

**(Dis)Placing Trust: the Long-term Effects of Job Displacement on Generalised Trust
over the Adult Lifecourse**

Abstract

Increasing rates of job displacement (i.e. involuntary job loss from redundancy, downsizing, restructuring) have been suggested to be a key driver of declining macro-levels of generalised trust. This article undertakes the first test of how job displacement affects individuals' tendencies to (dis)trust over the adult lifecourse, using two-waves of the Great Britain National Child Development Study cohort data, on a sample of $n = 6,840$ individuals. Applying both lagged dependent variable logistic regression and two-wave change-score models, experiencing job displacement between the ages of 33 and 50 appears to significantly scar individuals' generalised trust, with depressed trust observable at least nine years after the event occurred. However, this effect is dependent on the value an individual places on work: the greater the attachment to employment the stronger the negative effect of displacement. A range of mediators, such as physical health, mental well-being, and personal efficacy, do not appear to account for the effect.

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Highlights

- Experiencing job displacement leads to a decline in generalised trust over the adult lifecourse
- The effect of displacement scars adult trust, persisting even after re-employment occurs
- Displacement's effect is observable at least nine years after the event occurred
- Individuals who attach greater value to employment experience a stronger negative effect of displacement
- A range of mediators drawn from the literature do not account for displacement's effect

KEY WORDS: Generalised trust, Job displacement, Lifecourse, Scarring, Job loss, Social capital

'I find that working for a company that kicks my backside out the door makes me afraid to trust anyone' Displaced 39 year-old (*quoted in* Perrucci and Perrucci, 2009: 30)

1. Introduction

Generalised trust may yield significant benefits, for individuals and society as a whole: from health and happiness, to social cohesion, efficient democratic governance and economic development (Putnam, 2000). If only half the purported benefits of trust are robust, the current search for its determinants is unsurprising (Nannestad, 2008). This search has been lent additional urgency in the context of declining generalised trust, especially in the US, but with some evidence of similar declines in the UK (Hall, 1999; Putnam, 2000; Leigh, 2003). One reason posited to account for these declines has been the adoption of more 'flexible modes of production' since the 1970s, particularly the attendant rise of involuntary job losses from redundancies, downsizing, restructuring and business closures – that is job displacements (Hall 1999; Putnam, 2000; Misztal, 2001; Perrucci and Perrucci, 2009). A significant body of research has investigated the pecuniary and non-pecuniary outcomes of job displacement (e.g. on future earnings, physical health, mental well-being), with many demonstrating persistent negative effects of such experiences regardless of whether individuals become re-employed or not following the event (the 'scarring' effects of job loss) (Waters, 2007; Brand and Burgard, 2008; Papa and Maitoza, 2012). However, despite a growing literature on the non-pecuniary effects of displacement, to date, few studies have investigated how labour market experiences more generally, and none how job displacement in particular, affect social trust.

Merging the literatures on the effects of job loss with that of the determinants of social trust, this article tests the theoretical contention that job displacements undermine trust. However, previous studies of trust are frequently criticised for their failure to adequately address issues of spuriousness and endogeneity, especially given evidence that social trust may be less an experiential attitude and more a fixed character trait, formed predominantly within one's childhood, remaining largely stable over the lifecourse (Uslaner, 2002; Huang et al., 2011; Sturgis et al., 2012). To robustly test the effects of job displacement this article applies panel data methods to two-waves of the National Child Development Study, spanning seventeen years of an individual's adult lifecourse, to explore whether experiencing displacement between the ages of 33 and 50 leaves a lasting scar on individuals' tendencies to trust. Crucially, childhood and parental characteristics, shown to be key determinants of trust, are also included to minimise potential spuriousness. Given the posited benefits of trust, both for individuals *and* society, exploring how job displacement affects trust is an important understudied area.

2. Theoretical Framework

2.1 Labour Markets, Job Displacement and Generalised Trust

In the post WWII-era, economic organisation was marked by an (often tacit) 'social contract' of continued employment for productive workers, which formed the basis of job security, acting as the 'central organising principle of employee-management relations' (Putnam, 2000: 88; Perrucci and Perrucci, 2009). However, the adoption of an increasingly 'flexible mode of production' heralded the loss of permanent (often unionized) employment with long-term benefits, leading to 'economic pressures, job insecurity, and declining real wages'

(Putnam, 2000: 181; Myszal, 2001; Perrucci and Perrucci, 2009). Such shifts in the economic organisation have been suggested to be a key player in changing levels of trust, and social capital more generally, across societies (Hall 1999; Putnam, 2000; Myszal 2001; Perrucci and Perrucci 2009). One feature of this 'flexible work organisation' posited to be particularly harmful for trust is the increase in involuntary job losses from redundancies, downsizing, layoffs, restructuring and business closures (Putnam, 2000; Myszal 2001; Brand and Burgard, 2008; Perrucci and Perrucci 2009). In the US, while such redundancies increased during crisis periods in the 1980s, during the 1990s large scale layoffs 'came to be a regular tool of management, even during prosperous times' (Putnam, 2000: 88). Similar transitions occurred in the UK, with rising involuntary job losses composed of 'redundancies during downturns and downsizing during upturns' (De Ruyter and Burgess, 2003: 230).

In the proceeding section we will outline a number of possible mechanisms through which job displacement may harm generalized trust. Firstly, we highlight the mechanisms proposed by those theories which predict displacement will undermine trust, ranging from its effects on social networks, to how violations of (perceived) trust within the economic sphere may spill over into wider social distrust. Secondly, we tap the wider job loss and generalized trust literatures to suggest an additional set of possible pathways, including how displacement's observed long-term effects on socio-economic status, physical health and mental well-being may, in turn, affect generalized trust.

Firstly, despite a theoretical convergence amongst a number of scholars on displacement as harmful to social trust, the pathways through which it is posited to operate differ between accounts. One suggestion is that job displacement results in a contraction of social networks (Putnam, 2000). Social networks are believed to form one foundation of social trust, with

positive experiences derived from individuals' formal (Putnam, 2000) and informal (Yamagishi and Yamagishi, 1994; Farrell and Knight, 2003) networks becoming generalised to encompass trust towards strangers. Displacement can sever work place ties, and those who return to employment can be subsequently less likely to develop in-work networks (Heckscher, 1995; Putnam, 2000). Involuntary job loss may also weaken ties to the community, in turn, reducing recruitment or retention in associational involvement, undermining civic ties (Capelli, 1999; Brand and Burgard, 2008). Such contractions in networks could thus diminish trust.

A second posited pathway is that employer-employee relationships frequently involve an (implicit) psychological contract of trust and mutual reciprocity between what an organization will provide (advancement opportunities, job security) in return for what employees provide the organization (a fair day's work, loyalty) (Lester and Kickul, 2001). However, displacement represents a violation of this trust (especially under conditions perceived to be unjust), which can lead to feelings of distrust and betrayal, along with vulnerability and anger at a sense of mistreatment (Waters, 2007; Noer, 2009). Such experiences of betrayal in the economic sphere may, in turn, impact an individual's sense of vulnerability and willingness to trust in society in general (Brand and Burgard, 2008; Perrucci and Perrucci, 2009; Janoff-Bulman, 2010). Similarly, studies have also emphasised the role of institutional trust in the fomenting of more generalized forms of trust (Rothstein and Stolle, 2008). However, little attention has been paid to how experiences within *labour market institutions* affect wider trust. Displacement may erode institutional-based trust in employers and the economic sphere in general, as well as the political institutions believed to sanction such behaviour (Misztal 2001; Perrucci and Perrucci 2009). As more negative feelings towards business and political institutions both negatively predict trust, displacement

may erode generalized trust through an undermining of individuals' institutional trust (Delhey and Newton 2003; Uslaner 2002).

A number of theoretical pathways therefore lie behind the hypothesis that displacement will undermine trust. However, drawing on the job loss literature more generally, we posit a series of additional pathways through which displacement could affect trust. Displaced individuals frequently report depressed earnings, greater likelihoods of future unemployment, and re-entry into lower status jobs over the lifecourse (Brand and Burgard, 2008). Economic and social status are important for generalised trust, potentially providing individuals with the ability to take more risks and bear greater losses, or leading to the habitation of social worlds that involve being treated with more honesty and respect (Paxton, 1999; Putnam, 2000; Delhey and Newton, 2003). Declining socio-economic mobility via displacement could thus, in turn, erode individuals' trust. Another possibility is that displacement can be harmful for physical health (Strully, 2009), while poorer health has been found to predict lower trust, potentially by increasing dependence and vulnerability (Kawachi et al., 1997).

One area job displacement is considered particularly harmful is for psychological wellbeing. Job loss has been found to stimulate lower life satisfaction, lower optimism, less personal efficacy, and greater anxiety, even after re-employment occurs (Feldman, 1992; Archer and Rhodes, 1993; Goldsmith et al., 1996; Waters, 2007). All these traits have been associated with weaker generalised trust, such that "anxiety and insecurity are clearly...powerful forces driving distrust" (Paxton, 1999: 190). However, employment is also believed to form a vital source of sense-of-self and identity, providing meaning and a place in the world (McKee-Ryan et al., 2005; Papa and Maitoza, 2012). Consequently, experiences of displacement have been likened (and shown to have comparable effects) to other traumatic life events (such as

bereavement), which can suddenly erode important aspects of self, invoking a sense of loss (Archer and Rhodes, 1993; Brewington et al., 2004). A significant feature of grief-responses is declining trust, alongside the undermining of assumptions regarding the world's benevolence (Janoff-Bulman, 2010). However, *how* the job loss occurs is critical, with involuntary job loss being a significantly stronger predictor of grief-related symptoms, related to the perceived lack of control over one's fate (Papa and Maitoza, 2012).

Displacement may therefore undermine generalised trust through impacts on psychological well-being. Any impact, however, may be partially dependent on the centrality of employment to an individual's sense of self and identity (Jackson et al., 1983; Shamir, 1986; Archer and Rhodes, 1993; Archer and Rhodes, 1995). Various terms 'employment commitment' or the 'Protestant Work Ethic', employment centrality broadly defines the degree to which individuals are psychologically attached to employment. Among individuals exhibiting higher 'employment commitment' job loss evinces a stronger psychological impact as, in theory, the 'loss cannot be easily integrated into one's existing sense of self' due to the centrality of work to their identity (Jackson et al., 1983; Papa and Maitoza, 2012: 154). As such, it represents a much larger threat to one's sense of self-worth. Therefore, any effect of displacement on social trust may also be contingent on an individual's level of employment centrality.

Despite the theoretical association between displacement and generalised trust, and the predictions drawn from the job loss literature, there is little research into how experiences within the labour market actually affect trust, and none into how displacement affects trust. The only research is a small number of studies demonstrating cross-sectionally that *being* unemployed is associated with lower trust (Brehm and Rahn, 1997; Lindström, 2009).

However, firstly this research tells us little about how job displacement affects trust (with individuals becoming unemployed for a variety of reasons). Secondly, while the unemployed may report less trust this gives no indication of whether such experiences linger after re-employment. Thirdly, the cross-sectional nature of these studies makes causal claims difficult (*see below*). This paper will therefore perform the first test of the theory that job displacement undermines trust.

2.2 Conceptual and Methodological Issues

To robustly test the hypothesis that displacement undermines trust a number of issues need to be addressed. The first set relate to isolating any effect of displacement from other labour market experiences. Job displacement forms only one type of job loss alongside being dismissed, a fixed-term contract ending, self-termination (due to health, familial, personal reasons), etc. While job loss via displacement is posited to be harmful for trust, it may be job loss generally (or a particular subset of types of job loss) that undermines trust. Thus, examining the peculiarity of displacement compared to other forms of job loss is crucial (Waters, 2007). Furthermore, job displacement can (although not always) involve a corollary period of unemployment (Arulamparam, 2001). Unemployment has also been shown to have persistent negative pecuniary and non-pecuniary effects, akin to those of displacement (Goldsmith et al., 1996; Daly and Delaney, 2012). Therefore, to isolate any apparent effect of displacement, it needs to be separated from any possible confounding effects of unemployment.

The second set of issues relates to debates in the generalised trust literature into whether trust is an experiential attitude or an innate ‘psychological predisposition’, forming a core

personality trait alongside personal efficacy, a belief in co-operation, and optimism (Rosenberg, 1956; Erikson, 1998; Glanville and Paxton, 2007: 231; Dinesen, 2012; Sønderskov and Dinesen, 2014). From the latter perspective, trust is posited to develop within one's early-life e.g. from parental education, relationship with parents, or IQ in childhood. After this period, it is believed to remain largely stable over the lifecourse and 'more-or-less independent of...contemporary interpersonal experience' (Couch and Jones, 1997: 322; Uslaner, 2002; Sturgis et al., 2010). Accordingly, Huang et al. (2011) found that, after controlling for early-life characteristics (such as parental socio-economic class), the effects of individuals' *contemporary* circumstances on trust (e.g. their social class, debt or self-reported happiness) become non-significant. Similarly, panel data studies show that many predictors of trust apparent in cross-sectional analyses become non-significant when tested over time (Sturgis et al., 2007; Sturgis et al., 2012). This is suggestive that many contemporaneous adult predictors of trust may actually be picking up unobserved characteristics. Furthermore, if trust is a core personality trait, remaining highly stable over the lifecourse, negative experiences could undermine trust in the short term; however, trust may soon recover to a baseline level (Roberts and DelVecchio, 2000). To explore the extent of displacement's effect thus also requires observations over a long period of the lifecourse.

2.3 Analytical Outline

Based on this framework, this article will proceed via the following approach: it will begin by analysing whether job displacement undermines generalised trust over the adult lifecourse. However, any apparent effect of displacement that persists after the event occurred may simply be a product of displaced individuals experiencing a higher likelihood of future non-employment. Therefore, we will test whether any depressed trust evident after displacement

occurred is a product of individuals simply being out of work when their trust is measured again post-displacement. To examine whether it is displacement itself or job loss more generally influencing trust, displacement's effect will be compared to other forms of job loss. To isolate whether it is displacement or (possible) corollary periods of unemployment, models will also be tested which adjust for length of time unemployed. To explore whether displacement leads to persistent distrust over the lifecourse or whether, following displacement, trust may reset after a short period, a comparison of displacement's effects by recency of the event will be examined. However, within the psychology literature, involuntary job loss appears to exert a stronger effect among those for whom work is more central to their lives. Therefore, tests will be undertaken into whether displacement's effect on trust is stronger among those with higher work centrality. Lastly, to examine why displacement may affect trust the mediating role of a number of mechanisms drawn from the literature will be studied, including changes in: socio-economic mobility, psychological well-being, physical health, and (formal and informal) social networks. To minimise the potential for spuriousness or endogeneity in our models, panel data methods will be applied, alongside adjusting our models for key early-life predictors of generalised trust e.g. parental education.

3. Data and Methods

3.1 Data

This study uses the National Child Development Study (NCDS) birth cohort data which sampled all individuals born in Great Britain in a single week in March, 1958, returning to gather data from this group: at age 7, 11, 16, 23, 33, 42, and 50. Two waves of this data will be used: 1991 when respondents were 33 years old and 2008 when they were 50, as

generalised trust was only measured at these two waves. This covers 17 years of an individual's adult lifecourse. Information about respondents' employment histories (including periods in and out of work and *reasons* a job ended) are collected at every wave about the period between the last wave respondents were sampled in and the current wave. These have been compiled into an 'activities history' data set by the Centre for Longitudinal Studies. Using this, full employment histories between the ages of 33 and 50 can be extracted, including whether job displacement occurred during this period. Moreover, the NCDS contains measures of parental education, IQ at childhood and parent-child relationships, to adjust for those early-life predictors posited to be the strongest determinants of trust.

As a cohort study the NCDS is susceptible to attrition. This may be problematic if individuals who remain in our final analytic sample are unrepresentative in some way of the general population. This may stem from unrepresentative retention or systematic non-response between waves. Such attrition could engender selection bias in our analysis, potentially leading to inaccurate conclusions, especially if the likelihood of remaining/dropping out of the NCDS is unequal in regard to our outcome (trust) and key independent variable (displacement). Problems may also arise from unrepresentativeness from initial sampling i.e. amongst those who never participated in the study¹.

After respondents took over from their parents as the primary contact, the response rates remained strong, at 76% at age 23, 70% at 33, 71% at 42, and 79% at age 50. Turning to the two waves of interest, of the $n=10,872$ respondents surveyed at age 33, $n= 8,076$ of

¹ The NCDS aimed to collect data on *all* individuals born in a single week in March 1958. The initial Perinatal Mortality Survey (dictating entry into the NCDS) achieved 98% of the target sample, limiting bias in our sample from initial non-inclusion

respondents were available again at age 50. The final analytic sample, accounting for missing values, is $n=6,840$ cases². Analysis shows there is a tendency for male individuals, with lower education, and less stable employment patterns, to drop out over time (Hawkes and Plewis, 2006). On the whole, however, research has demonstrated: the relatively marginal probability of dropping out based on these characteristics compared to the general sample, the maintenance of a predominantly representative sample over time, and the weak effects of attrition on a number of outcomes (Ferri, 1993; Hawkes and Plewis, 2006; Daly and Delaney, 2012). Our final analytic sample also reflects these differences in sample retention and we take steps to address possible bias stemming from this source³. However, to further examine the representativeness of our sample we compare the socio-demographic composition of our sample at age 33 and 50 with the socio-demographic composition of 33 and 50 year olds in the general Great British population, over comparable time periods⁴. On the whole, our analytic sample is less disadvantaged than the full NCDS sample, and the general population.

² Although the estimates reported here are based upon the list-wise deletion of cases, we also experimented with using five multiple imputed data sets which returned substantively similar findings

³ There are two stages of attrition: the first amongst parents who dropped out between 1958 and 1981 (the wave at which respondents took over) and the second between 1981 and 2008 when respondents themselves may have dropped out. To test whether the latter form of attrition significantly biases our findings we experimented with inverse propensity weighting techniques between waves 1981 and 2008. However, substantively consistent findings emerged using such methods (*results available on request*)

⁴ This is partly problematic as the NCDS was a sample of all individuals born in a single week in March, 1958. Therefore, the general GB population of 33 and 50 year olds (in 1991 and 2008) may not be representative of the NCDS population. However, using the 1991 and 2008 UK General Household Surveys, we compare the weighted composition of their samples of 32-34 year olds (1991 survey) and 49-51 year olds (2008 survey) with the NCDS sample at age 33 and 50. Individuals in our sample are more likely to be educated, employed, female, not married and of a higher social class than the general samples. These differences grow slightly between ages 33 and 50

Although we test for the extent to which this may bias our results where we can, the greater selection of less disadvantaged individuals in our sample over time remains a potential issue in our sample.

3.2 Analytic Strategy

With measures of generalised trust at two ages (33 and 50) over an individual's adult lifecourse, two-wave panel data methods will be applied. These are well suited to testing the effects of life events, providing outcome measures before and after an intervention (Johnson, 2005). There are two key methods available to analyse two-waves of panel data to adjust for non-random assignment of respondents into the intervention group: lagged dependent variable (LDV) and change-score (ChSc) methods (*see* Johnson, 2005, *for full summary*).

This article applies LDV models due to strong assumptions that higher trust at T-1 may *cause* higher trust at T1 e.g. trust may be self-reinforcing if trusting individuals are more likely to have positive experiences of others, leading to persisting trust in the future (Putnam, 2000; Uslaner, 2002). If this is the case, to properly specify the model a lagged dependent variable is assumed necessary. As generalised trust is measured as a dichotomous variable, logistic regression models are used. However, all models are replicated using Change-Score models to maximise confidence in the findings⁵ (*see Appendix B.1*).

⁵ Within change-score modelling our outcome measure of trust is included as a 3-category change-score variable (trust at age 50 minus trust at age 33): -1 (a move from trust to distrust), 0 (no change) and 1 (distrust to trust).

This was modelled using ordered logistic regression

3.3 Key Variables: Trust and Displacement

Our key outcome is the frequently used ‘generalised trust’ question: ‘Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?’ At age 33, the options were ‘most people can be trusted’ (69%) and ‘can’t be too careful’ (31%). However, at age 50, ‘other/depends’ was also provided as an option, resulting in: 54% trusting, 39% distrusting, and 7% unsure. Table 1 demonstrates how much change in trust has occurred within the sample. Although, on the whole, stability is the norm (with 63% reporting the same level of trust at 33 as at 50), quite substantial change still occurs (with 30% switching between levels of trust, even setting aside the change of individuals into ‘other/depends’). However, to run the desired LDV models, trust at age 50 needs to be transformed into a comparable dichotomous variable to trust at 33; yet, it is unclear how those reporting ‘other/depends’ at age 50 would have answered without such an option⁶. Experiments are undertaken, coding ‘other/depends’ respondents into the ‘trusting’ group, ‘distrusting’ group, or dropping them as ‘missing’; however, consistent findings (with no significant differences in effect size) were returned for each coding (as might be expected given the small size of the ‘other/depends’ group). However, in this article, findings report ‘other/depends’ coded as ‘trusting’⁷.

⁶ To gain some purchase on this we compared responses to this trust question in two nationally-representative surveys: the England sample of the 2008 European Values Survey, which asked this question *without* an option of ‘other/depends’, and the 2007 Health Survey for England which asked this question *with* the option. In the former, 42% reported ‘trusting’ and 58% ‘distrusting’. In the latter, 38% reported ‘trusting’, 54% ‘distrusting’ and 8% ‘other/depends’. On average, when not offered the option of ‘other/ depends’, individuals appear evenly split as to whether they select one over the other

⁷ To explore whether the validity of our trust measure may differ depending on the options provided we correlated our measure of generalized trust at ages 33 and 50 with a range of variables at ages 33 and 50 both

[Table I about here]

Measures of displacement were derived from the ‘activities history’ data of the NCDS. Using this data, individuals were categorised as having experienced job displacement (1 versus 0) if, between the ages of 33 and 50, they report that a period of employment ended and gave as the reason for ending that they were ‘made redundant’, ‘laid off’, ‘the firm closed down’, or ‘the company was taken over/internal restructuring’. As discussed, to explore whether any effect is peculiar to displacement or indicative of job loss generally, displacement’s effect will be compared to a range of other reasons that employment ended between age 33 and 50, including: ‘fixed term or temporary job ended’, ‘fired/dismissed from a job’, ‘family reasons e.g. pregnancy, family commitments’, ‘health reasons’, ‘own choice e.g. just decided to leave, more money, career break’, ‘problems with job e.g. unsatisfied with work conditions, or with the job’, and ‘other’. To isolate displacement’s effects from potential confounding periods of unemployment models will experiment with adjusting for ‘months spent unemployed’ between 33 and 50.

3.4 Pre-Event Controls

A range of controls measured at age 33, before displacement occurred, are applied, including: education, social class, gender, ethnicity, employment status, marital status, whether

theoretically and empirically demonstrated to be associated with generalized trust (including personal efficacy, optimism, self-rated health, education and civic participation). We found the coefficients remain largely stable between waves, suggesting the addition of ‘other/depends’ as an option at age 50 did not substantially change the validity of the measure

respondent has a pension, housing tenure, children in the home, region, and union membership (*see* Appendix A.1). To control for key early-life predictors of generalised trust models also include: parental education (when respondents were age 16), strength of parental relationship at age 16, and respondent's IQ measured at age 7. As discussed, it may also be the case that it is not job loss via displacement itself that harms trust but being out-of-work (either following the displacement event or sometime in the future, as displacement has been shown to increase the likelihood of future periods of unemployment) (Brand and Burgard, 2008)). Potentially, individuals who experience displacement between ages 33 and 50 are simply more likely to be out-of-work at age 50, and this may account for any depleted trust we may observe at age 50. Therefore, to test whether displacement has a lasting effect, even after accounting for whether individuals are employed or not (i.e. whether displacement 'scars' trust) we include a measure of employment status at age 50 to address this.

Unfortunately data on displacement experiences are not fully available before age 33.

However, models will adjust for whether individuals had experienced unemployment prior to age 33, likely capturing some displacement cases.

3.5 Mediators

To test the possible mechanisms predicted to account for any displacement effect, this study is limited to the whether mediators were measured in the NCDS surveys at both age 33 and 50. Analysis requires both pre- and post-displacement scores as simply including a post-displacement mediating score (at age 50) may give the appearance of a mediating effect; however, it may simply be picking up the mediating role of *pre-displacement* values (at age 33). Therefore, alongside including measures of pre-displacement controls (e.g. marital status, social class, etc.) at their post-displacement values, models also explore the mediating

role of: physical health (self-rated); psychological well-being (including the malaise index of psychological distress or depression); an index of personal efficacy⁸; current and predicted life satisfaction⁹; and proxies for formal (civic group membership¹⁰) and informal social networks (close social support¹¹).

4. Results

4.1 Displacement and Generalised Trust

Table II reports the odds ratios of the key analytic variables, standardised to allow for ease of comparison. Using LDV modelling, Model 1 explores whether individuals who experience displacement ($n=1743$) between the ages of 33 and 50 report less generalised trust at age 50, adjusting for socio-demographic characteristics at age 33, early-life controls (strength of parental relationship, IQ, and parental education), *along with pre-displacement generalised*

⁸ ‘Do you seem to get what you want in life?’, ‘Do you usually have free choice and control over your life?’, and ‘Do you find life’s problems get too much?’ 2008: Eigen value: 1.01; lowest loading: 0.56; alpha: .63. 1991: Eigen value: 0.96; lowest loading: 0.53; alpha: .62

⁹ Current and expected life satisfaction: ‘How satisfied or dissatisfied are you with the way your life has turned out so far’ ‘(and expect to be in 10 years)?’ (0-10)

¹⁰ Are you currently a member of an organisation... women’s guild, tenants organisation, political party, charity/volunteer group (environmental), charity/volunteer group (non-environmental), women’s group, or parents/school organisation

¹¹ 1991: Suppose you were ill and had to stay in bed for a few days, and needed help around the home, with shopping and so on...do you have someone to rely on (yes = 1; no = 0). 2008: If you were sick in bed how much could you count on the people around you to help out...(1 = ‘A little’ to ‘a great deal’; 0 = Not at all)

trust at age 33¹². As discussed, to test the scarring hypothesis all models control for employment status at age 50. Model 1 demonstrates that displacement is indeed associated with a decline in trust over the adult lifecourse. After adjusting for socio-demographics and level of trust at age 33, as well as employment status at age 50, displaced individuals are 4.5% less likely to trust at age 50 (based on predicted scores of Model 1)¹³.

[Table II about here]

To examine whether displacement is uniquely harmful or whether it is job loss generally (or a particular subset of types of job loss), the effects of other forms of job loss are modelled alongside displacement. This is operationalised by adding in a series of binary variables measuring whether an individual experienced a specific form of job loss or not. The reference category for each measure of job loss is ‘no job loss via the particular form being tested’ (not ‘no experiences of job loss at all’) (Model 2). Importantly, no other form of job loss has a significant negative effect on trust. Only ‘being fired’ comes close, although just beyond *p* value < 0.1¹⁴. However, previous studies have categorised this event as a form of ‘involuntary job loss’, alongside displacement. That it is the only form of job loss to approach displacement’s effect suggests there is something unique about the involuntary aspect of losing one’s job vis-a-vis those in which individuals are able to exert a greater degree of

¹² As predicted in the literature, having parents who left education aged 19 or later (compared to aged 16 or earlier) (*coef.*: 0.083*) or being in the top third IQ quartile (compared to the bottom third) (*coef.*: 0.103*) are both strongly associated with more trust at age 50. Full results are available on request although omitted here for space

¹³ We experimented with controlling for salary at age 33. However, this did not improve the model and with a higher number of missing values was excluded

¹⁴ The *n* of this group (*n*=90) makes the standard error estimates less reliable

control. Yet, given that displacement's effect is twice as strong suggests something particularly harmful about involuntarily losing a job via displacement, as predicted. However, is it the actual experience of displacement itself driving this effect or (potential) subsequent experiences of unemployment? Model 3 tests this by including 'months spent unemployed' between ages 33 and 50¹⁵. Although the coefficient is negative, 'months spent unemployed' is not significant; neither does its inclusion substantially change the effect of displacement. In other words, there is something peculiar about the way a job is lost via displacement, regardless of whether it was followed by a period of unemployment, which is harmful to trust¹⁶.

Thus far these findings suggest displacement between age 33 and 50 may leave a scar on generalised trust that can still be observed at age 50. However, this gives little indication of how long the scar lasts. Potentially, the effect may be driven by recent displacement events, closer to age 50, while displacement's effect may lessen over time such that earlier events have no effect on trust at 50. To explore this, the measure of displacement is split by the age at which an individual experienced the event. We therefore compare individuals who never experienced displacement (baseline) to those experiencing it between: (a) ages 33-41 (but not 41-50), (b) 41-50 (but not 33-41) and (c) both 33-41 *and* 41-50¹⁷. We observe that

¹⁵ We experimented with 'experienced unemployment or not' and 'number of times unemployed', along with 'dropping out of the labour force completely', or 'length of time out of the labour force'. None accounted for displacement's effects

¹⁶ Even if we separate out our displacement variable into: individuals who experienced displacement without an ensuing period out of work, and those who experience displacement followed by a period out of work, we find highly similar results, strengthening evidence for a scarring effect of displacement itself and not being out-of-work

¹⁷ Dividing the displaced into smaller groups led to less reliable estimates due to the small *n* of the categories

experiencing displacement within any age-group has a significant negative effect on trust¹⁸ (Model 4). Importantly, individuals who experienced displacement between the ages of 33-41 but not 41-50 are therefore also likely to report lower trust at age 50. This is suggestive that the effect of displacement can persist at least nine years after the event occurred (although we cannot currently explore whether this effect has increased or decreased over time using our data).

The analysis thus far has assumed all individuals are equally sensitive to displacement's effect. However, studies into the psychological impact of job loss have found the extent of mental distress is related to the centrality of employment to an individual's sense of self/identity. If displacement affects trust through a psychological pathway, it may also be conditioned by employment centrality. To test for this a pre-displacement composite index of work-centrality is created (at age 33) using measures of attachment to work¹⁹. Such measures have been applied to capture employment commitment in the literature (e.g. Bynner and Parsons, 2000). This index is subdivided into 3-quantiles: low, medium and high work-centrality at age 33, with high-centrality excluded as the baseline category. Next, interaction terms are included between the medium- and low-centrality quantiles and displacement

¹⁸ The similar effect size but weaker significance of those who experienced displacement in both periods is likely a product of the lower *n* of individuals who experienced this (*n*=119)

¹⁹ 'Having almost any job is better than being unemployed', 'Once you've got a job it is important to hang on to it even if you don't really like it', and 'If I didn't like a job I'd pack it in, even if there was no other job to go to'. Eigen value: 0.95; lowest loading: 0.51; alpha: .63. While the alpha is below the commonly applied value of .7, values above .6 are often still treated as indicating internal validity (Nunnally, 1978), with lower scores being more acceptable with lower numbers of items in the test (Cortina, 1993)

between 33 and 50²⁰. The interaction between displacement and low work-centrality is significant and positive (although not for medium work-centrality). This suggests displacement has a significantly weaker effect among individuals who report lower levels work-centrality (Model 5)²¹. To explore how work-centrality may buffer displacement's effect we generate predicted scores of generalised trust at age 50 (with all other variables, including trust at age 33, set to their mean). These scores include: (a) the effect of displacement among all individuals (based on Model 1); and (b) the effect of displacement among individuals in the three work-centrality categories (based on Model 5) (Figure I). As discussed, individuals displaced between 33 and 50 are 4.5% less likely to report trust at age 50. However, displaced individuals who, at age 33, report that it is highly important to be in work, are 7% less likely to report that they trust at age 50. Displacement's effect is slightly less strong for those with a medium attachment to work (6%). However, among those with a low attachment to work, displacement has no negative effect on generalised trust. Crucially, both displaced and non-displaced individuals with low-work attachment are just as trusting as

²⁰ Interacting a measure of work-centrality at age 33 with displacement events between ages 33 and 50 may be problematic if work-centrality changes substantially over the life course (either as a consequence of changing non-professional circumstances, or if work-centrality changes depending on one's job). However, work-centrality is often conceived of as a largely fixed character trait, remaining relatively stable over individuals' lives (Morrow, 1983). In our data, work-centrality at age 50 is highly correlated with work-centrality at age 33: $r = .42$. Although not ideal, we believe (pre-displacement) work-centrality at age 33 forms a relatively strong proxy for work-centrality between ages 33 and 50. Furthermore, work centrality is conceived of as a set of values individuals possess about work in general, not specific jobs and therefore displacement from any job should, in theory, provoke an equal response

²¹ We also tested whether work-centrality was acting as a proxy for other pre-displacement socio-demographic characteristics by including interactions between all controls and displacement. However, the work-centrality and displacement interactions remained undiminished

non-displaced individuals with medium or high attachments to work²². High attachment to work does not, in and of itself, appear to boost trust. Instead, it only renders individuals more vulnerable to displacement's effect²³.

[Figure I about here]

4.2 Why Does Displacement Undermine Generalised Trust?

This article now turns to investigating why displacement appears to undermine trust. Above, a number of pathways were outlined through which an effect of displacement might operate. To be sure, displacement may directly undermine trust through a perceived sense of betrayal e.g. if trust in an employer is broken. However, this analysis explores the possibility that displacement's effect may be mediated through its effects on: physical health, mental wellbeing, personal efficacy, civic participation, and informal strong ties. To test their mediating role, these measures are entered into the models as change-scores (their value at age 50 minus the value at 33), alongside their values at age 33, as a change in the mediators may be partly influenced by their pre-displacement levels (Lim and Putnam, 2010). These will be added alongside change-score measures of the key demographic controls e.g. marital status, social class, etc. (as the models already contain their values at 33).

²² We are assuming these measures are picking up work-centrality; alternatively, they may be simply picking up a fear of unemployment. Thus, displacement may heighten feelings of insecurity (undermining trust) among those more fearful about being without work. Although we did not find work-centrality interacted with 'experienced unemployment between 33 and 50', unfortunately, we cannot test this idea further with our data

²³ To test the robustness of our findings we replicated all analyses using Change-Score modelling techniques and found highly consistent findings with no deviations to report (*see Appendix B.1*)

[Table III about here]

Model 1 (Table III) replicates the baseline LDV model (with only pre-displacement controls and employment status at age 50). Model 2 includes change-score values for the pre-displacement controls of region, social class, education, pension, union membership, marital status and children in the household. These do little to mediate displacement's effect. The full range of remaining mediating variables is then added into the model (Model 3). The results show that a number of predictors of trust from the literature appear to affect trust from a longitudinal perspective, including: personal efficacy, mental wellbeing (especially malaise), strong support ties, and health. However, they do little to change the size or significance of the negative coefficient of displacement²⁴. To more formally test for any mediation we also model whether displacement significantly predicts those mediators that are themselves significantly associated with generalized trust (i.e. close ties, personal efficacy, malaise, and health) as a significant relationship between displacement and a mediator that itself significantly predicts trust may still indicate the presence of mediation (MacKinnon, 2008; Zhao et al., 2010). However, displacement is not significantly associated with these mediators. Based on these tests, the current battery of mediators therefore do not account for displacement's effect on trust.

5. Discussion and Conclusion

This article investigated the impact of job displacement on social trust. Drawing together two lines of research, uniting studies on the non-pecuniary effects of job loss with the literature on the determinants of generalised trust, it aimed to perform the first test of the theoretical

²⁴ Changes in salary did little to mediate displacement's effect either

contention that job displacement is harmful to trust. Under more robust panel data modelling specifications, including key early-life controls, findings show that individuals who experience displacement are less likely to evince trust over the adult lifecourse, observable at least nine years after the displacement occurred. This effect appears unique to displacement and not other forms of job loss. Furthermore, attendant periods of unemployment do not account for this effect. These findings thus suggest something peculiar about *how* a job is lost under displacement that is detrimental to trust. However, applying a novel approach, we demonstrate that not all individuals display equal sensitivity to this: displacement's effects are concentrated (and stronger) among individuals who attach greater value to work. With the available data a range of possible mechanisms through which displacement might operate were tested; however, in line with similar job displacement studies, none appeared to account for the effect (Brand and Burgard, 2008).

Why then does displacement appear to scar trust over individuals' lives? Some clues may be found in the result that individuals with higher *pre*-job displacement attachment to employment experienced a stronger negative effect, while those with low attachment reported no effect. This mirrors findings that the psychological impact of involuntary job loss is much stronger among individuals with higher employment commitment, due to their (apparent) greater dependence on work as a source of identity and self-worth. In particular, that involuntary job loss can elicit grief-like responses (especially among high work-centrality individuals) suggests job displacement may be acting as a traumatic life event (Jackson et al., 1983; Archer and Rhodes 1993; Mol et al., 2005). Such discrete life events can threaten one's sense of security and belief in the benevolence and fairness of life, in turn, eroding one's trust in wider society (Janoff-Bulman, 2010). High work-centrality may thus be acting as a proxy for individuals' sensitivity to pejorative labour market experiences, dictating the severity of

the psychological reaction to job displacement. Individuals who return to work after displacement are thus likely to continue to carry the psychological scar of the experience (Mol et al., 2005). While the analysis did test the mediating role of general measures of psychological wellbeing, our current measures may be incomplete as studies show grief-responses form an empirically distinct set of reactions (e.g. Archer and Rhodes, 1993).

The use of longitudinal data in this study significantly strengthens our conclusions. Given the identification of an effect even under more robust modelling conditions, and that frequently, after applying panel data methods, many predictors of trust observed in cross-sectional analyses disappear, the persistence of the displacement finding demonstrates its importance. However, although a significant improvement on cross-sectional data, having only two-waves of data still limits the causal claims that can be made, as three waves of data are posited as the minimum required to robustly identify causal effects, especially for the measurement of individual trajectories of change and for limiting biases from measurement error over time (Singer and Willet, 2003). Furthermore, examining trust and displacement over a seventeen year period means that the chance of displacement's effect coming from changes over time in the effect of time-invariant characteristics increases the longer the gap between surveys. It also cannot be discounted that an omitted variable accounts for trust's relationship with displacement, although the relatively exogenous nature of displacement somewhat minimises this. Lastly, it is unclear from this study how displacement may affect trust when an individual is younger (in their 20s) or older (50s to retirement). However, studies of displacement's effect on other outcomes suggest its severity likely decreases as individuals near retirement, as the stigma of experiencing job loss is likely less when one's peers are beginning to drop out of the work force through retirement anyway, and work becomes less important to individuals' identity and sense of worth (Brand and Burgard, 2008).

In conclusion, these findings suggest that increasing rates of redundancies with more ‘flexible modes of production’ may, as posited, play a role in declining trust. That displaced individuals are 4.5% less likely to trust (and 7% less likely among those with strong work attachments) is substantial. Furthermore, that the effect remains present at least nine years after the event occurred demonstrates the severity of displacement experiences. While this study adds another outcome to the growing list of the non-pecuniary effects of job displacement, it also broadens the field’s understanding of how, beyond individuals’ own lives (such as their mental and physical well-being), events like displacement have the capacity to weaken the social fabric of the community and society (Jahoda et al., 1972; Brand and Burgard, 2008).

This paper also contributes to the growing literature exploring the sources of generalized trust; in particular, the debates into whether trust is a largely fixed, cultural trait, passed generationally through early-life socialisation or a more experiential characteristic, susceptible to life experiences (Glanville and Paxton, 2007; Dinesen, 2012; Sønderskov and Dinesen, 2014). These findings demonstrate that, even under robust panel data modelling conditions²⁵, alongside the inclusion of key early-life predictors, experiencing job displacement can undermine generalized trust. Thus, while studies have shown that trust remains largely stable over individuals’ lives, this paper provides evidence that individuals’ tendencies to (dis)trust can reflect, in part, adult life experiences, and that key life-events can generate chronic distrust, persisting long after the event occurred.

²⁵ Applying both lagged dependent variable and change-score methods that partial out time-invariant confounding traits

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- Archer J, Rhodes V (1993) The grief process and job loss: A cross-sectional study. *British Journal of Psychology* 84(3): 395-410
- Archer J, Rhodes V (1995) A longitudinal study of job loss in relation to the grief process. *Journal of community & applied social psychology* 5(3): 183-188
- Arulampalam W (2001) Is unemployment really scarring? Effects of unemployment experiences on wages. *The Economic Journal* 111(475): 585-606
- Brand JE, Burgard SA (2008) Job Displacement and Social Participation over the Lifecourse: Findings for a Cohort of Joiners. *Social forces* 87(1): 211-242
- Brehm J, Rahn W (1997) Individual-Level Evidence for the Causes and Consequences of Social Capital. *American Journal of Political Science* 41(3): 999-1023
- Brewington JO, Nassar-McMillan SC, Flowers CP, and Furr SR (2004) A preliminary investigation of factors associated with job loss grief. *The Career Development Quarterly* 53(1): 78-83
- Bynner J, Parsons S (2000) Marginalization and value shifts under the changing economic circumstances surrounding the transition to work: a comparison of cohorts born in 1958 and 1970. *Journal of youth studies* 3(3): 237-249
- Capelli P (1999) *The new deal at work: Managing the market-driven workforce*. Boston, MA: Harvard Business Press
- Cortina JM (1993) What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology* 78(1): 98-104
- Couch LL, Jones, WH (1997) Measuring Levels of Trust. *Journal of Research in Personality* 31(3): 319-336

- Daly M, Delaney L (2012) The scarring effect of unemployment throughout adulthood on psychological distress at age 50: estimates controlling for early adulthood distress and childhood psychological factors. *Social Science & Medicine* 80: 19-23
- De Ruyter A, Burgess J (2003) Growing Labour Insecurity in Australia and the UK in the Midst of Job Growth: Beware the Anglo-Saxon Model. *European Journal of Industrial Relations* 9(2): 223-243
- Delhey J, Newton K (2003) Who trusts? The origins of social trust in seven societies. *European Societies* 5(2): 93-137
- Dinesen, PT (2012) Does Generalized (Dis) Trust Travel? Examining the Impact of Cultural Heritage and Destination-Country Environment on Trust of Immigrants. *Political Psychology* 33(4): 495-511
- Erikson EH (1979) *Eight stages of man*. London: Penguin
- Farrell H, Knight J (2003) Trust, Institutions, and Institutional Change: Industrial Districts and the Social Capital Hypothesis. *Politics & Society* 31(4): 537-566
- Feldman DC (1992) *Coping with job loss: How individuals, organizations, and communities respond to layoffs*. New York: Lexington Books
- Ferri E (1993) *Life at 33: the fifth follow-up of the National Child Development Study*. London: National Children's Bureau
- Glanville JL, Paxton P (2007) How do We Learn to Trust? A Confirmatory Tetrad Analysis of the Sources of Generalised Trust. *Social Psychology Quarterly* 70(3): 230-242
- Goldsmith AH, Veum JR, and Darity W (1996) The psychological impact of unemployment and joblessness. *Journal of Socio-economics* 25(3): 333-358

Hall PA (1999) Social Capital in Britain. *British Journal of Political Science* 29(03): 417-461

Hawkes D, Plewis I (2006) Modelling non-response in the National Child Development Study. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 169(3): 479-491

Heckscher CC (1995) *White-collar blues: Management loyalties in an age of corporate restructuring*. New York: Basic Books

Huang J, Van Den Brink, HM, and Groot W (2011) College Education and Social Trust: An Evidence-Based Study on the Causal Mechanisms. *Social indicators research* 104(2): 287-310

Jackson PR, Stafford EM, Banks MH, and Warr PB (1983) Unemployment and psychological distress in young people: The moderating role of employment commitment. *Journal of Applied Psychology* 68(3): 525

Jahoda M, Lazarsfeld P, and Ziezel H (1972) *Marienthal: The Sociology of an Unemployed Community*. London: Tavistock (original work published 1933)

Janoff-Bulman R 2010 *Shattered assumptions*. New York: Free Press.

Johnson D (2005) Two-Wave Panel Analysis: Comparing Statistical Methods for Studying the Effects of Transitions. *Journal of Marriage and Family* 67(4): 1061-1075

Kawachi I, Kennedy BP, Lochner K, and Prothrow-Stith D (1997) Social capital, income inequality, and mortality. *American Journal of Public Health* 87(9): 1491-1498

Leigh A (2003) Trends in social capital. In: Christensen K, Levinson D (eds) *Encyclopedia of Community: From the village to the virtual world*. California: Thousand Oaks, 70-81

- Lester SW, Kickul J (2001) Psychological contracts in the 21st century: What employees value most and how well organizations are responding to these expectations. *Human Resource Planning* 24(1): 10-21
- Lim C, Putnam RD (2010) Religion, social networks, and life satisfaction. *American Sociological Review* 75(6): 914-933
- Lindström M (2009) Psychosocial work conditions, unemployment, and generalised trust in other people: A population-based study of psychosocial health determinants. *The Social Science Journal* 46(3): 584-593
- MacKinnon DP (2008) *Introduction to statistical mediation analysis*. Mahwah, NJ: Erlbaum
- McKee-Ryan F, Song Z, Wanberg CR, and Kinicki AJ (2005) Psychological and Physical Well-Being During Unemployment: A Meta-Analytic Study. *Journal of Applied Psychology* 90(1): 53-76
- Misztal BA (2001) Trust and cooperation: the democratic public sphere. *Journal of Sociology* 37(4): 371-386
- Mol SSL, Arntz A, Metsemakers JFM, Dinant GJ, Vilters-Van Montfort PA, and Knottnerus JA (2005) Symptoms of post-traumatic stress disorder after non-traumatic events: evidence from an open population study. *The British Journal of Psychiatry* 186(6): 494-499
- Morrow PC (1983) Concept redundancy in organizational research: the case of work commitment. *Academy of Management Review*, 8: 486-500
- Nannestad P (2008) What Have We Learned About Generalised Trust, If Anything?. *Annual Review of Political Science* 11(1): 413-436

- Noer DM (2009) *Healing the wounds: Overcoming the trauma of layoffs and revitalizing downsized organizations*. San Francisco: Jossey-Bass
- Nunnally JC (1978) *Psychometric Theory*. New York: McGraw-Hill Publishing
- Papa A, Maitoza R (2012) The Role of Loss in the Experience of Grief: The Case of Job Loss. *Journal of Loss and Trauma* 18(2): 152-169
- Paxton P (1999) Is Social Capital Declining in the United States? A Multiple Indicator Assessment. *American Journal of Sociology* 105(1): 88-127
- Perrucci R, Perrucci CC (2009) *America at risk: The crisis of hope, trust, and caring*. Lanham MD: Rowman & Littlefield
- Putnam RD (2000) *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster
- Roberts BW, Del Vecchio WF (2000) The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin* 126(1): 3-25
- Rosenberg M (1956) Misanthropy and Political Ideology. *American Sociological Review* 21(6): 690-695
- Rothstein B, Stolle D (2008) The state and social capital: An institutional theory of generalized trust. *Comparative Politics* 40(4): 441-459
- Shamir B (1986) Protestant Work Ethic, Work Involvement and the Psychological Impact of Unemployment. *Journal of Occupational Behaviour* 7(1): 25-38
- Singer JD, Willett JB (2003) *Applied longitudinal data analysis: Modeling change and event occurrence*. New York: Oxford University Press
- Sønderskov, KM, Dinesen PT (2014). Danish Exceptionalism: Explaining the Unique Increase in Social Trust Over the Past 30 Years. *European Sociological Review* (online first)

Strully KW (2009) Job loss and health in the U.S. labor market. *Demography* 46(2): 221-246

Sturgis P, Patulny R, and Allum N (2007) Re-evaluating the individual level causes of trust: a panel data analysis. Paper presented at the European Survey Research Association Conference, Prague, 25-29 June.

Sturgis P, Patulny R, Allum N, and Buscha F (2012) *Social connectedness and generalised trust: a longitudinal perspective*. Colchester: Institute for Social & Economic Research

Sturgis P, Read S, and Allum N (2010) Does intelligence foster generalised trust? An empirical test using the UK birth cohort studies. *Intelligence* 38(1): 45-54

Uslaner EM (2002) *The moral foundations of trust*. Cambridge: Cambridge University Press

Waters L (2007) Experiential differences between voluntary and involuntary job redundancy on depression, job-search activity, affective employee outcomes and re-employment quality. *Journal of occupational and organizational psychology* 80(2): 279-299

Yamagishi T, Yamagishi M (1994) Trust and commitment in the United States and Japan. *Motivation and Emotion* 18(2): 129-166.

Zhao X, Lynch JG, Chen Q (2010) Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of consumer research* 37(2): 197-206

Table 1 – Changes in Trust between ages 33 and 50

| Type of Change (age 33 to age 50) | % |
|-----------------------------------|-------------|
| Distrust-to-distrust | 17.11 |
| <i>n=</i> | <i>1170</i> |
| Distrust-to-depends | 2.4 |
| <i>n=</i> | <i>164</i> |
| Distrust-to-trust | 10.76 |
| <i>n=</i> | <i>736</i> |
| Trust-to-distrust | 19.47 |
| <i>n=</i> | <i>1332</i> |
| Trust-to-depends | 4.66 |
| <i>n=</i> | <i>319</i> |
| Trust-to-trust | 45.6 |
| <i>n=</i> | <i>3119</i> |

Table II – Displacement and Generalised Trust (Lagged Dependent Variable Models); Odds Ratios

| Dependent Variable: | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|--|--------------|---------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| | Trust age 50 | 95% CI | Trust age 50 | 95% CI | Trust age 50 | 95% CI | Trust age 50 | 95% CI | Trust age 50 | 95% CI |
| Generalised Trust (age 33) | 1.774*** | [1.68, 1.873] | 1.775*** | [1.681, 1.874] | 1.775*** | [1.681, 1.874] | 1.773*** | [1.68, 1.872] | 1.775*** | [1.681, 1.874] |
| Displacement (age 33 to 50) | 0.921** | [0.87, 0.974] | 0.923** | [0.872, 0.977] | 0.922** | [0.871, 0.976] | | | 0.924** | [0.873, 0.978] |
| Job loss: fixed-term (age 33 to 50) | | | 0.99 | [0.936, 1.047] | | | | | | |
| Job loss: fired (age 33 to 50) | | | 0.956 | [0.905, 1.01] | | | | | | |
| Job loss: family (age 33 to 50) | | | 1.063* | [1.002, 1.127] | | | | | | |
| Job loss: health (age 33 to 50) | | | 1.008 | [0.952, 1.068] | | | | | | |
| Job loss: own choice (age 33 to 50) | | | 1.012 | [0.956, 1.071] | | | | | | |
| Job loss: other (age 33 to 50) | | | 1.012 | [0.957, 1.07] | | | | | | |
| Job loss: job problems (age 33 to 50) | | | 1.002 | [0.949, 1.058] | | | | | | |
| Months Unemployed (age 33 to 50) | | | | | 0.948 | [0.884, 1.016] | | | | |
| <i>Baseline: no displacement (age 33-50)</i> | | | | | | | | | | |
| Displacement (age 33-41 only) | | | | | | | 0.941* | [0.891, 0.994] | | |
| Displacement (age 41-50 only) | | | | | | | 0.933* | [0.882, 0.987] | | |
| Displacement (ages 33-41 and 41-50) | | | | | | | 0.958+ | [0.764, 1.027] | | |
| <i>Work Centrality</i> | | | | | | | | | | |
| <i>Baseline: Work-centrality (high)</i> | | | | | | | | | | |
| Work-centrality (medium) | | | | | | | | | 1.033 | [0.97, 1.099] |
| Work-centrality (low) | | | | | | | | | 1.046 | [0.981, 1.115] |

| | | | | | | | | | | |
|--|----------|---------------|----------|----------------|----------|----------------|----------|----------------|----------------|----------------|
| Displacement * Work-centrality (medium) | | | | | | | | 0.995 | [0.937, 1.057] | |
| Displacement * Work-centrality (low) | | | | | | | | 1.066* | [1.003, 1.134] | |
| Constant | 1.596*** | [1.51, 1.687] | 1.597*** | [1.511, 1.688] | 1.594*** | [1.509, 1.686] | 1.595*** | [1.509, 1.686] | 1.601*** | [1.515, 1.692] |
| N | 6840 | | 6840 | | 6840 | | 6840 | | 6840 | |

Notes: ***P<0.001. **P<0.01. *P<0.05. +P<0.1. Displaying 95% Confidence Intervals. Models contain all covariates although not shown.
Sample contains adults from Great Britain between 1991 and 2008. Logistic Regression

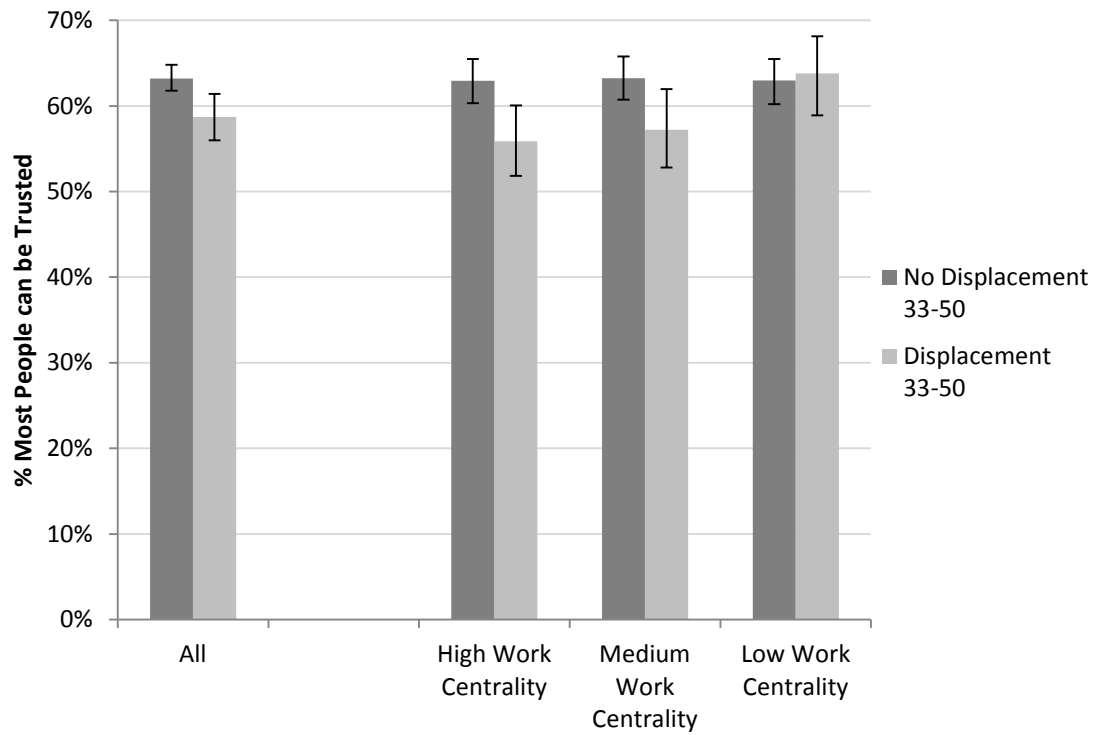


Figure I – Levels of Generalised Trust at age 50 by Displacement among: *All Individuals* and by *Level of Work centrality*

Notes: all other variables (including trust at age 33) set to mean. Sample contains adults from Great Britain between 1991 and 2008

Table III – Displacement and Generalised Trust Mediating Analysis (Lagged Dependent Variable Models); Odds Ratios

| Dependent Variable: | Model 1 | | Model 2 | | Model 3 | |
|--|--------------|---------------|--------------|----------------|--------------|----------------|
| | Trust age 50 | 95% CI | Trust age 50 | 95% CI | Trust age 50 | 95% CI |
| Generalised Trust (age 33) | 1.774*** | [1.68, 1.873] | 1.765*** | [1.672, 1.864] | 1.736*** | [1.642, 1.837] |
| Displacement (age 33 to 50) | 0.921** | [0.87, 0.974] | 0.922** | [0.871, 0.975] | 0.921** | [0.87, 0.976] |
| <i>Mediators</i> | | | | | | |
| Self-rated Health (age 33) | | | | | 1.059 | [0.982, 1.142] |
| <i>Change in self-rated health (33 to 50)</i> | | | | | 1.078* | [1.002, 1.16] |
| Life Satisfaction (age 33) | | | | | 1.037 | [0.933, 1.153] |
| <i>Change in life satisfaction (age 33 to 50)</i> | | | | | 1.082 | [0.979, 1.196] |
| Future life satisfaction (age 33) | | | | | 0.981 | [0.899, 1.071] |
| <i>Change in future life satisfaction (age 33 to 50)</i> | | | | | 1.067 | [0.973, 1.171] |
| Malaise Index (age 33) | | | | | 0.928* | [0.861, 0.999] |
| <i>Change in Malaise Index (age 33 to 50)</i> | | | | | 0.898** | [0.84, 0.96] |
| Index: Personal Efficacy (age 33) | | | | | 1.121* | [1.024, 1.227] |
| <i>Change in Index: Personal Efficacy (age 33 to 50)</i> | | | | | 1.151*** | [1.061, 1.249] |
| Civic participation (age 33) | | | | | 1.116* | [1.022, 1.218] |
| <i>Change in civic participation (age 33 to 50)</i> | | | | | 1.057 | [0.972, 1.149] |
| Close ties (age 33) | | | | | 1.12* | [1.012, 1.241] |
| <i>Change in close ties (age 33 to 50)</i> | | | | | 1.103* | [1, 1.216] |
| Constant | 1.596*** | [1.51, 1.687] | 1.596*** | [1.51, 1.688] | 1.596*** | [1.509, 1.69] |
| N | 6840 | | 6840 | | 6840 | |

Notes: *** $P < 0.001$. ** $P < 0.01$. * $P < 0.05$. + $P < 0.1$. Displaying 95% Confidence Intervals. Models contain all covariates although not shown. Sample contains adults from Great Britain between 1991 and 2008. Logistic Regression

Appendix A.1 – Descriptive Statistics

| Variable | Age 33 | | Age 50 | | Min | Max |
|---|--------|-----------|--------|-----------|-----|-----|
| | Mean | Std. Dev. | Mean | Std. Dev. | | |
| <i>Outcome:</i> | | | | | | |
| Generalised Trust ('depends' coded as 'trusting') | 0.701 | 0.458 | 0.61 | 0.489 | 0 | 1 |
| <i>Controls:</i> | | | | | | |
| Single/Never-Married | 0.160 | 0.367 | 0.089 | 0.284 | 0 | 1 |
| Married | 0.737 | 0.441 | 0.724 | 0.447 | 0 | 1 |
| Separated/divorced/widowed | 0.103 | 0.304 | 0.187 | 0.390 | 0 | 1 |
| North | 0.249 | 0.433 | 0.250 | 0.433 | 0 | 1 |
| Midlands/Anglia | 0.199 | 0.399 | 0.205 | 0.403 | 0 | 1 |
| South | 0.410 | 0.492 | 0.393 | 0.488 | 0 | 1 |
| Wales | 0.049 | 0.216 | 0.053 | 0.223 | 0 | 1 |
| Scotland | 0.093 | 0.290 | 0.099 | 0.299 | 0 | 1 |
| Employed(Public-Sector) | 0.188 | 0.391 | 0.219 | 0.413 | 0 | 1 |
| Employed(Private-Sector) | 0.339 | 0.473 | 0.354 | 0.478 | 0 | 1 |
| Employed(non-for-profit) | 0.291 | 0.454 | 0.298 | 0.458 | 0 | 1 |
| Unemployed and seeking work | 0.028 | 0.165 | 0.019 | 0.137 | 0 | 1 |
| Not in Labour Force | 0.153 | 0.360 | 0.110 | 0.313 | 0 | 1 |
| No quals/cse 2-5/equiv nvq1 | 0.201 | 0.401 | 0.163 | 0.369 | 0 | 1 |
| O level/equiv nvq2 | 0.349 | 0.477 | 0.273 | 0.446 | 0 | 1 |
| A level/equiv nvq3 | 0.150 | 0.357 | 0.185 | 0.388 | 0 | 1 |
| Higher qual/nvq4 | 0.158 | 0.365 | 0.333 | 0.471 | 0 | 1 |
| Degree/equivalent | 0.142 | 0.350 | 0.047 | 0.211 | 0 | 1 |
| Social-Class:V | 0.159 | 0.365 | 0.124 | 0.330 | 0 | 1 |
| Social-Class:IV | 0.177 | 0.382 | 0.171 | 0.377 | 0 | 1 |
| Social-Class:III | 0.235 | 0.424 | 0.193 | 0.394 | 0 | 1 |
| Social-Class:II | 0.315 | 0.465 | 0.394 | 0.489 | 0 | 1 |
| Social-Class:I | 0.053 | 0.224 | 0.054 | 0.227 | 0 | 1 |
| Social-Class: Other | 0.060 | 0.238 | 0.064 | 0.244 | 0 | 1 |
| Pension | 0.458 | 0.498 | 0.639 | 0.480 | 0 | 1 |
| Children in Household | 0.697 | 0.460 | 0.613 | 0.487 | 0 | 1 |
| Union Membership | 0.312 | 0.463 | 0.225 | 0.418 | 0 | 1 |
| White | 0.983 | 0.131 | | | 0 | 1 |
| Black | 0.008 | 0.087 | | | 0 | 1 |
| Asian | 0.005 | 0.073 | | | 0 | 1 |
| Other | 0.004 | 0.065 | | | 0 | 1 |
| Female | 0.524 | 0.499 | | | 0 | 1 |
| <i>Early-Life controls:</i> | | | | | | |
| Parental-Education: Below 16 | 0.570 | 0.495 | | | 0 | 1 |
| Parental-Education: 16 to 19 | 0.143 | 0.351 | | | 0 | 1 |
| Parental-Education: 19+ | 0.039 | 0.194 | | | 0 | 1 |
| IQ at 7: bottom-quartile | 0.225 | 0.418 | | | 0 | 1 |

| | | | | | | |
|--|--------|--------|-------|-------|--------|-------|
| IQ at 7: middle-quartile | 0.310 | 0.463 | | | 0 | 1 |
| IQ at 7: top-quartile | 0.333 | 0.471 | | | 0 | 1 |
| Relationship with Mother | 1.744 | 0.795 | | | 1 | 5 |
| Relationship with Father | 1.925 | 0.915 | | | 1 | 5 |
| <i>Key Independent Variables:</i> | | | | | | |
| Displacement | 0.26 | 0.439 | | | 0 | 1 |
| Job loss: Fixed-term/Temporary job end | 0.07 | 0.255 | | | 0 | 1 |
| Job-loss: Fired | 0.014 | 0.119 | | | 0 | 1 |
| Job-loss: family | 0.058 | 0.234 | | | 0 | 1 |
| Job-loss: health | 0.082 | 0.274 | | | 0 | 1 |
| Job-loss: own choice | 0.435 | 0.496 | | | 0 | 1 |
| Job-loss: other | 0.228 | 0.420 | | | 0 | 1 |
| Job-loss: job problems | 0.051 | 0.220 | | | 0 | 1 |
| Months Unemployed | 2.356 | 12.496 | | | 0 | 210 |
| Work centrality Index | -0.007 | 0.738 | | | -1.701 | 2.105 |
| <i>Mediators:</i> | | | | | | |
| Self-Rated Health | 2.24 | 0.674 | 2.001 | 0.708 | 0 | 3 |
| Life Satisfaction (so far) | 6.582 | 1.568 | 7.359 | 1.796 | 0 | 10 |
| Life Satisfaction (in 10 years time) | 7.607 | 1.275 | 7.747 | 1.721 | 0 | 10 |
| Malaise-Index | 0.872 | 1.407 | 1.412 | 1.878 | 0 | 9 |
| Personal-efficacy Index | 0.016 | 0.725 | 0.019 | 0.733 | -2.803 | 0.367 |
| Civic Membership | 0.206 | 0.405 | 0.134 | 0.341 | 0 | 1 |
| Social support | 0.85 | 0.161 | 0.87 | 0.131 | 0 | 1 |

Appendix B.1 - Displacement and Generalised Trust (Change-Score Models); Odds Ratios

| Dependent Variable: | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|--|--------------------------------|----------------|--------------------------------|----------------|--------------------------------|----------------|--------------------------------|----------------|--------------------------------|----------------|
| | Change in Trust (ages 50 - 33) | 95% CI | Change in Trust (ages 50 - 33) | 95% CI | Change in Trust (ages 50 - 33) | 95% CI | Change in Trust (ages 50 - 33) | 95% CI | Change in Trust (ages 50 - 33) | 95% CI |
| Displacement (age 33 to 50) | 0.925** | [0.876, 0.977] | 0.927** | [0.878, 0.98] | 0.927** | [0.877, 0.979] | | | 0.919** | [0.879, 0.981] |
| Job loss: fixed-term (age 33 to 50) | | | 1.011 | [0.958, 1.067] | | | | | | |
| Job loss: fired (age 33 to 50) | | | 0.965 | [0.913, 1.018] | | | | | | |
| Job loss: family (age 33 to 50) | | | 1.05+ | [0.994, 1.11] | | | | | | |
| Job loss: health (age 33 to 50) | | | 1.03 | [0.973, 1.09] | | | | | | |
| Job loss: own choice (age 33 to 50) | | | 0.987 | [0.936, 1.042] | | | | | | |
| Job loss: other (age 33 to 50) | | | 1.01 | [0.957, 1.064] | | | | | | |
| Job loss: job problems (age 33 to 50) | | | 1.01 | [0.956, 1.062] | | | | | | |
| Months Unemployed (age 33 to 50) | | | | | 0.95 | [0.889, 1.015] | | | | |
| <i>Baseline: no displacement (age 33-50)</i> | | | | | | | | | | |
| Displacement (age 33-41) | | | | | | | 0.949+ | [0.9, 1.001] | | |
| Displacement (age 41-50) | | | | | | | 0.935* | [0.885, 0.987] | | |
| Displacement (ages 33-41 and 41-50) | | | | | | | 0.944+ | [0.895, 0.1] | | |
| <i>Work Centrality</i> | | | | | | | | | | |
| <i>Baseline: Work-centrality (high)</i> | | | | | | | | | | |
| Work-centrality (medium) | | | | | | | | | 0.995 | [0.938, 1.057] |
| Work-centrality (low) | | | | | | | | | 1.01 | [0.943, 1.067] |
| Displacement * Work- | | | | | | | | | 1.032 | [0.974, 1.093] |

| | | | | | | |
|----------------------|------|-------|-------|-------|--------|----------------|
| centrality (medium) | | | | | | |
| Displacement * Work- | | | | | 1.09** | [1.027, 1.156] |
| centrality (low) | | | | | | |
| N | 6840 | 6,840 | 6,840 | 6,840 | 6,840 | |

Notes: ***P<0.001. **P<0.01. *P<0.05. +P<0.1. Displaying 95% Confidence Intervals. Models contain all covariates although not shown. Sample contains adults from Great Britain between 1991 and 2008. Ordered Logistic Regression