatisfaction – except for the impact of the *Pasts* dummy on psychological anxiety, at the 10% significance level. This adds further weight to the argument that unhappiness in the workplace mitigates the role of employment arrangement per se with respect to mental health. Of course it can be debated as to whether it is the circumstance of permanent employment that results in the individuals' unhappiness in the workplace, or whether it is the particular job characteristics, or both. It may be that this group of individuals find it difficult to handle the demands of permanent employment, as they may be balancing heavy work and household responsibilities, hence the need to select into temporary contracts. Therefore, future research should investigate the potential positive externalities derived from this type of employment, i.e. as a haven for people not able to deal with the stresses and strains of permanent employment.

⁷ Note that the correlation between job dissatisfaction and the three mental health variables (psychological distress, psychological anxiety, and life dissatisfaction) is 0.241, 0.082, and 0.329 respectively.

4. Conclusion

Existing research suggests that poorer labour market status is associated with lower general health status. This paper fills a gap in the literature by focusing on the association between mental health status (psychological distress, psychological anxiety and life satisfaction), general health, and the transition between temporary and permanent employment.

Evidence is provided that permanent employees who will be in temporary employment in the future have lower levels of mental health relative to individuals who never transition into temporary employment. We also find that the strength of the relationship between employment type and mental health is similar for those currently in temporary employment and for those in permanent employment who will be temporarily employed in the future. We therefore surmise that people with low mental well-being select into temporary employment. Consequently, it is likely that prior cross-sectional evidence investigating the relationship between health status and employment type may be an amalgam of selection and situational effects and thus over estimate the effect of contract type on well being.

The second major finding is that controlling for job dissatisfaction in our ordered logit regressions significantly dampened the influence of employment type on mental health. In particular, once we include job dissatisfaction on the right hand side of our regression equations, the odds ratios fell substantially and dropped in significance for those in temporary employment or entering temporary work in the future (i.e. *Switchers-In* and *Temps*). One potential explanation for this result is that individuals observed as leaving their permanent jobs and entering into temporary employment may have lower quality jobs, where quality is proxied by job dissatisfaction in this case. If this explanation holds true then fixed effects estimation in a panel data set such as the BHPS will put a downward bias on the estimated effects of contract type change on an individuals' well being.

In conclusion, it appears that poor health influences employment contract type via a selection effect, and in part, this selection process is governed by individuals who switch into temporary employment due to unhappiness in the workplace.

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Table 1a: Seasonal/Agency Temping/Casual

Variable	<i>Nevers</i>		<i>Futures</i>		<i>Switchers-In</i>		<i>Temps</i>		<i>Switchers-Out</i>		<i>Pasts</i>	
	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>
<i>Mental health</i>												
Psychological distress	1.655	(2.729)	1.927	(2.907)	2.264	(3.265)	2.088	(2.991)	1.825	(2.808)	1.891	(3.025)
Psychological anxiety	0.044	(0.205)	0.050	(0.218)	0.083	(0.276)	0.061	(0.239)	0.058	(0.233)	0.066	(0.248)
Life dissatisfaction	2.759	(1.088)	2.830	(1.126)	2.961	(1.171)	2.933	(1.263)	2.936	(1.226)	2.884	(1.121)
Poor general health	1.976	(0.808)	2.040	(0.806)	2.172	(0.854)	2.042	(0.815)	2.069	(0.818)	2.068	(0.816)
<i>Smoking Behaviour</i>												
Number of Cigarettes per day	3.901	(7.729)	5.214	(9.023)	5.072	(0.916)	5.312	(8.504)	5.004	(8.159)	4.689	(8.372)
<i>Demographics</i>												
Age	38.302	(11.475)	35.733	(11.069)	33.699	(11.952)	32.743	(12.776)	32.590	(11.551)	37.502	(10.541)
Female	0.475	(0.499)	0.584	(0.493)	0.603	(0.490)	0.616	(0.0487)	0.632	(0.483)	0.635	(0.482)
<i>Marital Status</i>												
Married or cohabitating	0.744	(0.436)	0.721	(0.449)	0.607	(0.489)	0.536	(0.499)	0.566	(0.496)	0.672	(0.469)
Widowed/divorced/separated	0.075	(0.263)	0.073	(0.259)	0.075	(0.263)	0.069	(0.253)	0.062	(0.241)	0.100	(0.300)
Never married	0.181	(0.385)	0.207	(0.405)	0.318	(0.466)	0.395	(0.489)	0.373	(0.484)	0.228	(0.420)
<i>Household Structure</i>												
No. of dependent children	0.606	(0.927)	0.660	(0.950)	0.632	(0.989)	0.594	(0.997)	0.628	(0.999)	0.707	(0.982)
<i>Educational Attainment</i>												
University	0.152	(0.359)	0.136	(0.343)	0.117	(0.322)	0.180	(0.384)	0.189	(0.392)	0.190	(0.393)
Further education	0.307	(0.461)	0.262	(0.440)	0.291	(0.455)	0.212	(0.409)	0.263	(0.441)	0.364	(0.481)
A-level	0.132	(0.339)	0.128	(0.334)	0.151	(0.358)	0.163	(0.369)	0.144	(0.351)	0.106	(0.308)
O-levels/GCSEs	0.212	(0.408)	0.209	(0.407)	0.183	(0.387)	0.198	(0.399)	0.188	(0.391)	0.163	(0.369)
Other qualifications	0.076	(0.264)	0.133	(0.339)	0.125	(0.331)	0.100	(0.300)	0.099	(0.298)	0.087	(0.281)
No qualifications	0.122	(0.328)	0.133	(0.339)	0.134	(0.341)	0.148	(0.355)	0.118	(0.323)	0.090	(0.287)
<i>Housing Tenure</i>												
Outright owner	0.136	(0.343)	0.102	(0.302)	0.129	(0.336)	0.171	(0.376)	0.124	(0.329)	0.137	(0.344)
Own with mortgage	0.681	(0.466)	0.686	(0.464)	0.583	(0.494)	0.519	(0.500)	0.554	(0.497)	0.628	(0.483)

Private renter	0.086	(0.280)	0.088	(0.283)	0.129	(0.336)	0.149	(0.356)	0.159	(0.366)	0.100	(0.300)
Social housing	0.097	(0.296)	0.125	(0.330)	0.159	(0.366)	0.162	(0.368)	0.164	(0.371)	0.135	(0.342)
<i>Labour Market Characteristics</i>												
Union Covered, Member	0.324	(0.468)	0.341	(0.474)	0.202	(0.402)	0.111	(0.314)	0.188	(0.391)	0.313	(0.464)
Union Covered, Not Member	0.172	(0.378)	0.149	(0.356)	0.172	(0.378)	0.274	(0.446)	0.283	(0.451)	0.216	(0.411)
Not Covered	0.504	(0.500)	0.510	(0.500)	0.627	(0.484)	0.616	(0.487)	0.530	(0.500)	0.471	(0.499)
Annual Labour Income	9.512	(0.861)	9.159	(0.961)	8.873	(1.155)	8.347	(1.244)	8.891	(0.842)	9.302	(0.830)
Hours Worked per Week	38.833	(11.506)	35.858	(13.069)	34.725	(14.559)	30.691	(14.320)	35.238	(13.051)	35.294	(12.397)
Manager / supervisor	0.407	(0.491)	0.305	(0.461)	0.245	(0.430)	0.095	(0.294)	0.195	(0.397)	0.267	(0.443)
Holding a second job	0.084	(0.277)	0.124	(0.330)	0.129	(0.335)	0.132	(0.338)	0.118	(0.323)	0.102	(0.302)
Promotion opportunities available	0.529	(0.499)	0.501	(0.500)	0.459	(0.499)	0.257	(0.437)	0.540	(0.499)	0.506	(0.500)
Pay includes bonus / profit share	0.340	(0.474)	0.237	(0.425)	0.239	(0.427)	0.104	(0.305)	0.178	(0.383)	0.273	(0.445)
Employer provided pension available	0.560	(0.496)	0.466	(0.499)	0.267	(0.443)	0.083	(0.277)	0.273	(0.446)	0.509	(0.500)
Pay includes annual rises	0.470	(0.499)	0.466	(0.499)	0.357	(0.480)	0.212	(0.409)	0.469	(0.499)	0.502	(0.500)
Shift worker	0.083	(0.276)	0.103	(0.304)	0.072	(0.259)	0.061	(0.239)	0.091	(0.288)	0.062	(0.242)
Work from home	0.015	(0.120)	0.008	(0.091)	0.006	(0.079)	0.014	(0.115)	0.010	(0.097)	0.007	(0.084)
Other work location	0.073	(0.261)	0.058	(0.234)	0.073	(0.261)	0.124	(0.330)	0.071	(0.256)	0.071	(0.257)
Employers' premises	0.825	(0.380)	0.858	(0.349)	0.839	(0.368)	0.803	(0.398)	0.865	(0.343)	0.852	(0.355)
Work needs travelling	0.088	(0.283)	0.075	(0.264)	0.082	(0.274)	0.059	(0.237)	0.056	(0.229)	0.070	(0.255)
<i>Occupation One Digit Classification</i>												
Managers & Administrators	0.173	(0.378)	0.075	(0.263)	0.017	(0.260)	0.025	(0.155)	0.055	(0.228)	0.089	(0.285)
Professional	0.093	(0.291)	0.126	(0.332)	0.089	(0.286)	0.081	(0.273)	0.079	(0.270)	0.115	(0.319)
Associate Professional & Technical	0.115	(0.319)	0.115	(0.319)	0.092	(0.289)	0.071	(0.256)	0.094	(0.292)	0.116	(0.320)
Clerical & Secretarial	0.175	(0.380)	0.217	(0.412)	0.202	(0.402)	0.242	(0.429)	0.264	(0.441)	0.227	(0.419)
Craft & Related	0.109	(0.312)	0.094	(0.292)	0.073	(0.260)	0.059	(0.235)	0.078	(0.268)	0.083	(0.276)
Personal & Protective Service	0.105	(0.307)	0.115	(0.319)	0.175	(0.380)	0.157	(0.364)	0.147	(0.355)	0.127	(0.333)
Sales	0.073	(0.260)	0.090	(0.286)	0.100	(0.300)	0.091	(0.287)	0.083	(0.276)	0.085	(0.279)
Plant & Machine Operatives	0.089	(0.285)	0.098	(0.298)	0.102	(0.303)	0.137	(0.344)	0.098	(0.297)	0.089	(0.285)
Other	0.068	(0.252)	0.070	(0.255)	0.096	(0.096)	0.138	(0.138)	0.103	(0.103)	0.069	(0.069)

<i>Employing Sector</i>												
Private Firm	0.722	(0.448)	0.680	(0.467)	0.752	(0.432)	0.732	(0.443)	0.726	(0.446)	0.646	(0.478)
Civil Service	0.046	(0.210)	0.021	(0.145)	0.013	(0.112)	0.023	(0.150)	0.028	(0.164)	0.034	(0.182)
Local Government	0.126	(0.332)	0.192	(0.394)	0.132	(0.339)	0.172	(0.378)	0.167	(0.374)	0.197	(0.398)
Other Public	0.078	(0.267)	0.081	(0.273)	0.064	(0.245)	0.053	(0.223)	0.053	(0.223)	0.088	(0.283)
Non-Profit	0.029	(0.167)	0.026	(0.159)	0.040	(0.197)	0.020	(0.140)	0.026	(0.160)	0.034	(0.182)
<i>Firm Size -Number of Co-workers</i>												
0-49	0.474	(0.499)	0.528	(0.499)	0.575	(0.495)	0.584	(0.493)	0.552	(0.498)	0.498	(0.500)
50-499	0.354	(0.478)	0.322	(0.467)	0.310	(0.463)	0.273	(0.446)	0.299	(0.458)	0.343	(0.475)
Over 500	0.172	(0.377)	0.150	(0.358)	0.115	(0.319)	0.143	(0.350)	0.148	(0.356)	0.159	(0.366)
<i>Standard Industrial Classification</i>												
Agriculture & Fishing	0.009	(0.096)	0.123	(0.111)	0.019	(0.136)	0.018	(0.132)	0.009	(0.096)	0.007	(0.086)
Mining & Quarrying	0.004	(0.063)	0.004	(0.065)	0.008	(0.091)	0.001	(0.031)	0.003	(0.052)	0.003	(0.055)
Manufacturing	0.021	(0.407)	0.225	(0.418)	0.152	(0.359)	0.154	(0.361)	0.179	(0.384)	0.171	(0.377)
Electricity, Gas & Water	0.010	(0.100)	0.001	(0.029)	0.004	(0.064)	0.008	(0.090)	0.015	(0.121)	0.009	(0.096)
Construction	0.041	(0.199)	0.039	(0.194)	0.037	(0.190)	0.032	(0.175)	0.030	(0.169)	0.031	(0.174)
Wholesale & Retail Trade	0.148	(0.148)	0.152	(0.359)	0.177	(0.382)	0.128	(0.335)	0.143	(0.351)	0.132	(0.338)
Hotels & Restaurants	0.043	(0.203)	0.046	(0.209)	0.087	(0.283)	0.100	(0.299)	0.074	(0.261)	0.035	(0.183)
Transport, Storage & Communication	0.067	(0.251)	0.066	(0.248)	0.067	(0.250)	0.060	(0.238)	0.068	(0.252)	0.064	(0.245)
Financial Intermediation	0.055	(0.251)	0.044	(0.204)	0.035	(0.185)	0.033	(0.178)	0.030	(0.169)	0.042	(0.202)
Real Estate & Business Activities	0.099	(0.299)	0.078	(0.268)	0.100	(0.300)	0.144	(0.351)	0.103	(0.304)	0.094	(0.291)
Public Administration & Defence	0.086	(0.280)	0.056	(0.230)	0.031	(0.174)	0.040	(0.200)	0.048	(0.214)	0.070	(0.255)
Education	0.073	(0.260)	0.125	(0.331)	0.104	(0.306)	0.116	(0.320)	0.106	(0.308)	0.146	(0.353)
Health & Social Work	0.107	(0.309)	0.118	(0.322)	0.144	(0.351)	0.085	(0.278)	0.122	(0.327)	0.144	(0.351)
Social & Personal Services	0.040	(0.196)	0.026	(0.160)	0.023	(0.150)	0.058	(0.234)	0.054	(0.225)	0.042	(0.200)
Private Households & Extra-Territorial Organizations	0.008	(0.091)	0.008	(0.091)	0.013	(0.111)	0.024	(0.152)	0.017	(0.131)	0.011	(0.102)

Region of Residence

London	0.090	(0.286)	0.076	(0.265)	0.085	(0.280)	0.105	(0.306)	0.087	(0.282)	0.079	(0.269)
South East	0.200	(0.399)	0.233	(0.423)	0.212	(0.409)	0.204	(0.403)	0.209	(0.407)	0.187	(0.390)
South West	0.094	(0.291)	0.090	(0.286)	0.092	(0.289)	0.088	(0.283)	0.091	(0.288)	0.097	(0.296)
East Anglia	0.043	(0.203)	0.019	(0.138)	0.033	(0.180)	0.040	(0.196)	0.039	(0.194)	0.043	(0.203)
East Midlands	0.089	(0.285)	0.064	(0.245)	0.085	(0.280)	0.084	(0.277)	0.075	(0.264)	0.090	(0.285)
West Midlands	0.087	(0.282)	0.107	(0.310)	0.096	(0.294)	0.086	(0.280)	0.095	(0.294)	0.091	(0.288)
North West	0.114	(0.318)	0.120	(0.325)	0.125	(0.331)	0.090	(0.287)	0.093	(0.290)	0.077	(0.267)
Yorkshire & Humber	0.093	(0.291)	0.105	(0.307)	0.104	(0.306)	0.100	(0.300)	0.103	(0.305)	0.122	(0.328)
North East	0.061	(0.239)	0.065	(0.246)	0.054	(0.226)	0.065	(0.247)	0.052	(0.223)	0.054	(0.227)
Wales	0.050	(0.218)	0.052	(0.222)	0.042	(0.200)	0.055	(0.228)	0.062	(0.241)	0.065	(0.247)
Scotland	0.081	(0.272)	0.070	(0.255)	0.073	(0.260)	0.085	(0.279)	0.093	(0.290)	0.095	(0.294)
N (68,991)	57,752		2,388		481		2081		747		5542	

Table 1b: Fixed Term Contract

Variable	<i>Nevers</i>		<i>Futures</i>		<i>Switchers-In</i>		<i>Temps</i>		<i>Switchers-Out</i>		<i>Pasts</i>	
	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>	<i>Mean</i>	<i>(Std. Dev)</i>
<i>Mental health</i>												
Psychological distress	1.655	(2.729)	1.866	(2.762)	1.811	(2.744)	1.781	(2.766)	1.775	(2.764)	1.661	(2.790)
Psychological anxiety	0.044	(0.205)	0.052	(0.222)	0.059	(0.236)	0.046	(0.211)	0.037	(0.189)	0.054	(0.226)
Life dissatisfaction	2.759	(1.088)	2.842	(1.051)	2.972	(1.150)	2.794	(1.074)	2.736	(1.078)	2.789	(1.063)
Poor general health	1.976	(0.808)	1.995	(0.807)	2.000	(0.775)	1.935	(0.815)	1.928	(0.758)	1.971	(0.787)
<i>Smoking Behaviour</i>												
Number of Cigarettes per day	3.901	(7.729)	4.154	(8.182)	3.592	(7.465)	3.521	(7.109)	3.724	(7.306)	3.418	(7.089)
<i>Demographics</i>												
Age	38.302	(11.475)	34.622	(10.125)	34.567	(11.110)	34.587	(11.745)	35.104	(11.231)	38.758	(10.697)
Female	0.475	(0.499)	0.576	(0.494)	0.507	(0.501)	0.536	(0.499)	0.508	(0.500)	0.505	(0.500)
<i>Marital Status</i>												
Married or cohabitating	0.744	(0.436)	0.712	(0.453)	0.638	(0.481)	0.618	(0.486)	0.641	(0.480)	0.721	(0.448)
Widowed/divorced/separated	0.075	(0.263)	0.056	(0.231)	0.049	(0.217)	0.057	(0.232)	0.060	(0.238)	0.073	(0.260)
Never married	0.181	(0.385)	0.231	(0.422)	0.313	(0.464)	0.325	(0.469)	0.300	(0.458)	0.206	(0.404)
<i>Household Structure</i>												
No. of dependent children	0.606	(0.927)	0.684	(0.953)	0.663	(1.005)	0.635	(0.998)	0.658	(1.014)	0.679	(0.980)
<i>Educational Attainment</i>												
University	0.152	(0.359)	0.232	(0.422)	0.276	(0.447)	0.345	(0.475)	0.279	(0.449)	0.268	(0.443)
Further education	0.307	(0.461)	0.261	(0.439)	0.268	(0.444)	0.253	(0.435)	0.307	(0.462)	0.370	(0.483)
A-level	0.132	(0.339)	0.151	(0.358)	0.138	(0.345)	0.138	(0.345)	0.126	(0.332)	0.100	(0.300)
O-levels/GCSEs	0.212	(0.408)	0.190	(0.392)	0.178	(0.383)	0.147	(0.354)	0.156	(0.363)	0.138	(0.345)
Other qualifications	0.076	(0.264)	0.098	(0.298)	0.065	(0.247)	0.063	(0.243)	0.068	(0.252)	0.072	(0.259)
No qualifications	0.122	(0.328)	0.069	(0.254)	0.075	(0.264)	0.055	(0.227)	0.065	(0.246)	0.052	(0.221)
<i>Housing Tenure</i>												
Outright owner	0.136	(0.343)	0.081	(0.273)	0.102	(0.302)	0.129	(0.335)	0.135	(0.342)	0.139	(0.346)
Own with mortgage	0.681	(0.466)	0.731	(0.443)	0.654	(0.477)	0.603	(0.489)	0.635	(0.482)	0.684	(0.465)

Private renter	0.086	(0.280)	0.089	(0.285)	0.139	(0.346)	0.160	(0.366)	0.127	(0.334)	0.094	(0.292)
Social housing	0.097	(0.296)	0.098	(0.298)	0.106	(0.309)	0.109	(0.312)	0.103	(0.304)	0.084	(0.277)
<i>Labour Market Characteristics</i>												
Union Covered, Member	0.324	(0.468)	0.351	(0.477)	0.270	(0.444)	0.229	(0.421)	0.283	(0.451)	0.373	(0.484)
Union Covered, Not Member	0.172	(0.378)	0.168	(0.374)	0.209	(0.407)	0.387	(0.487)	0.296	(0.457)	0.225	(0.418)
Not Covered	0.504	(0.500)	0.481	(0.500)	0.521	(0.500)	0.384	(0.486)	0.421	(0.494)	0.402	(0.490)
Annual Labour Income	9.512	(0.861)	9.330	(0.953)	9.217	(1.071)	8.968	(1.151)	9.293	(0.781)	9.585	(0.795)
Hours Worked per Week	38.833	(11.506)	37.112	(12.691)	37.277	(13.023)	34.488	(13.443)	37.189	(13.014)	38.022	(11.571)
Manager / supervisor	0.407	(0.491)	0.368	(0.482)	0.322	(0.468)	0.191	(0.393)	0.262	(0.440)	0.3862	(0.487)
Holding a second job	0.084	(0.277)	0.139	(0.346)	0.141	(0.349)	0.179	(0.384)	0.152	(0.359)	0.105	(0.306)
Promotion opportunities available	0.529	(0.499)	0.529	(0.499)	0.474	(0.0500)	0.353	(0.478)	0.567	(0.496)	0.534	(0.500)
Pay includes bonus / profit share	0.340	(0.474)	0.287	(0.453)	0.234	(0.424)	0.095	(0.293)	0.195	(0.396)	0.266	(0.442)
Employer provided pension available	0.560	(0.496)	0.508	(0.500)	0.430	(0.496)	0.316	(0.465)	0.442	(0.497)	0.610	(0.488)
Pay includes annual rises	0.470	(0.499)	0.484	(0.500)	0.476	(0.500)	0.441	(0.497)	0.540	(0.500)	0.568	(0.495)
Shift worker	0.083	(0.276)	0.071	(0.256)	0.077	(0.267)	0.051	(0.220)	0.067	(0.250)	0.061	(0.239)
Work from home	0.015	(0.120)	0.009	(0.095)	0.005	(0.071)	0.012	(0.110)	0.008	(0.088)	0.009	(0.096)
Other work location	0.073	(0.261)	0.069	(0.254)	0.148	(0.355)	0.132	(0.338)	0.105	(0.307)	0.085	(0.279)
Employers' premises	0.825	(0.380)	0.872	(0.334)	0.768	(0.423)	0.802	(0.398)	0.807	(0.395)	0.830	(0.376)
Work needs travelling	0.088	(0.283)	0.050	(0.217)	0.080	(0.272)	0.054	(0.226)	0.080	(0.272)	0.076	(0.265)
<i>Occupation One Digit Classification</i>												
Managers & Administrators	0.173	(0.378)	0.119	(0.324)	0.103	(0.305)	0.059	(0.235)	0.076	(0.265)	0.129	(0.335)
Professional	0.093	(0.291)	0.165	(0.371)	0.182	(0.387)	0.273	(0.446)	0.194	(0.395)	0.177	(0.382)
Associate Professional & Technical	0.115	(0.319)	0.125	(0.331)	0.136	(0.343)	0.156	(0.363)	0.142	(0.350)	0.159	(0.366)
Clerical & Secretarial	0.175	(0.380)	0.406	(0.406)	0.340	(0.340)	0.390	(0.390)	0.211	(0.408)	0.179	(0.383)
Craft & Related	0.109	(0.312)	0.084	(0.277)	0.091	(0.288)	0.081	(0.273)	0.076	(0.265)	0.081	(0.273)
Personal & Protective Service	0.105	(0.307)	0.109	(0.312)	0.138	(0.345)	0.112	(0.315)	0.125	(0.331)	0.110	(0.313)
Sales	0.073	(0.260)	0.066	(0.248)	0.052	(0.222)	0.027	(0.162)	0.039	(0.193)	0.035	(0.184)
Plant & Machine Operatives	0.089	(0.285)	0.079	(0.269)	0.081	(0.274)	0.049	(0.216)	0.059	(0.236)	0.053	(0.225)
Other	0.068	(0.252)	0.046	(0.209)	0.084	(0.277)	0.057	(0.232)	0.079	(0.270)	0.078	(0.268)

<i>Employing Sector</i>												
Private Firm	0.722	(0.448)	0.676	(0.468)	0.619	(0.486)	0.465	(0.499)	0.545	(0.498)	0.568	(0.495)
Civil Service	0.046	(0.210)	0.034	(0.181)	0.028	(0.166)	0.030	(0.172)	0.037	(0.188)	0.047	(0.212)
Local Government	0.126	(0.332)	0.168	(0.374)	0.197	(0.398)	0.272	(0.445)	0.233	(0.423)	0.227	(0.419)
Other Public	0.077	(0.267)	0.081	(0.272)	0.102	(0.303)	0.166	(0.373)	0.131	(0.338)	0.103	(0.303)
Non-Profit	0.029	(0.167)	0.042	(0.200)	0.054	(0.226)	0.066	(0.248)	0.054	(0.227)	0.055	(0.229)
<i>Firm Size -Number of Co-workers</i>												
0-49	0.474	(0.499)	0.467	(0.499)	0.513	(0.501)	0.434	(0.496)	0.462	(0.499)	0.441	(0.497)
50-499	0.354	(0.478)	0.365	(0.482)	0.308	(0.462)	0.331	(0.471)	0.330	(0.471)	0.373	(0.484)
Over 500	0.172	(0.377)	0.168	(0.374)	0.180	(0.385)	0.235	(0.424)	0.208	(0.406)	0.186	(0.389)
<i>Standard Industrial Classification</i>												
Agriculture & Fishing	0.009	(0.096)	0.003	(0.053)	0.010	(0.099)	0.010	(0.097)	0.008	(0.088)	0.003	(0.051)
Mining & Quarrying	0.004	(0.063)	0.006	(0.078)	0.003	(0.050)	0.003	(0.058)	0.003	(0.056)	0.003	(0.053)
Manufacturing	0.210	(0.407)	0.231	(0.422)	0.146	(0.353)	0.126	(0.331)	0.136	(0.344)	0.135	(0.341)
Electricity, Gas & Water	0.010	(0.100)	0.010	(0.097)	0.003	(0.050)	0.008	(0.091)	0.008	(0.088)	0.007	(0.081)
Construction	0.041	(0.199)	0.034	(0.181)	0.054	(0.227)	0.048	(0.214)	0.047	(0.211)	0.048	(0.213)
Wholesale & Retail Trade	0.148	(0.036)	0.113	(0.317)	0.079	(0.270)	0.044	(0.205)	0.071	(0.258)	0.081	(0.273)
Hotels & Restaurants	0.043	(0.203)	0.035	(0.184)	0.042	(0.201)	0.016	(0.124)	0.037	(0.189)	0.032	(0.176)
Transport, Storage & Communication	0.067	(0.251)	0.045	(0.207)	0.049	(0.217)	0.056	(0.229)	0.057	(0.233)	0.071	(0.258)
Financial Intermediation	0.055	(0.228)	0.066	(0.248)	0.040	(0.195)	0.038	(0.190)	0.036	(0.186)	0.035	(0.184)
Real Estate & Business Activities	0.099	(0.299)	0.103	(0.303)	0.151	(0.358)	0.110	(0.313)	0.113	(0.317)	0.122	(0.327)
Public Administration & Defence	0.086	(0.280)	0.049	(0.216)	0.067	(0.250)	0.075	(0.264)	0.074	(0.263)	0.079	(0.270)
Education	0.073	(0.260)	0.165	(0.371)	0.148	(0.356)	0.437	(0.437)	0.397	(0.397)	0.386	(0.386)
Health & Social Work	0.107	(0.309)	0.101	(0.302)	0.136	(0.343)	0.147	(0.354)	0.158	(0.365)	0.156	(0.363)
Social & Personal Services	0.040	(0.196)	0.033	(0.179)	0.067	(0.250)	0.057	(0.232)	0.048	(0.214)	0.034	(0.182)
Private Households & Extra-Territorial Organizations	0.008	(0.091)	0.008	(0.087)	0.007	(0.086)	0.007	(0.082)	0.008	(0.088)	0.011	(0.106)

Region of Residence

London	0.090	(0.286)	0.106	(0.308)	0.128	(0.335)	0.149	(0.356)	0.124	(0.330)	0.096	(0.294)
South East	0.199	(0.399)	0.238	(0.426)	0.220	(0.415)	0.215	(0.411)	0.213	(0.410)	0.194	(0.396)
South West	0.094	(0.291)	0.086	(0.281)	0.086	(0.281)	0.069	(0.253)	0.084	(0.277)	0.085	(0.279)
East Anglia	0.043	(0.203)	0.025	(0.156)	0.035	(0.183)	0.031	(0.173)	0.034	(0.182)	0.036	(0.186)
East Midlands	0.089	(0.285)	0.085	(0.279)	0.064	(0.245)	0.071	(0.256)	0.067	(0.250)	0.064	(0.245)
West Midlands	0.087	(0.282)	0.076	(0.265)	0.082	(0.274)	0.063	(0.243)	0.061	(0.239)	0.077	(0.267)
North West	0.114	(0.318)	0.108	(0.310)	0.077	(0.266)	0.087	(0.283)	0.093	(0.291)	0.100	(0.300)
Yorkshire & Humber	0.093	(0.291)	0.082	(0.275)	0.086	(0.281)	0.079	(0.270)	0.093	(0.291)	0.095	(0.293)
North East	0.061	(0.239)	0.057	(0.233)	0.072	(0.258)	0.086	(0.280)	0.089	(0.284)	0.085	(0.278)
Wales	0.050	(0.218)	0.035	(0.185)	0.047	(0.212)	0.042	(0.199)	0.034	(0.182)	0.044	(0.206)
Scotland	0.081	(0.272)	0.102	(0.303)	0.104	(0.305)	0.110	(0.313)	0.109	(0.312)	0.124	(0.329)
N (67,254)	57,752		2,109		406		1,791		646		4,550	

Table 2a: Ordered logistic regressions, where temporary work = Seasonal/Agency Temping/Casual

Dependent Variable	Psychological distress	Psychological anxiety	Life dissatisfaction	Poor general health
Variable	Odds ratios			
<i>Pasts</i>	1.054	1.043	1.166	1.169*
<i>Switchers-Out</i>	1.051	0.661	1.312*	1.015
<i>Temps</i>	1.493***	1.087	1.377**	1.025
<i>Switchers-In</i>	1.364**	1.606*	1.470**	1.221
<i>Futures</i>	1.232***	1.275	1.258*	1.155*
<i>Smoking Behaviour</i>				
Number of Cigarettes per day	1.009***	1.027***	1.015***	1.020***
<i>Demographics</i>				
Age	0.992***	1.009*	1.009***	1.007***
Female	1.422***	2.130***	0.998	1.141***
<i>Marital Status (Reference: Never married)</i>				
Married or cohabitating	1.015	0.942	0.603***	1.041
Widowed/divorced/separated	1.390***	1.593***	1.360***	1.039
<i>Household Structure</i>				
No. of Dependent Children	1.032*	1.022	1.124***	0.958**
<i>Educational Attainment (Reference: No Qualifications)</i>				
Degree	1.189**	1.042	1.294**	0.784***
Further education	1.080	1.049	1.274***	0.866**
A-level	1.030	0.832	1.341***	0.853**
O-levels/GCSEs	0.961	0.878	1.222**	0.833***
Other qualifications	0.928	0.788	0.937	0.872*
<i>Housing Tenure (Reference: Social housing)</i>				
Outright owner	0.893*	1.051	0.736***	0.823***
Own with mortgage	0.931	0.995	0.838**	0.792***
Private renter	1.046	1.296*	0.979	0.935
<i>Labour Market Characteristics</i>				
Union Covered, Member	1.078*	1.184*	1.155***	1.024
Union Covered, Not Member	0.939	0.933	1.024	1.095*
Annual Labour Income	0.987	0.946	0.970	0.911***
Hours Worked per Week	1.004***	0.999	1.008***	1.001
Manager / supervisor	1.076**	0.866*	1.022	0.942*

Holding a second job	1.013	0.851	1.070	0.903**
Promotion opportunities available	0.887***	0.793***	0.906***	0.905***
Pay includes bonus / profit share	1.018	0.960	0.983	0.951*
Employer provided pension available	1.035	1.001	1.021	0.978
Pay includes annual rises	0.884***	0.951	0.835***	0.963
Shift worker	0.947	0.708***	0.979	0.864***
<i>Flexibility in job location (Reference: work at employers' premises)</i>				
Work from home	1.170	1.178	0.836	0.887
Other work location	0.992	0.834	0.928	0.966
Work needs travelling	1.002	0.927	0.865**	0.985
<i>Occupation One Digit Classification (Reference: Other)</i>				
Managers & Administrators	1.051	0.796	0.898	0.784***
Professional	1.111	0.873	0.961	0.851*
Associate Professional & Technical	1.050	0.752	0.985	0.884
Clerical & Secretarial	1.033	0.940	1.082	0.865**
Craft & Related	0.871*	0.842	0.946	0.919
Personal & Protective Service	0.960	0.928	0.883	0.978
Sales	1.113	1.063	1.087	0.889
Plant & Machine Operatives	0.896	1.158	0.895	0.974
<i>Employing Sector (Reference: Private Firm)</i>				
Civil Service	1.055	1.289	1.007	1.028
Local Government	1.074	1.061	0.906	0.985
Other Public	1.090	1.074	1.017	1.016
Non-Profit	1.145	1.042	0.882	1.074
<i>Firm Size -Number of Co-workers (Reference: Over 500)</i>				
0-49	0.989	0.812*	0.971	1.008
50-499	1.026	0.872	1.068	0.999
<i>Standard Industrial Classification (Reference: Agriculture & Fishing)</i>				
Mining & Quarrying	0.915	1.674	1.004	0.760
Manufacturing	1.228	1.376	01.057	1.092
Electricity, Gas & Water	1.504*	2.495*	1.043	1.148
Construction	1.049	1.380	0.956	0.922

Wholesale & Retail Trade	1.210	1.517	1.076	1.020
Hotels & Restaurants	1.288	1.748	1.219	1.031
Transport, Storage & Communication	1.200	1.611	1.101	1.025
Financial Intermediation	1.364*	1.767	1.116	0.979
Real Estate & Business Activities	1.259	1.686	1.158	0.963
Public Administration & Defence	1.258	1.522	1.107	0.975
Education	1.184	1.441	1.008	0.854
Health & Social Work	1.236	2.143	1.094	1.022
Social & Personal Services	1.298	2.011	1.191	1.068
Private Households & Extra-Territorial Organizations	1.268	2.160	0.970	0.948
Region Dummies Included	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Year Dummies Included	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Cut Thresholds				
Cut 1	0.230		-2.420**	-2.113**
Cut 2	0.835**		-0.178	0.224
Cut 3	1.247**		1.448**	1.448**
Cut 4	1.579**		2.723**	4.017**
Cut 5	1.887**		4.153**	
Cut 6	2.180**		5.833**	
Cut 7	2.465**			
Cut 8	2.758**			
Cut 9	3.066**			
Cut 10	3.425**			
Cut 11	3.881**			
Cut 12	4.538**			
Log Likelihood	-80411.515	-8566.159	-44984.373	-53481.125
chi ² (p-value)	556.94	494.31	482.65	610.12
Pseudo R ²	0.009	0.058	0.015	0.016
N	49,498	49,971	31,620	47,066

Note: All ordered logistic and logistic regressions control for repeat observations through standard error clustering correction for intergroup correlations. *, ** and *** signify statistical significance at the 10%, 5% and 1% levels respectively.

Table 2b: Ordered logistic regressions, where temporary work = Fixed Term Contract

Dependent Variable	Psychological distress	Psychological anxiety	Life dissatisfaction	Poor general health
Variable	Odds Ratios			
<i>Pasts</i>	0.962	1.379*	0.950	1.067
<i>Switchers-Out</i>	0.927	0.537	1.018	0.834
<i>Temps</i>	1.016	1.398	1.102	1.024
<i>Switchers-In</i>	1.207	1.228	1.418**	1.059
<i>Futures</i>	1.110	1.263	1.171	1.206**

Note: All ordered logistic and logistic regressions control for repeat observations through standard error clustering correction for intergroup correlations. *, ** and *** signify statistical significance at the 10%, 5% and 1% levels respectively. All other variables included in the regressions presented in Table 2a were also included in these regressions, but not reported for brevity.

Table 3: Ordered logistic regressions, with the inclusion of Job dissatisfaction

Dependent Variable	Psychological distress	Psychological anxiety	Life dissatisfaction	Poor general health
Odds Ratios				
Temporary work = Seasonal/Agency Temping/Casual				
<i>Pasts</i>	1.049	1.036	1.177*	1.169*
<i>Switchers-Out</i>	1.040	0.654	1.290*	1.007
<i>Temps</i>	1.309***	0.987	1.191	0.952
<i>Switchers-In</i>	1.071	1.348	1.087	1.087
<i>Futures</i>	1.133*	1.162	1.100	1.095
Job dissatisfaction	1.468***	1.351***	1.728***	1.228***
Temporary work = Fixed Term Contract				
<i>Pasts</i>	0.955	1.365*	0.920	1.065
<i>Switchers-Out</i>	0.896	0.535	0.988	0.818
<i>Temps</i>	0.976	1.368	1.052	1.004
<i>Switchers-In</i>	0.947	1.046	1.162	0.940
<i>Futures</i>	1.045	1.204	1.095	1.167*
Job dissatisfaction	1.471***	1.358***	1.739***	1.231***

Note: All ordered logistic and logistic regressions control for repeat observations through standard error clustering correction for intergroup correlations. *, ** and *** signify statistical significance at the 10%, 5% and 1% levels respectively. All other variables included in the regressions presented in Table 2a were also included in these regressions, but not reported for brevity.