



# Do local unemployment rates modify the effect of individual labour market status on psychological distress? ☆



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## ARTICLE INFO

### Article history:

Received 28 November 2012

Received in revised form

16 April 2013

Accepted 19 April 2013

Available online 29 April 2013

### Keywords:

Psychological distress

GHQ-12

Labour market status

Multilevel modelling

British Household Panel Study

## ABSTRACT

This study investigates whether the unemployment rate of the area in which an individual lives affects their level of psychological distress, and the extent to which this is dependent on their own labour market status. Data were taken from the British Household Panel Survey (1991–2008) and longitudinal multiple membership multilevel modelling was carried out in order to account for the complex hierarchical structure of the data. The results suggest that living in an area with a high unemployment rate, defined by the claimant count, confers a degree of protection against the negative psychological effects of unemployment. However, psychological distress levels among unemployed people were still significantly and substantially higher than among their securely employed counterparts.

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## 1. Background

Against a backdrop of high unemployment rates and increasing casualisation of labour in the UK and globally, it is of vital importance that we gain a greater understanding of how joblessness and insecure employment affect the psychological wellbeing of populations. This study is concerned with investigating the extent to which the unemployment rate of the area in which an individual lives affects their level of psychological distress, and the extent to which this is dependent on their own labour market status.

Ecological and cross-sectional studies have predominantly found a strong association between joblessness and psychological distress (Jackson and Warr, 1984; Warr and Jackson, 1987; Bartley et al., 2005; Novo et al., 2000; Theodossiou, 1998). Longitudinal studies have generally found that transitions from employment to unemployment are associated with an increase in psychological distress, whereas transitions from unemployment to employment predict improvement (Thomas et al., 2005; Montgomery et al., 1999; Wadsworth et al., 1999; Weich and Lewis, 1998). However, an overemphasis on officially registered unemployment as

opposed to other forms of worklessness and insecure labour market engagement is typical of the literature overall (Benach et al., 2000). In the UK, declining unemployment rates and rising male inactivity rates characterised the 1990s and 2000s. Increasing female participation in the formal labour market has also been a defining socioeconomic trend during this period, but many studies on unemployment and health have excluded women on the basis that their experiences in the labour market are complex and difficult to categorise. Recent decades have also seen an increase in casual and fixed-term contractual working arrangements, building ever higher levels of insecurity into the labour market (Burchell et al., 2002). Previous studies have suggested a causal association between job insecurity and psychological distress (Ferrie et al., 1995; Ferrie, 2001; Ferrie et al., 2002). The present study will include both men and women; distinguishing between unemployment, permanent sickness and other economic inactivity, and considering insecure employment as an important labour market status category in its own right.

Despite the development of a rich theoretical framework to explain the ways in which the social and physical environment affects levels of psychological distress (outlined in detail by Curtis, (2010)); research to date has generally concluded that there is little or no variation in the prevalence of psychological distress between small and mid-sized areas, and that apparent associations between individual adversity and area deprivation are generally accounted for by individual characteristics (McCulloch, 2001; Weich et al., 2003; Wainwright and Surtees, 2004a, 2004b; Reijneveld and Schene, 1998; Pickett and Pearl, 2001; Ross, 2000). A study by Henderson et al. (2005) suggests that this also applies to the United States. However, Lewis and Booth (1992) found a

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greater concentration of psychiatric morbidity in the north of England than the south. Blaxter (1990) also found area variation in psychological distress, suggesting that conditions at smaller scales (the so-called 'neighbourhood' level) have a greater influence than regional conditions, corroborating earlier work by Birtchnell et al. (1988). In the face of this mixed evidence, Weich (2005) bemoaned the failure of geographers and epidemiologists to adequately establish whether or not contextual factors influence mental health outcomes. He questioned whether previous studies have used the correct geographical scales, commenting on the difficulty of defining 'neighbourhood' and the limitations of defining culturally and economically meaningful areas using arbitrary administrative boundaries. Perhaps the biggest criticism Weich (2005) levelled at existing attempts to uncover the geographical variations in mental health outcomes is the over-reliance on cross-sectional studies. It seems unlikely that any effects of place on mental health are instantaneous. Riva and Curtis (2012) have shown that long-term trends in area employment rates predict mortality and self-rated health more effectively than if this exposure is measured at a single time point. We need to know both where people live now, and where they have lived in the past; and how these areas might have changed over time. This combination of geographical and longitudinal approaches may be necessary to finally understand whether place independently affects levels of psychological distress.

It may be expected that areas with high unemployment benefit claimant count rates (CCR) have low demand for labour, resulting in greater competition for each job among local unemployed people and therefore engendering greater stress and anxiety levels within this group. However, this is generally not borne out by the evidence. Economists have suggested the alternative hypothesis that if one conceptualises unemployment as a 'social norm', the utility impact of an individual's own unemployment will be reduced by a higher level of contextual unemployment (Clark and Oswald, 1994; Clark, 2003; Powdthavee, 2006). In early work on the subject, Clark and Oswald noted a relationship between the regional rate of joblessness and the average unemployment related increase in GHQ-12 score. From calculation of utility gap figures, the authors suggested that unemployment is "*relatively more unpleasant the less there is of it*", which in their research, was broadly the case in the South and East of England (Clark and Oswald, 1994 p.562). In later work using multivariate analysis of the British Household Panel Survey (BHPS), Clark (2003) showed that high International Labour Organisation (ILO) unemployment rates at the government office region level were associated with lower psychological distress levels among unemployed residents concluding, in a similar fashion to his earlier work, that "*unemployment hurts less the more there is of it around*" (Clark, 2003 p.326). In an extension to this work, Powdthavee concluded from multivariate analysis of South African data that "*it may be psychologically easier to be unemployed in a region with a high level of joblessness*" (Powdthavee, 2006 p.649). Similar findings have also been reported in the epidemiological literature. In an ecological study of England and Wales, Jackson and Warr (1987) found that GHQ-12 scores among unemployed people were significantly lower in areas of high unemployment and that this association withstood adjustment for a limited range of individual-level confounders. Platt and Kreitman (1990) found lower suicide and parasuicide rates among the unemployed in Edinburgh's areas of high unemployment, compared to the city's areas of low unemployment. These findings were corroborated by results from a similar study in Italy (Platt et al., 1992).

Much of the evidence upon which the current consensus rests is ecological. Where multivariate analysis of individual level data has been used, there has been little attempt to introduce the methodological advantages of multilevel modelling to these research questions. The investigation undertaken for this study

will make an original contribution to our understanding of the complex interrelationships between the characteristics of local labour markets, individuals' own labour market status, and other factors which may affect psychological distress levels through time. Previous research uses the concepts of 'unemployment' and 'joblessness' interchangeably, when it has been established that a more precise definition of labour market status is crucial (Dooley (2003)).

The aim of the present study is to uncover the extent to which area level unemployment, defined in terms of the claimant count rate, affects levels of psychological distress, independently of individual-level exposure to joblessness and insecure employment. Three research questions are asked: (i) Is there independent variation in psychological distress at the area level, after accounting for variation within and between individuals? Does 'place' matter?; (ii) Is area level unemployment associated with individual-level psychological distress independently of individual-level factors?; (iii) Is it more psychologically distressing to be non-employed or insecurely employed in an area with a high claimant count rate, compared to an area with a low claimant count rate?

## 2. Methods

### 2.1. Sample

This study uses 18 consecutive waves of data from the British Household Panel Survey (BHPS), from 1991 to 2008. The BHPS began in 1991 with a nationally representative sample of 10,264 adults drawn from 5511 households recruited using a clustered, stratified random sampling method. Children of sample members are added to the main sample on reaching 16 years old. Adults joining the households of sample members are included in the survey on a temporary basis, as long as they reside with original sample members. These original and temporary sample members are resurveyed annually. A detailed overview of the BHPS's methodology is given elsewhere (Taylor et al., 2010). The sample used in this study was firstly restricted to broadly working age (16–65 years) original sample members residing in England and Wales (125,740 person-years of data). Cases with no possible value for 1-year-lagged GHQ-12 score (i.e. all observations from wave 1) were then excluded, yielding 116,247 possible person-years of data. The analytic sample was then derived by selecting only person-years with complete data for all analytic variables. This yielded a final analytic sample of 84,565 observations on 10,702 unique individuals across 347 local authority districts, spanning 17 years. This sample was found to be representative of the original England and Wales sample on key sociodemographic variables.

### 2.2. Area definition and area-level exposure

Arguably, the most theoretically appropriate geographical units for exploring the effects of characteristics of local labour markets on individual-level psychological distress are Travel-to-Work Areas (TTWA). These units are designed to encapsulate local labour markets. During the BHPS study period though, TTWAs have been redefined (Bond and Coombes, 2007), rendering annual figures for indicators such as claimant count rate incomparable over time. In any case, it has been argued that TTWAs misrepresent local labour markets for the unemployed and lead to underestimation of unemployment in urban areas (Thomas, 1998; Webster and Turok, 1997). It was therefore decided that the pre-2009 version of Local Authority Districts (LADs) would be used instead of travel-to-work-areas, as a compromise between theoretical and practical concerns. Pre-2009 LADs are harmonised across the study period and annual population data are supported. Being a widely-used

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