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# **Intergenerational transmission of worklessness**

## **Technical Annex - Evidence from the Longitudinal Study of Young People in England (LSYPE)**

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The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education.

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## Intergenerational transmission of worklessness

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## **L. Evidence from the Longitudinal Study of Young People in England (LSYPE)**

This technical report describes the data source - the Longitudinal Study of Young People in England (LSYPE) - and outlines the level of attrition and missing values in the data. We then define and report on the prevalence of temporary and repeated or persistent worklessness in England and examine regional differences in worklessness. We furthermore explore the characteristics of families experiencing long-term worklessness and assess to what extent the experience of repeated worklessness can be predicted by additional risk factors (i.e. family demographics, parental health, and regional deprivation). We then explore potential protective factors that are available to children and families experiencing repeated worklessness. The remainder of the report examines the relationship between parental worklessness, associated risks and protective factors and a range of outcomes, comprising the academic and occupational attainment of young people, as well as their psycho-social adjustment (i.e. lack of control, mental health, involvement in crime, smoking, drinking, drug usage, and teenage parenthood).

### ***L.1 The Longitudinal Study of Young People in England (LSYPE)***

LSYPE provides detailed data on young people's values, self concepts, motivations and aspirations, information on parental education aspirations and support for education, as well as family background data. Information on family background was mainly collected at waves 1-3, including data on parental worklessness. This enables us to look at the long term consequences of parental worklessness on the outcomes of young people at age 18 (specifically, in terms of their education participation, likelihood of being Not in Employment, Education or Training (NEET) and attachment to labour market). More information on LSYPE is provided below.

The Longitudinal Study of Young People in England (LSYPE) is a large, nationally representative survey designed to follow a single cohort of young people from the age of 13. The study began in 2004, when over 15,500 young people from all areas of England born between 1<sup>st</sup> September 1989 and 31<sup>st</sup> August 1990 were interviewed. These young people are tracked and re-interviewed every year (known as survey 'waves'). By autumn 2009 the study had completed its sixth wave of interviews, when respondents were aged 18<sup>2</sup>. Table illustrates the timings of the survey and ages of the young people studied.

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<sup>1</sup> A more detailed description of LSYPE can be found in Appendix A.

<sup>2</sup> Data from LSYPE wave 7, when the young people were aged 19, was made available for analysis at the end of 2011, which was too late to be included in this report.

**Table L.1.1 Survey details of Longitudinal Study of Young People in England (LSYPE)**

| Wave of LSYPE | Survey numbers (young people <sup>1</sup> ) | Year | School year | Age of young person |
|---------------|---------------------------------------------|------|-------------|---------------------|
| 1             | 15,770                                      | 2004 | 9           | 13                  |
| 2             | 11,952                                      | 2005 | 10          | 14                  |
| 3             | 12,148                                      | 2006 | 11          | 15                  |
| 4             | 11,053                                      | 2007 | 12          | 16                  |
| 5             | 10,430                                      | 2008 | 13          | 17                  |
| 6             | 9,799                                       | 2009 | 14          | 18                  |

Note: <sup>1</sup> The survey also interviews the young person's parents in earlier waves.

LSYPE is managed by the Department for Education (DfE). It is a highly detailed and in-depth survey, and the data are publicly available from the Economic and Social Data Service (<http://www.esds.ac.uk/findingData/lsypeTitles.asp>) and DfE's public LSYPE workspace ([www.education.gov.uk/ilsype](http://www.education.gov.uk/ilsype)). Because LSYPE is a longitudinal study, it is possible to link data between waves and explore young people's transitions and changing attitudes and experiences as they grow older.

The main objectives of LSYPE are:

- To provide evidence on key factors affecting educational progress and attainment from the age of 13
- To provide evidence about the transitions young people make from education or training to economic roles in early adulthood
- To help monitor and evaluate the effects of existing policy and provide a strong evidence base for the development of future policy
- To contextualise the implementation of new policies in terms of young people's current lives

LSYPE represents a particularly valuable source of information on the circumstances and experiences of young people from workless families for a number of reasons. The study asks about the work status of the young person's resident parents, or carers, and because the study is longitudinal it makes it possible to examine the dynamics of worklessness and how it may relate to young people's behaviours and attitudes. The various types of information LSYPE collects includes family background, parental attitudes, and young person characteristics, attitudes and behaviours.

The LSYPE data have also been linked to administrative data held on the National Pupil Database (NPD), a pupil-level database which matches pupil and school characteristics to attainment. The data are also linked to school-level and Local Authority-level indicators such as proportion of pupils gaining five or more

GCSEs at grades A\*-C and the proportion receiving Free School Meals, and to geographical indicators such as the Index of Multiple Deprivation (IMD) and classifications of urban and rural areas.

### **Describing the LSYPE analytical sample (used in this analysis)**

The LSYPE study was designed to be representative of the population of young people in England. The sample did not include those solely educated at home, boarders and those solely in England for purposes of education. In addition, sample boosts have taken place for some sub-groups (i.e. some ethnic minority groups) to ensure large enough numbers for analysis of key groups. Sample weights are used during analysis to compensate for oversampling and attrition, as not all respondents took part in every year of the study.

In Table we have summarised some key characteristics of young people at age 13. Some of these characteristics are associated with later outcomes for young people and it is useful for the reader to return to this table to see the relative size of these sub-groups. It is important to note that these young people form our analytical sample – that is, they are young people whose parents gave valid information on their work status over the first three years of LSYPE. In the next section we discuss the consequences of only including these young people in our analyses.

As you can see from Table the vast majority of our young people were from White backgrounds, but we have a sizeable number of young people from other ethnic groups. LSYPE also includes substantial numbers of young people from particularly interesting sub-groups; such as those with a Special Educational Need (13 per cent of young people), a disability or illness that effects school (7 per cent), who have moved school (6 per cent) and from single parent families (24 per cent).

**Table L.1.2 Profiling young people aged 13**

|                                                                 | Weighted % | Unweighted count |
|-----------------------------------------------------------------|------------|------------------|
| <b>Young person's ethnic group</b>                              |            |                  |
| White                                                           | 86.3       | 7745             |
| Mixed                                                           | 2.8        | 538              |
| Indian                                                          | 2.4        | 760              |
| Pakistani                                                       | 2.3        | 661              |
| Bangladeshi                                                     | 0.9        | 478              |
| Black Caribbean                                                 | 1.4        | 331              |
| Black African                                                   | 1.6        | 316              |
| Other                                                           | 2.3        | 267              |
| <b>Young person's Special Educational Need</b>                  |            |                  |
| Yes                                                             | 13.1       | 1116             |
| No                                                              | 86.9       | 9841             |
| <b>Young person's has a disability or long-standing illness</b> |            |                  |
| Yes and schooling affected                                      | 6.8        | 621              |
| Yes but schooling not affected                                  | 8.0        | 795              |
| No                                                              | 85.2       | 9631             |
| <b>Whether young person moved school during period</b>          |            |                  |
| Yes                                                             | 5.5        | 429              |
| No                                                              | 94.5       | 10478            |
| <b>Whether young person played truant during period</b>         |            |                  |
| Yes                                                             | 26.9       | 2681             |
| No                                                              | 73.1       | 8386             |
| <b>Family housing tenure</b>                                    |            |                  |
| Owner occupier                                                  | 72.0       | 8101             |
| Rented (Social)                                                 | 21.8       | 2365             |
| Rented (Private)                                                | 4.6        | 484              |
| Other                                                           | 1.6        | 155              |
| <b>Marital status of parents</b>                                |            |                  |
| Married                                                         | 66.6       | 7713             |
| Cohabiting                                                      | 8.6        | 653              |
| Single parent                                                   | 23.9       | 2735             |
| <b>Number of children in family</b>                             |            |                  |
| 1                                                               | 22.9       | 2406             |
| 2                                                               | 45.1       | 4751             |
| 3                                                               | 21.0       | 2457             |
| 4 or more                                                       | 11.0       | 1472             |

Base: All young people present in waves 1-3 of LSYPE, whose parents gave valid information on work status in all three waves

## A note on missing data

The LSYPE is a longitudinal survey, meaning that respondents who participate in the first wave of data collection are not necessarily present in any or all of the subsequent data collections. We are particularly interested in comparing our analytical sample (that is those with valid parental worklessness information across the first three waves) with all those interviewed in wave 1 (given that this wave is representative of all young people). Table illustrates this comparison for a selection of variables used in later analysis. The overall conclusion is that the two samples do not markedly differ, suggesting that attrition and respondent selection is not significantly biasing the findings. Table B1 in Appendix B presents further analysis for each of the samples considered in the analysis for a greater selection of variables – and the conclusion still holds.

We are also interested in missing data on worklessness from families at each wave, and across waves (Figure L.1.1). Among the workless at wave 1, 5.2 per cent had dropped out at wave 2. Of those who were workless at wave 1 and wave 2, 2.6 per cent were missing at wave 3. This is a lower rate of dropout than for those who moved into work at wave 2. One possible explanation for this is that people in work are more likely to move house, sometimes as a consequence of a new job, and also are more difficult to contact to interview because of being at work.

The bold text in Figure L.1.1 shows work transitions for families that did not drop out of the survey. Here we see that almost 9 in 10 families remained workless in the next year – 87.2 per cent of workless families in wave 1 were also workless in wave 2, and 87.5 per cent of workless families in wave 2 were also workless in wave 3.

In order to address the issue of non-response and small sample sizes, the following methodology was followed:

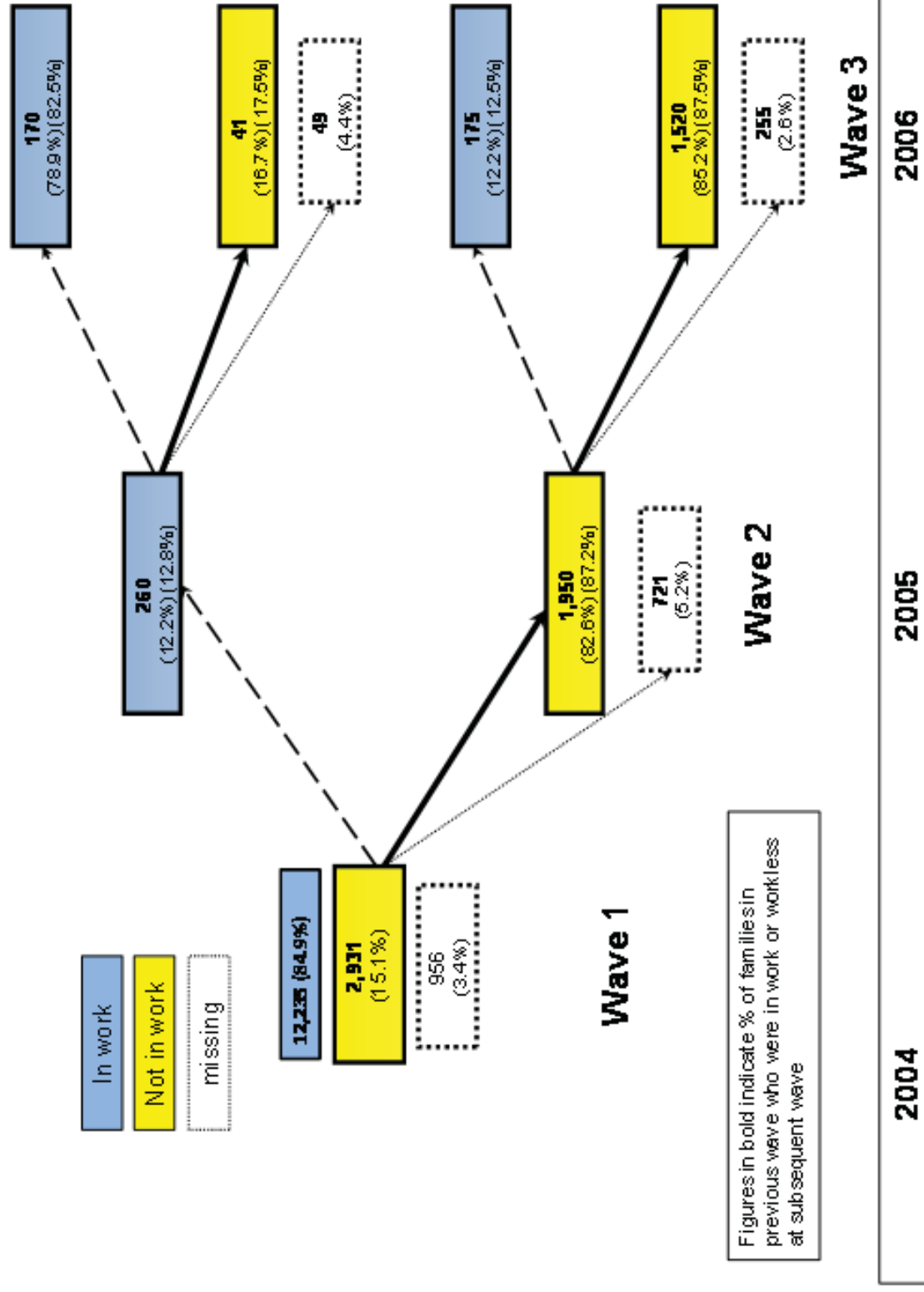
- Items with less than 10 missing cases were retained as they are, so respondents with missing data for these items were not included in the analysis.
- A missing data category was created for each of the items with 10 or more cases of non-response. When testing the overall variable for significance in each model only valid categories were included in the significance test.
- A footnote is included with each table to identify any variables where respondents with missing data were identified as significantly different to those who responded.



**Table L.1.3 Comparing our analytical sample to the wave 1 sample**

|                                                  | Wave 1 respondents |    | Wave 1-3 respondents (our analytical sample) |    |
|--------------------------------------------------|--------------------|----|----------------------------------------------|----|
|                                                  | N                  | %  | N                                            | %  |
| <b>First language of family</b>                  |                    |    |                                              |    |
| English                                          | 14754              | 94 | 11637                                        | 94 |
| Other language                                   | 1016               | 6  | 800                                          | 6  |
| Missing                                          | 0                  | 0  | 0                                            | 0  |
| <b>Tenure</b>                                    |                    |    |                                              |    |
| Owned                                            | 11214              | 71 | 8952                                         | 72 |
| Rented (Social)                                  | 3444               | 22 | 2707                                         | 22 |
| Rented (Private)                                 | 858                | 5  | 570                                          | 5  |
| Other                                            | 254                | 2  | 202                                          | 2  |
| Missing                                          | 0                  | 0  | 6                                            | 0  |
| <b>Highest qualification in family</b>           |                    |    |                                              |    |
| Degree or equivalent                             | 2610               | 17 | 2121                                         | 17 |
| Higher education below degree level              | 2329               | 15 | 1884                                         | 16 |
| GCE A Level or equivalent                        | 2692               | 18 | 2162                                         | 18 |
| GCSE grades A-C or equivalent                    | 4187               | 27 | 3283                                         | 27 |
| Qualifications at level 1 and below              | 1043               | 7  | 824                                          | 7  |
| Other qualifications                             | 192                | 1  | 152                                          | 1  |
| No qualification                                 | 2243               | 15 | 1720                                         | 14 |
| Missing                                          | 474                | 3  | 292                                          | 2  |
| <b>Gained higher qualification during period</b> |                    |    |                                              |    |
| Yes, gained a qualification                      | 672                | 5  | 601                                          | 5  |
| No, not gained a qualification                   | 12210              | 95 | 11091                                        | 95 |
| Missing                                          | 2888               | 18 | 745                                          | 6  |
| <b>Marital status</b>                            |                    |    |                                              |    |
| Married                                          | 10314              | 66 | 8226                                         | 67 |
| Cohabiting                                       | 1391               | 9  | 1059                                         | 9  |
| Single parent                                    | 3774               | 24 | 2954                                         | 24 |
| Missing                                          | 127                | 1  | 80                                           | 1  |
| <b>Long-term limiting illness</b>                |                    |    |                                              |    |
| No limiting long term illness                    | 11930              | 77 | 9356                                         | 76 |
| LLTI at W1 or W3                                 | 2549               | 16 | 1943                                         | 16 |
| LLTI at W1 & W3                                  | 992                | 6  | 1002                                         | 8  |
| Missing                                          | 299                | 2  | 136                                          | 1  |
| <b>Main parent's general health</b>              |                    |    |                                              |    |
| Very good                                        | 8122               | 52 | 6393                                         | 52 |
| Fairly good                                      | 5426               | 35 | 4320                                         | 35 |
| Not very good                                    | 1513               | 10 | 1180                                         | 10 |
| Not good at all                                  | 504                | 3  | 401                                          | 3  |
| Missing                                          | 205                | 1  | 144                                          | 1  |
| <b>Rurality</b>                                  |                    |    |                                              |    |
| Urban                                            | 12708              | 81 | 10004                                        | 80 |
| Town & Fringe                                    | 1406               | 9  | 1121                                         | 9  |
| Village                                          | 1120               | 7  | 888                                          | 7  |
| Hamlet & isolated village                        | 530                | 3  | 419                                          | 3  |
| Missing                                          | 5                  | 0  | 4                                            | 0  |
| <b>Total N (Weighted)</b>                        | <b>15,770</b>      |    | <b>12,437</b>                                |    |

Figure L.1.1 Attrition of workless families in the first three waves of LSYPE



## L.2 Measuring parental worklessness in LSYPE

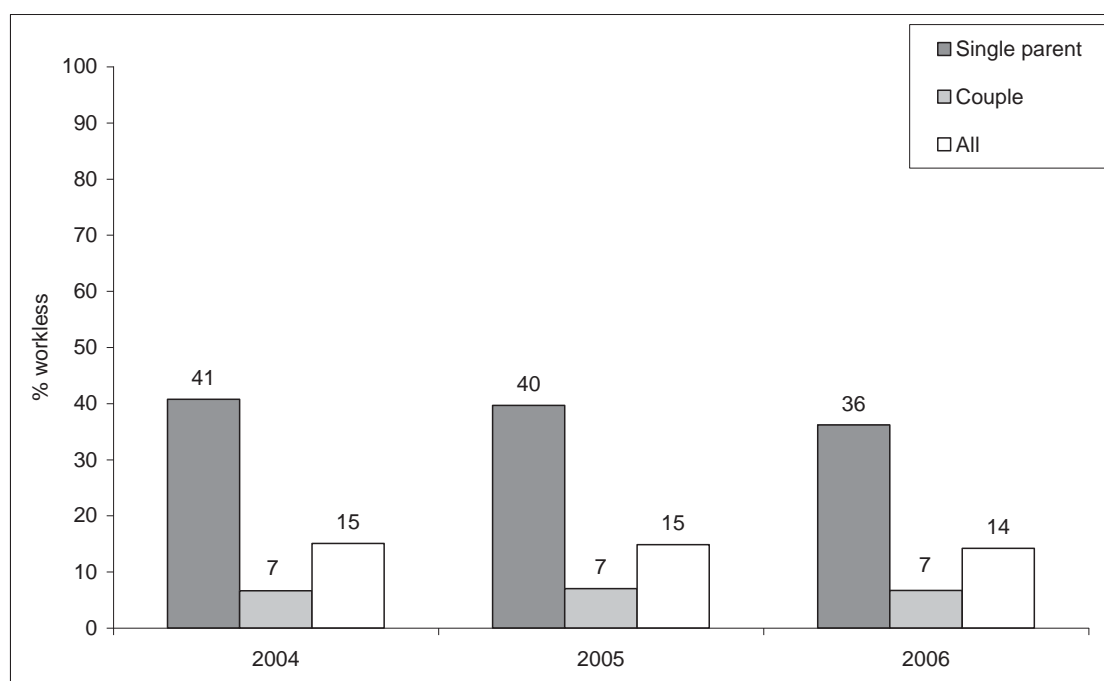
We look at parental worklessness in three subsequent years, i.e. during the years 2004/05-2006/07 when the young person was aged 13-15. These are key years during the young person's secondary schooling, and a time when they are preparing for and taking GCSE exams.

A family is defined as workless if:

- Couple family: Both parents are not in work; or
- Single-parent family: Parent is not in work

Figure shows that annual rates of worklessness remain stable over the period. Approximately one in seven of our families with young people were workless in each year. Rates of worklessness were much higher amongst single parents, where two in five were workless - although there was a decline in the rate of worklessness among single parents in the final year of interest. Worklessness is much less common amongst couples, where of course both parents have to be out of work for the family to be classed as workless.

**Figure L.2.1 Rates of parental worklessness at each wave by family type, descriptive statistics**



Source: LSYPE wave 1, wave 2 and wave 3

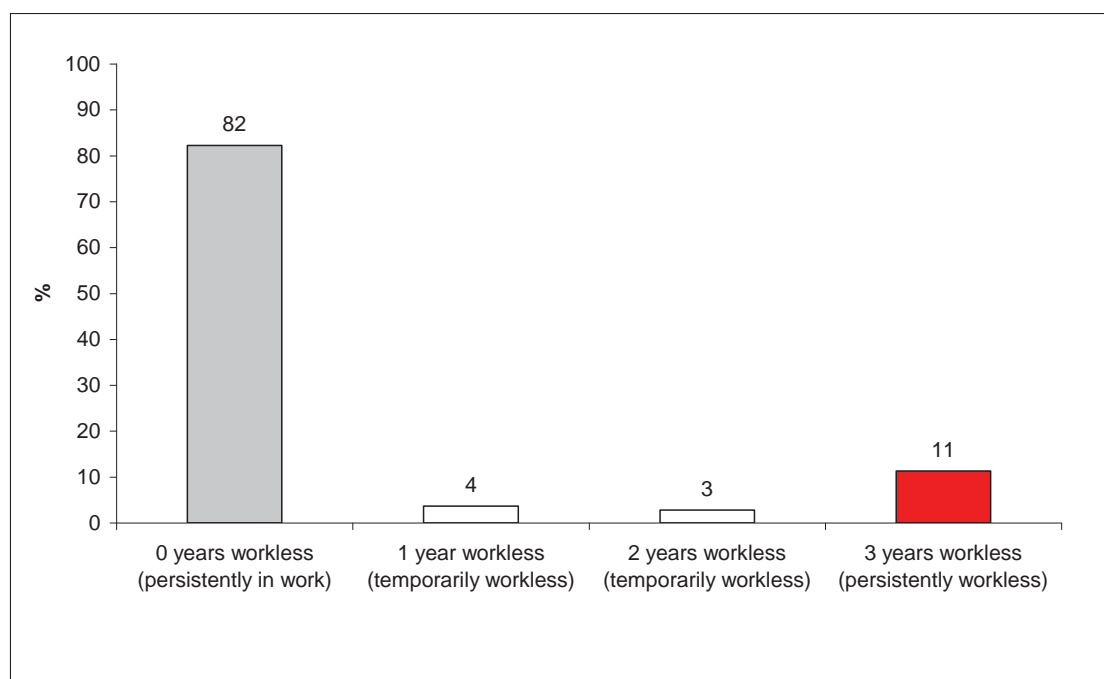
Notes:

- These estimates are taken from the cross sectional sample of LSYPE families rather than families who took part in all three waves (the panel sample)

To look at persistent worklessness we construct a longitudinal measure that looks at parental work status across the three years. We count the number of times the family was workless at each of the three interviews<sup>3</sup>. Figure shows that 1 in 10 (11 per cent) families were workless in all three years – they were ‘persistently workless’. This is lower than the (approximately) 15 per cent of families that were workless at any one wave (see Figure ) because some of these families found work (as Figure L.1 illustrates).

The vast majority of families (82 per cent) were not workless over the period – in other words they were ‘persistently in work’ – and 7 per cent had one or two years of worklessness (‘temporary workless’). The temporary workless families prove to be an interesting group, and are discussed in more detail later in the report – however it is worth noting at this stage that they are a small group of families, so very detailed analysis of them is limited.

**Figure L.2.2 Number of years of parental worklessness (2004-2006)**



Source: LSYPE wave 1 - wave 3

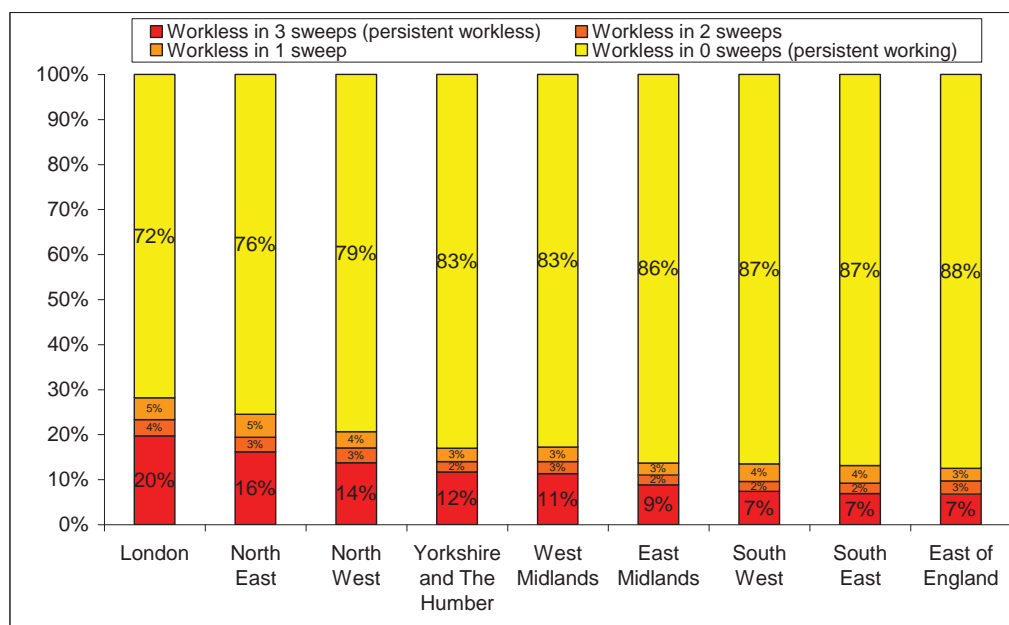
### Regional variations in worklessness

As can be seen from the chart below, there is variation in rates of worklessness across the regions. Rates of persistent worklessness are highest in London, followed by the northern regions. Later analysis will show that region *per se* is not significantly associated with worklessness when a range of other factors are

<sup>3</sup> Note that we measure worklessness at the time of interview, so families' work status could have changed between interviews. However, the general pattern of worklessness is likely to hold – for example, if we measure a family as workless at all three waves it is likely to be a good approximation of their work status throughout this period.

taken into account. But the analysis presented here suggests that at least some of the factors associated with worklessness also cluster together within regions.

**Figure L.2.3 Rates of worklessness by region, descriptive statistics<sup>4</sup>**



Source: LSYPE wave 1 - wave 3

### L.3 Parental worklessness and interlinked risk factors

In this section we explore the characteristics of families experiencing persistent worklessness and whether there are differences between those who experience persistent worklessness and those in which one or more parent moves in and out of work. We use a range of characteristics of families and their locality to help understand those most at risk of worklessness (Box L.3.1 lists the information available in LSYPE). For more details on the charts presented below, please see Table E.1 in Appendix E.

#### Box L.3.1 LSYPE information on possible risk factors<sup>5</sup> for worklessness

- |                                             |                                    |
|---------------------------------------------|------------------------------------|
| - Age of mother at birth of young person    | - First language of family         |
| - Highest qualification in family           | - Housing tenure                   |
| - Gained higher qualification during period | - Family income                    |
| - Marital status                            | - Long-term limiting illness       |
| - Number of marital transitions             | - Main parent's general health     |
| - Number of children in family <sup>6</sup> | - IMD deprivation (employment)     |
| - Region                                    | - Rurality                         |
| - % households in LA receiving JSA          | - % households in LA with no quals |

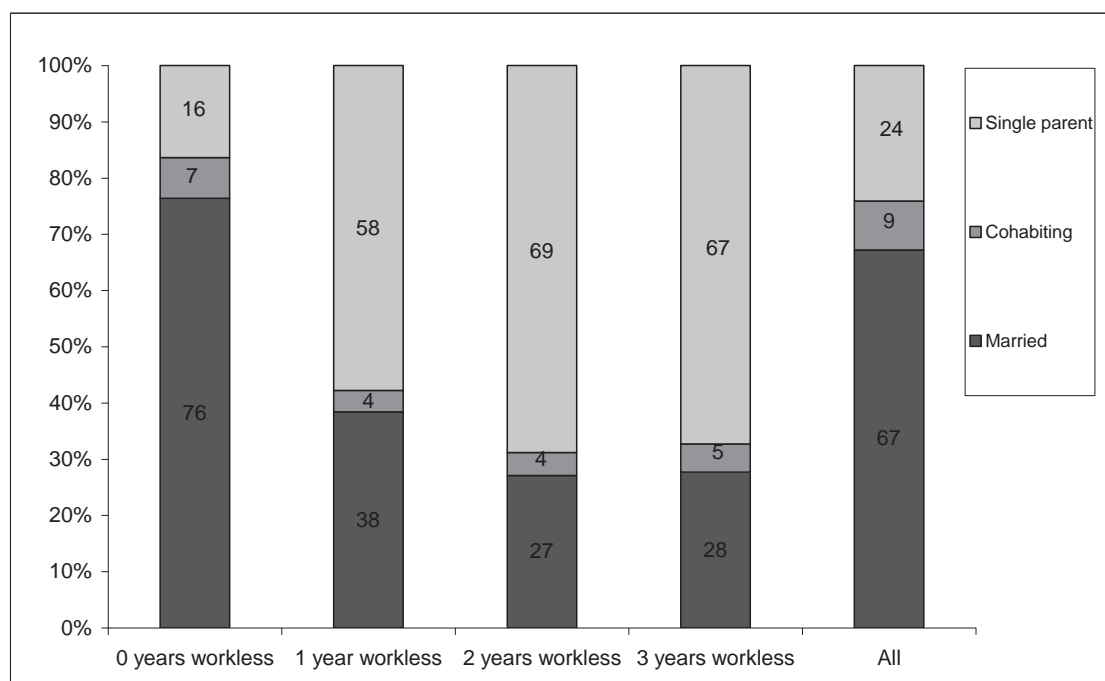
<sup>4</sup> These estimates should be treated with caution as LSYPE was not designed to be representative at a regional level due to the sample design being clustered on schools.

<sup>5</sup> Some of these factors can be consequences of worklessness as well as risk factors.

<sup>6</sup> Age of children in the household was also explored, but it was not associated with worklessness when other factors, such as number of children and age of mother, were taken into account.

We begin by returning to look at how worklessness varies according to family type (Figure 1). Here, and in subsequent charts, we look at the composition of our worklessness groups – for example, the percentage of persistently workless families that are single parents. We see that two-thirds (67 per cent) of persistently workless families are single-parent families. This is hugely disproportionate to the proportion of single-parent families in the population (24 per cent). In fact the chart shows that single parents are over-represented in the worklessness groups irrespective of duration. The opposite is true for couple families, who represent just over a quarter (28 per cent) of the persistently workless<sup>7</sup>.

**Figure L.3.1 Worklessness by family type, descriptive statistics**

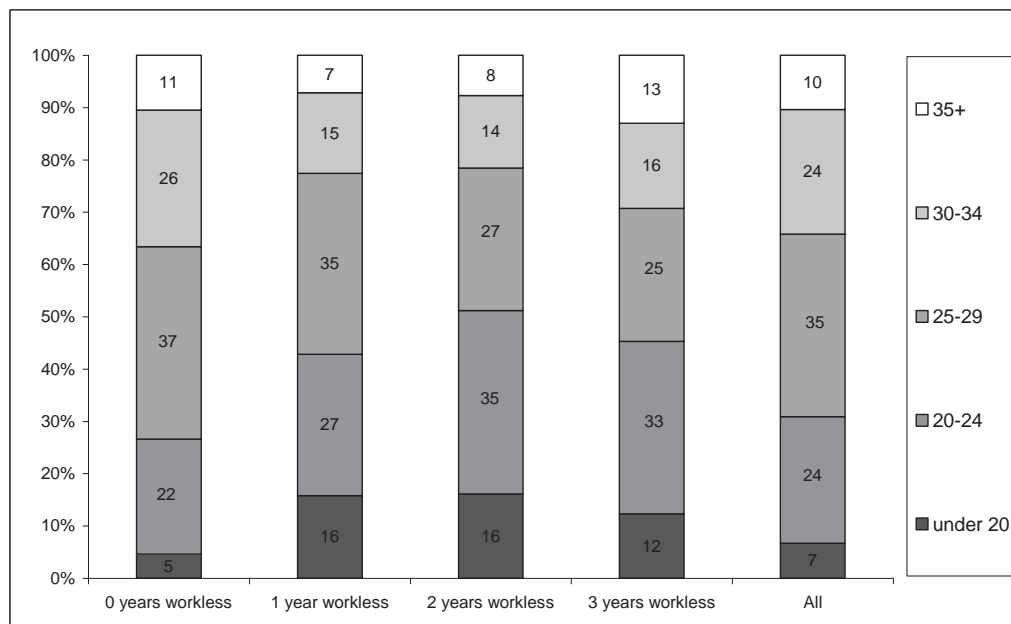


Source: LSYPE wave 1 - wave 3

<sup>7</sup> This is partly due to the definition of worklessness of course, as, statistically at least, in couple families there is more chance that at least one parent is in work.

Figure 2 explores how worklessness varies according to the age of the mother when they gave birth to the young person. The bar on the right-hand side shows the age distribution of all mothers when they gave birth to the young person. Arguably two of the most interesting age ranges are the teenage mothers (7 per cent) and the older mothers (10 per cent), as we can see both are over-represented among the persistent workless (12 per cent and 13 per cent respectively). Amongst the workless groups we find more teenage mothers than among those who are persistently in work. Older mothers are slightly more prevalent among the persistent workless and the persistent working groups. Further analysis of older mothers shows that compared to younger mothers, they are more likely to be single parents or living with a partner with a health problem or disability.

**Figure L.3.2 Worklessness by age of mother at birth of young person, descriptive statistics**



Source: LSYPE wave 1 - wave 3

Worklessness is linked to having a self-reported long-term limiting illness. Figure 3 shows that three in ten (31 per cent) of the persistently workless families had at least one parent with a persistent long-term limiting illness. In fact nearly three in five (57 per cent) of the persistently workless had a long-term limiting illness at some stage during the period.

**Figure L.3.3 Worklessness by long-term limiting illness, descriptive statistics**

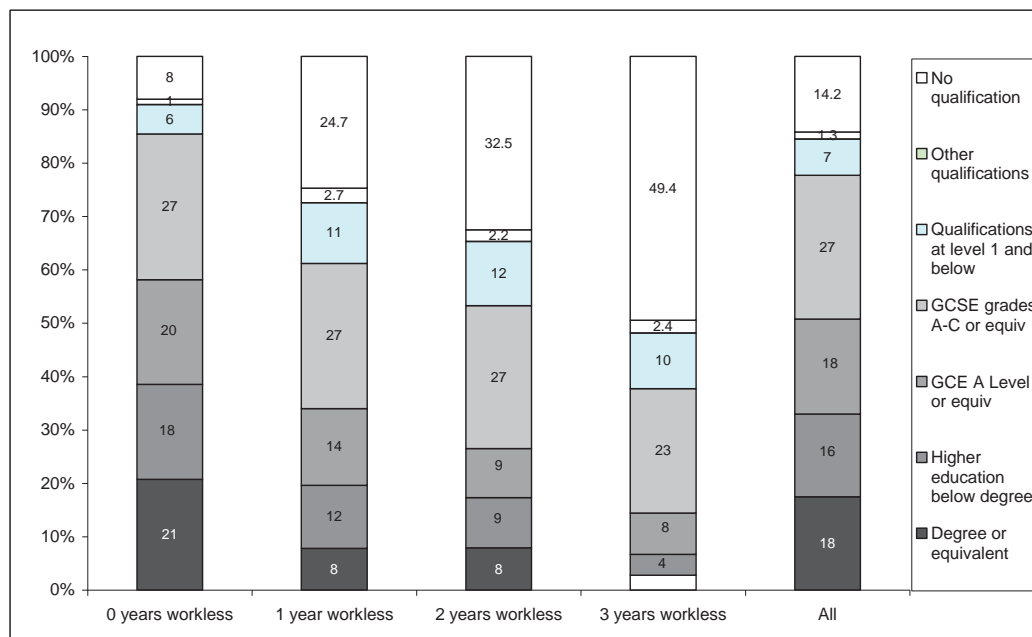


Source: LSYPE wave 1 - wave 3



Figure 3 showed an increase in the incidence of long-term limiting illness as the duration of worklessness increases. This is unsurprising given that a long-term limiting illness is likely to prevent someone from working. We find a similar relationship when we look at the highest qualification in the family (Figure 4). There is a clear relationship between education level of parents and the duration of parental worklessness – half of the persistently workless households have no parents with any qualifications compared to just eight per cent of persistently working households. Likewise only three per cent of the persistently workless households contain a parent with a degree.

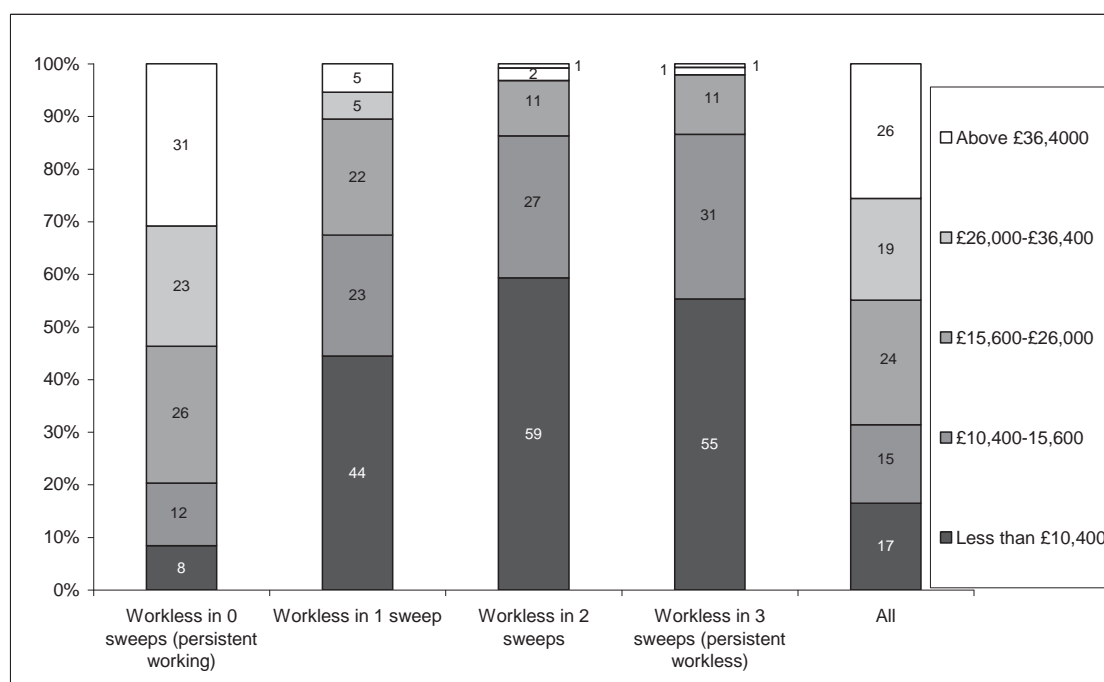
**Figure L.3.4 Worklessness by highest family qualification, descriptive statistics**



Source: LSYPE wave 1 - wave 3

Figure 5 presents the income level of families by duration of worklessness. Family income is markedly lower for families that experienced worklessness compared to those who did not. And families who experienced two or three years of worklessness were particularly likely to be in the lowest income category (less than £10,400 per year).

**Figure L.3.5 Worklessness by family income, descriptive statistics**



Source: LSYPE wave 1 - wave 3

Notes: Income is total gross income (from work, benefits and everything else) that the family receives

We only highlight some of the associations between the linked risks and parental worklessness here (all of the associations can be found in Table E.1 in Appendix E), and so far we have only looked at descriptive statistics to explore these associations. We now use regression analyses to identify associations that hold when a range of factors are taken into account (see Box L.3.1 for a list of factors we consider).

Figure 6 graphically represents these associations (the full model statistics are given in the first column of Table F.1 in Appendix F). The bars show the standardised beta coefficients linking risk factors to the number of years a family was workless over the period. A bar greater than 0 indicates a positive association – in other words, a link to more years of worklessness - and the higher the bar, the greater the association. If a bar is shaded it is because this association is statistically significant. If the bar is empty (white) the association is not statistically significant – in other words, there is no evidence to suggest that families with that characteristic were workless than the reference families (reference categories are given in the notes below the table).

Figure 6 shows that those factors presented in the previous charts (Figure 1 to Figure 5) are still associated with worklessness when controlling for other factors. This means that the following factors are independently associated with an increased number of years of worklessness (bars on the right of the vertical line):

- Being a single parent;
- Having been a teenage mother;
- Having a parent with a long-term limiting illness; and
- Having lower levels of educational qualifications, particularly families where no parent has any qualifications
- Having at least one parent not having English as a first language<sup>8</sup>
- Living in rented, particularly social-rented, accommodation
- Not gaining a qualification during the period;
- Having low income
- Larger families, that is families with more children
- Living in a deprived area; and
- Living in areas with higher unemployment

The bars on the left of the vertical line represent families with a reduced risk of worklessness, these include:

- Families that have had one or more marital transition<sup>9</sup>; and
- Families with mid- to higher-income<sup>10</sup>

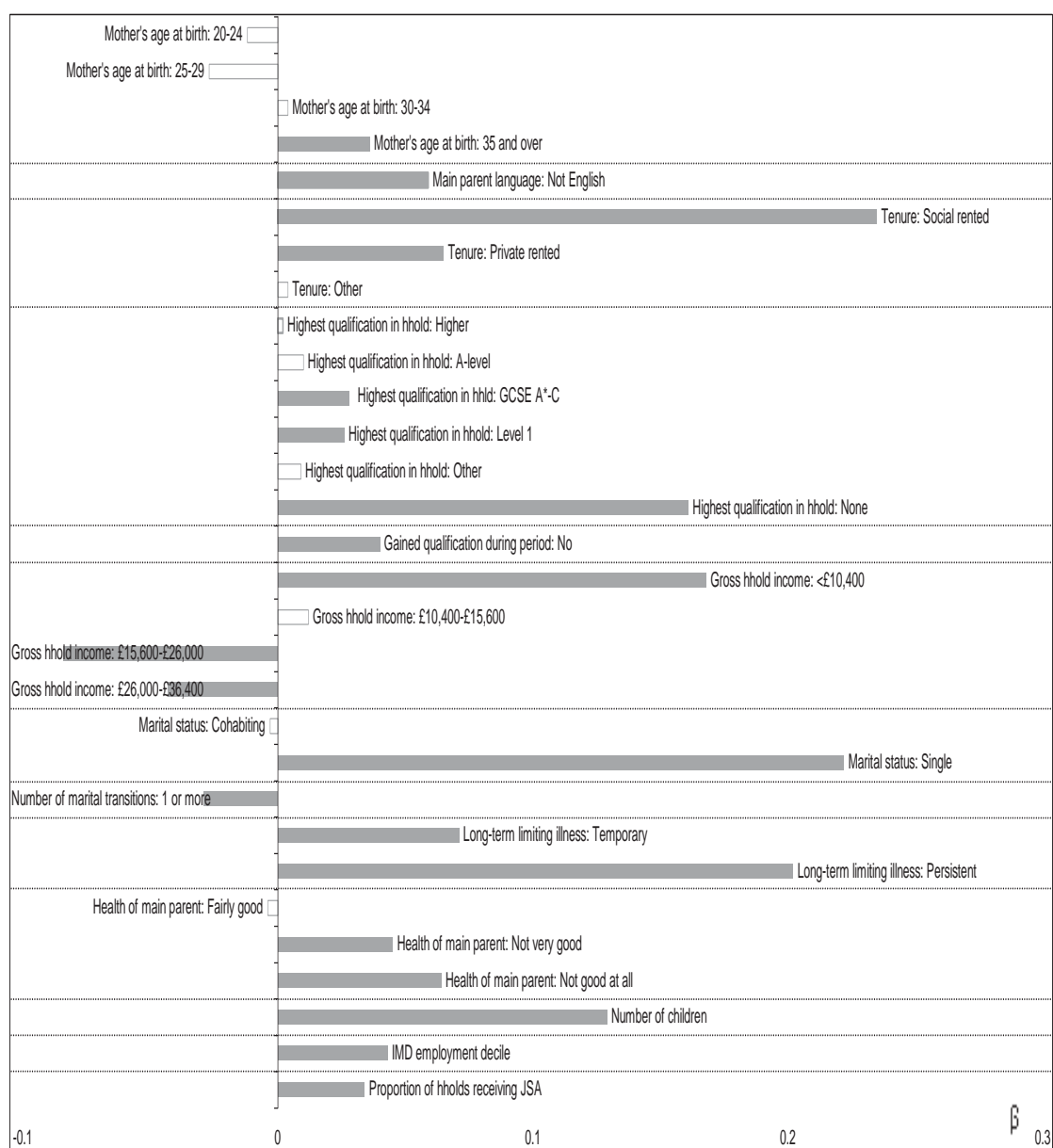
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<sup>8</sup> Ethnic minorities were also over-represented among workless families, most notably those with mixed race, Pakistani, Bangladeshi and Black African families (see Table B.5 in Appendix B), but this association did not hold when other factors were taken into account.

<sup>9</sup> A marital transition is counted if the family changes from two parent (married or cohabiting) to single parent, or vice-versa.

<sup>10</sup> Families on middle incomes were likely to have fewer years of worklessness than higher income families, which may be a result of richer parents retiring early (all reasons for not being in work are counted as workless, including unemployment and retirement).

Figure L.3.6 Predicting worklessness, linear regression model



Source: LSYPE wave 1 - wave 3

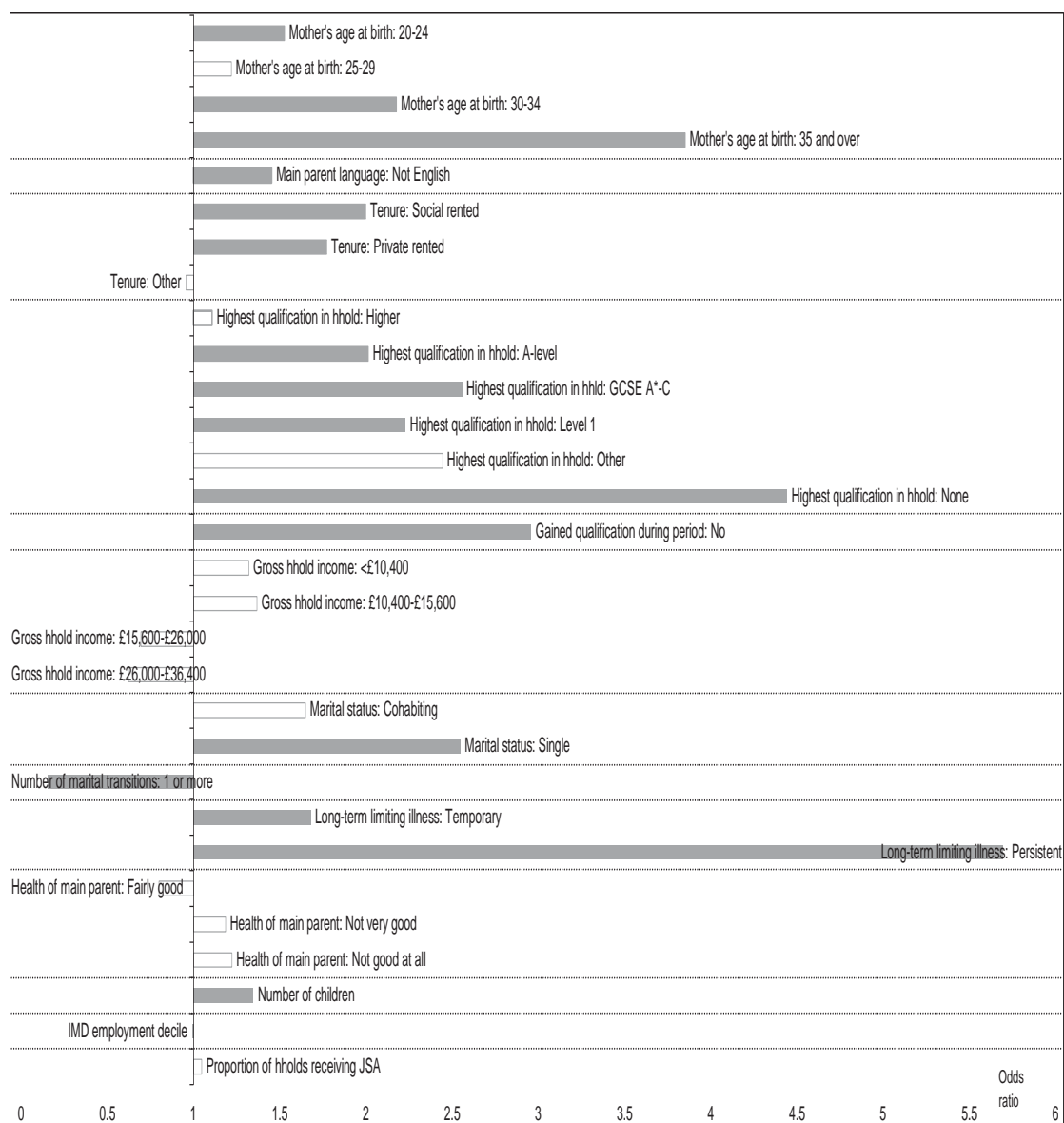
Notes:

- Dependent variable is number of years workless (0-3)
- Filled bar means category is statistically different from reference category. Empty bar means category is not statistically different from reference category.
- Reference categories are Age of mother at birth: under 20; Main parent language: English; Housing tenure: Owner occupied; Highest qualification in family : Degree; Gained higher qualification during period: Yes; Gross family income: £36,400 and above; Marital status: Married; Number of marital transitions: None; Long-term limiting illness: No; Main parent's general health: Very good; Number of children: continuous; IMD deprivation decile: continuous; Proportion of households in area receiving JSA: continuous.
- Other variables included in the model but not significantly associated with worklessness were region, rurality and proportion of households in local area with no qualifications.
- See Appendix F Table F.1 for full model statistics.

When exploring the characteristics associated with the duration of worklessness descriptively (Figure 1 to Figure 4), for some characteristics we saw little difference between families that had two and three years of worklessness. This leads us to investigate whether indeed there are significant differences between our workless groups and whether there are key defining characteristics of families with different durations of worklessness. To do this we use logistic regression models to compare persistently workless families (workless for all 3 years) with temporary workless families (workless for 1 or 2 years).

Again the findings are presented graphically, in Figure 7 (the full model statistics are given in the third column of Table F.1 in Appendix F). Because we use logistic regression models the results take the form of odds ratios (OR) which describe the ratio of the odds of being *persistently workless* for a particular factor (such mothers who were aged 20-24 when she gave birth) to the odds of being *temporary workless* for the reference category (in this example mothers who were aged under 20). An OR greater than 1 indicates an increased chance of being persistently workless, and an OR less than 1 indicates a decreased chance. Therefore, in Figure 7 bars to the right of the central line indicate that families with the denoted characteristic were *more* likely to be persistently workless, and bars to the left of the central line indicate that young people with this characteristic were *less* likely to be persistently workless (i.e. more likely to be temporarily workless).

**Figure L.3.7 Predicting persistent versus temporary worklessness, logistic regression model**



Source: LSYPE wave 1 - wave 3

Notes:

- Dependent variable is type of worklessness: persistent (3 years) [1] v temporary (1 or 2 years) [0]
- Filled bar means category is statistically different from reference category. Empty bar means category is not statistically different from reference category.
- Reference categories are Age of mother at birth: under 20; Main parent language: English; Housing tenure: Owner occupied; Highest qualification in family : Degree; Gained higher qualification during period: Yes; Gross family income: £36,400 and above; Marital status: Married; Number of marital transitions: None; Long-term limiting illness: No; Main parent's general health: Very good; Number of children: continuous; IMD deprivation decile: continuous; Proportion of households in area receiving JSA: continuous.
- Other variables included in the model but not significantly associated with worklessness were region, rurality and proportion of households in local area with no qualifications.
- See Appendix F Table F.1 for full model statistics.

On the whole, the same factors that predict number of years workless also predict persistent rather than temporary worklessness, suggesting that there are general risk factors associated with worklessness per se. However, Figure 7 does suggest that certain factors are particularly associated with persistent rather than temporary worklessness. These are families:

- With a parent with a long-term limiting illness
- Where no parent has any qualifications
- With mothers in their mid-30s and over when they gave birth
- Single parents

This analysis suggests that there are some differences between families who were workless for different durations. Although the same factors can explain differences between persistently and temporarily workless families, persistently workless families are likely to have a higher incidence of parents with a long-standing limiting illness, with no qualifications, older mothers and single parents.

The temporary workless families – those who were workless for one or two of the three year period – are an interesting group. By definition, they experienced a change in work status over the period, which could have been due to unemployment (leading to worklessness) or finding employment (and hence escaping worklessness). There is much evidence to suggest the negative impact that unemployment can have on families (Barnes et al, 2009), but finding work may also have significant impacts on families – for example difficulties in balancing work and family life (e.g. Barnes et al, 2006). It is also important to point out that these families were also more likely than persistently workless families to have experienced a change in marital status (Figure 7). For these families, worklessness could have occurred as a result of a mother splitting from her employed partner, as she and her children change from living in a ‘working’ family to a ‘workless’ family. Clearly in these situations there is likely to be multiple impacts on the family, both economic and psycho-social.

When looking more closely at the working patterns of temporary workless families, we see that nearly half of the temporary workless families had made a movement into work – so had actually escaped worklessness. The temporary workless families are in fact quite a disparate group, and unfortunately there is not enough of them in the dataset to allow for more detailed analysis of the different patterns of worklessness that they experienced (see Appendix D Table D.1 for further details of these patterns).

## **L.4 Worklessness and young people's outcomes**

This section looks at the relationship between parental worklessness and outcomes for young people. We look at three types of negative outcomes for young people; employment outcomes, education outcomes, and psycho-social outcomes (see Box L.4.1).

Box L.4.1 LSYPE information on young people's negative outcomes or adjustment problems

Education outcomes:

- Negative attitudes to school (age 15)
- Not at all likely to go to university in the future (age 15)
- Not achieved 5+ GCSEs A\*-C (age 15)
- Total GCSE and equivalent point score (age 15)

Employment outcomes:

- Months NEET from September 2006 to May 2009 (age 15-18)
- NEET in May 2009 (age 18)

Psycho-social outcomes:

- Lack of control (age 15)
- Been bullied in past year (age 15)
- Taken part in two or more criminal activities in past year: graffiti, fighting, shoplifting, vandalism (age 15)
- Mental health problems as scored 4+ in General Health Questionnaire (age 16)
- Drinks alcohol on most days (age 16)
- Taken drugs in past 4 weeks (age 18)
- Teenage parent and living with own child/ren (age 18)

The crux of the analysis is to see how a range of outcomes vary for young people according to their experience of living in a workless family over the period in question. We first present descriptive statistics that show the rates of each outcome according to the number of years a young person lived in a workless family. We then use regression analyses to show whether the relationship between worklessness and the outcome holds when other factors linked to worklessness are taken into account. Finally we explore whether there are any protective factors that may mitigate the impact of living in a workless family.

### **Analytical Strategy**

The analytical strategy adopted in this study proceeded in four steps:

1. We assessed parental worklessness over three subsequent measurement points and how it related to a number of other risk factors, such as family socio-



demographics, family structure, housing conditions, parental health and area deprivation.

2. We assessed the direct (or bivariate) association between parental worklessness and various outcomes for young people. This was done to establish whether there was an association or not;
3. Next we controlled for the interlinked risks listed above to take into account the role of potential confounding factors;
4. Lastly we controlled for potential protective factors to assess whether they could further reduce the association between parental worklessness and outcomes for young people, after taken into account the interlinked risk factors.

Proceeding in these four steps enabled us to:

- a. Assess the extent of parental worklessness in families with adolescent children and examine how parental worklessness relates to other risk factors
- b. Assess the strength of the association between parental worklessness and the different outcomes for young people;
- c. Assess whether this association was largely due to the interlinked risk factors (i.e. household demographics, family structure, income poverty, housing conditions, parental health and area deprivation);
- d. Gain a better understanding of potential protective factors.

We furthermore explored the mechanisms through which parental worklessness affected young people's outcomes. In particular we allowed for nine different types of mechanisms or set of factors:

- i. Cumulative risk processes (taking into account the multiple interlinked risks associated with worklessness listed in Box L.3.1.);
- ii. Individual characteristics;
- iii. School experiences
- iv. Contact with teachers
- v. Peers
- vi. Family cohesion and parenting
- vii. Parental engagement with education
- viii. Use of services
- ix. School characteristics

A full list of the potential protective factors used in the analysis is given in Box L.4.2.

Box L.4.2 LSYPE information on possible protective factors against the impacts of living in a workless family

Young people's characteristics

- Birth order
- Gender
- Ethnic group
- Does not have a Special Educational Need
- Good physical health (does not have a health problem or illness)
- Good mental health (GHQ score of 3 or less)

Young people's school experiences

- Has not moved school over the period
- Post-16 plans to stay in education
- Not played truant over the period
- Has not been bullied over the period
- Has positive attitudes to school (12 item scale including 'I feel happy at school', 'I work as hard as I can', 'School is a waste of time for me' etc)

Young people's contact with teachers

- Talk about plans for future study with teachers as part of lesson
- Talk about plans for future study with teachers outside of lesson

Young people's peers

- Post-16 plans to stay in education

Family cohesion and parenting

- How often family know where YP is when going out in evening
- How well YP gets on with mother (or father if single-father family)
- How often had a family meal in last 7 days
- How often spend evening together at home as a family

Parental engagement with education

- Attending parents' evenings
- Making sure young person does their homework
- Speaking to teachers
- Good relationship with school

Use of services

- Private lessons arranged for young person
- Speaks to a Connexions advisor
- Speaks to a careers advisor

School administrative data

- Low proportion of children on Free School Meals
- Low proportion of children with a SEN

Notes:

- Protective factors are measured at a time point previous to the outcomes listed in Box L.4.1.
- Frequencies of all outcomes are presented in Appendix E, Table E.3.

### L.4.1 Employment outcomes for young people

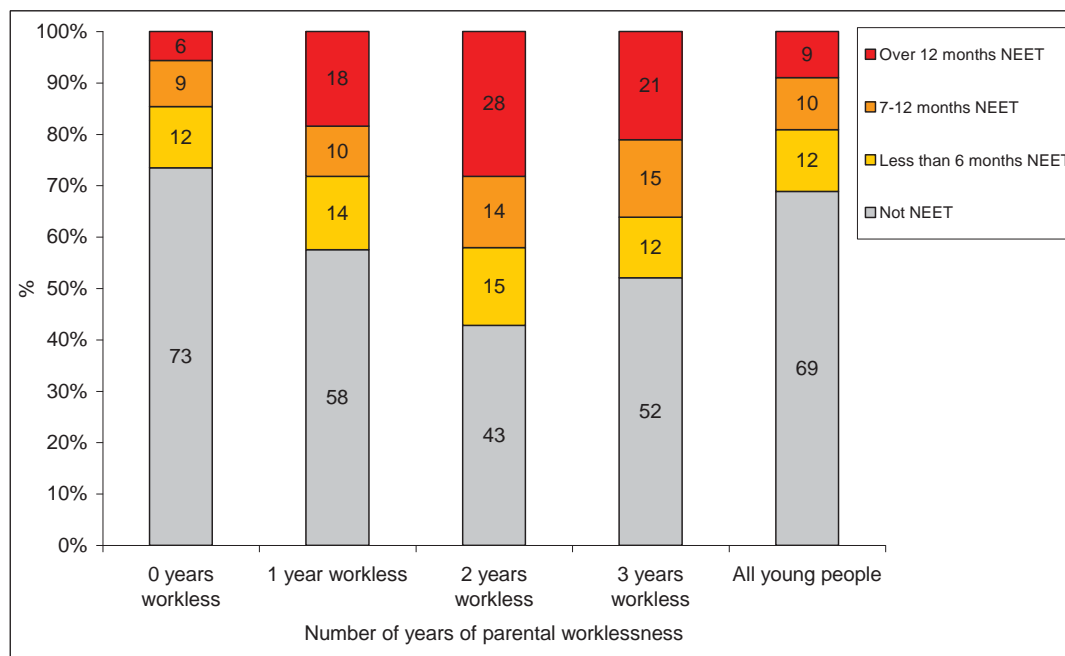
We begin by looking at employment outcomes for young people. Of interest here is exploring whether parental worklessness is associated with particular difficulties experienced by young people making the transition from school to work. Young people's transition to work is obviously of particular interest in trying to understand intergenerational worklessness, which is one of the main aims of this report. We are also interested in how parental worklessness combines with other risk factors to influence the likelihood of young people ending up with poor employment outcomes, such as being NEET.

#### **Descriptive analysis: Bivariate associations**

To explore young people's employment-related outcomes we look at the amount of time they were not in education, employment or training (NEET) across almost a three-year period after year 11 (September 2006 - May 2009). Figure shows that 3 in 10 (31 per cent) of all young people were NEET for some of this time and 1 in 10 (9 per cent) of all young people were long-term NEET (over 12 months).

Ever being NEET and being longer-term NEET increases with the number of years of parental workless, but only up to a point – young people from persistently workless families are less likely to be NEET and persistently NEET than young people whose parents had been workless for two of the three years. As discussed earlier, one reason for this could be the disruption that an event such as unemployment, or marital breakdown, has on young people. Such an event or events, and the subsequent duration of worklessness, may have a profound impact on the young person during a key part of their school years.

**Figure L.4.1 Months young person has been NEET by parental worklessness, descriptive statistics**



Source: LSYPE wave 1 - wave 6

### Multivariate analysis

Regression analyses were used to explore the link between parental worklessness and the number of months young people spent NEET. For ease of interpretation we again choose to present the results graphically (the full model results are given in Table F.2 in Appendix F). The first chart in Figure shows the impact for young people whose parents spent one year workless (compared to those where at least one parent was persistently in work). The bars represent the relationship between parental worklessness and being NEET. A bar greater than 0 (they all are) indicates that young people with workless parents are more likely to be NEET than young people with working parents. And the higher the bar, the more likely the young person is to be NEET. If a bar is in colour it is because this relationship is statistically significant. If the bar is empty the relationship is not statistically significant – in other words, there is no evidence to suggest that young people with workless parents are more likely to be NEET than young people with working parents.

There are a number of bars in each chart because we ran a number of models to explore the impact of parental worklessness in different scenarios. The first bar represents the relationship between parental worklessness and NEET when no other factors are taken into account. The second bar represents a model where factors linked to parental worklessness are included – factors such as parental

education, income and area employment rate (see Box L.3.1 for the full list). We see that the bar is lower, which indicates that the relationship between parental worklessness and NEET is partly explained by these other factors. In fact in the first chart (where we are looking at parents who were workless for one year) the relationship is not statistically significant (the bar is empty) which suggests that the relationship between parental worklessness for one of the three years and a young person being NEET is explained by the other risk factors.

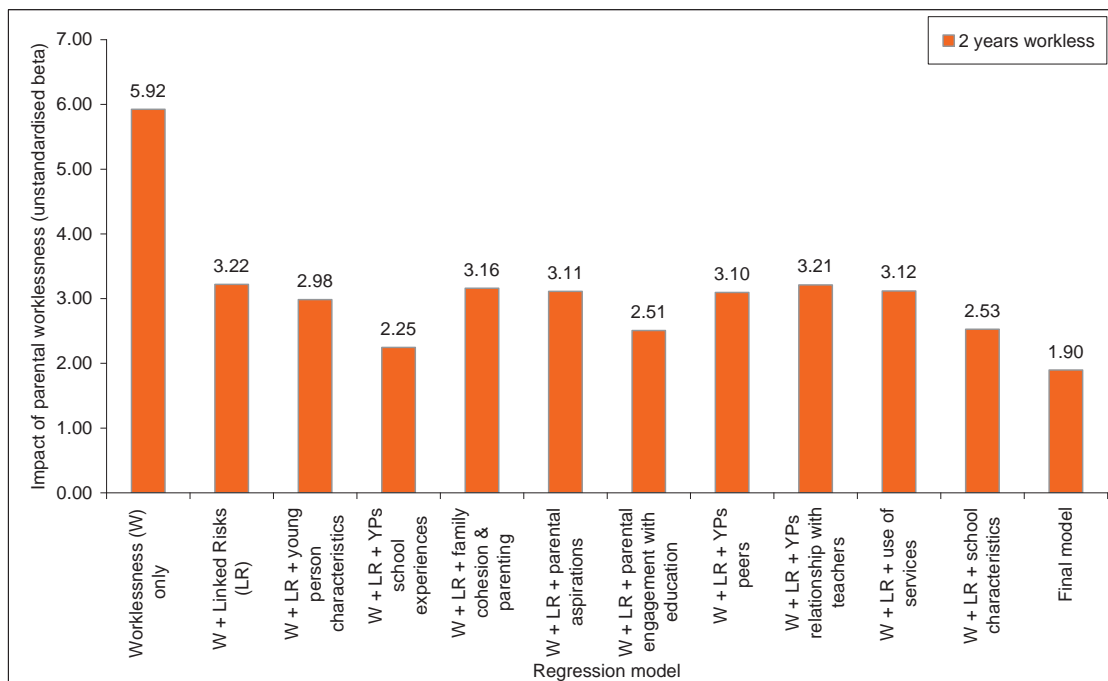
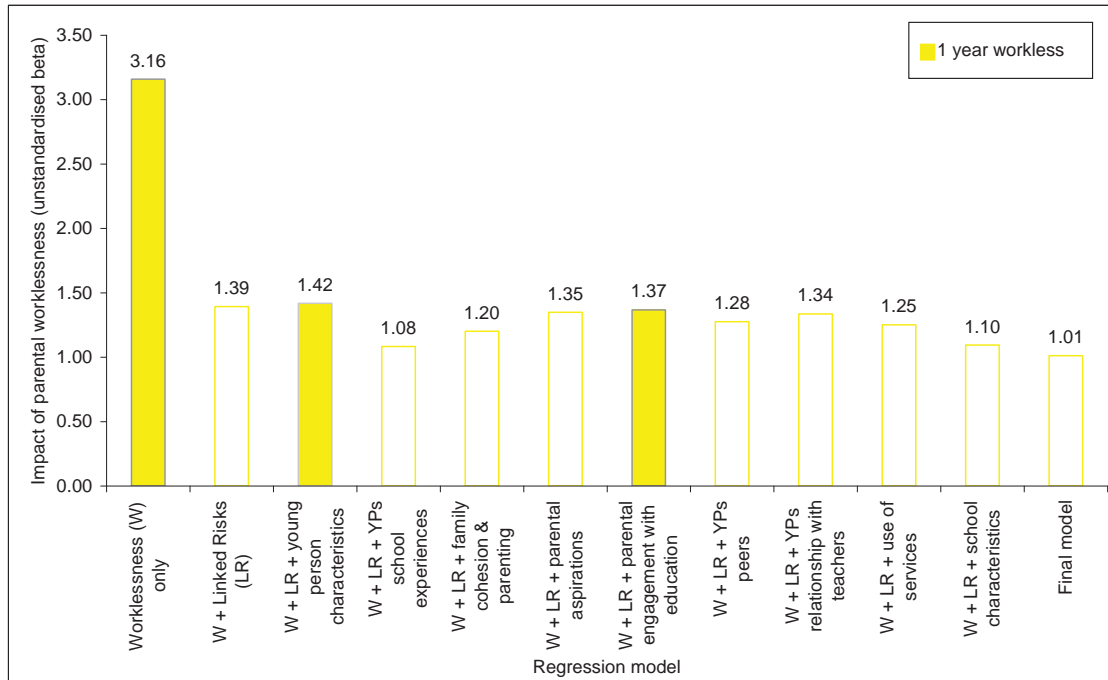
The remaining bars are for models that include the linked risks and each set of protective factors (listed in Box L.4.2 above). The purpose of these models is to see whether the relationship between parental worklessness and NEET, when taking into account the linked risk factors, is mitigated further by particular protective risk factors. The type of protective factors in each particular model is given at the base of each bar, so the first model (3<sup>rd</sup> bar) contains young people's characteristics; the second model (4<sup>th</sup> bar) contains young people's school experiences and so on. The final model, the right hand bar, contains the linked risks and all the protective factors together.

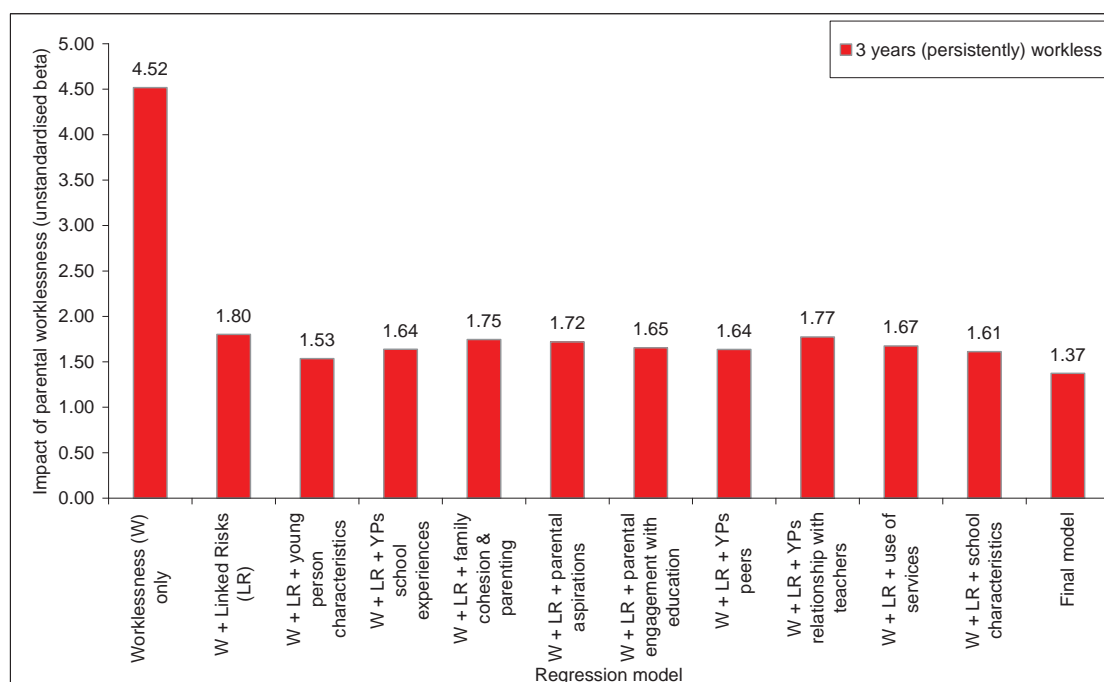
The first chart considers the association between one year of parental worklessness and NEET, and shows that it is only really when worklessness is considered on its own that a relationship exists – when the linked risk factors are included the association disappears. In real terms when no other factors are considered young people with one year of parental worklessness are likely to be NEET for three more months than young people whose parents have not experienced worklessness.

It is a different story when we look at young people with parents with two and three years of worklessness (the second chart and third chart respectively). The general finding across both charts is that worklessness is associated with NEET in all of the models. The relationship decreases when the linked risks are accounted for, and reduces further (although less so) when the protective factors are added to the model, suggesting that the protective factors do not appear to make much difference after controlling for the linked risks. The final model, which takes all linked risks and protective factors into account, suggests that temporary and persistent parental worklessness still has an impact on young people being NEET. The final model shows that two years of parental worklessness increases the number of months a young person spends NEET by approximately two months. This falls to one month when parental worklessness is three years.

So the key message from this analysis is that parental worklessness for two or three years is significantly associated with young people being NEET even when controlling for linked risks and potential protective factors.

**Figure L.4.2 Impact of parental worklessness on months young person has been NEET, regression models**





Source: LSYPE wave 1 - wave 6

Notes:

- Dependent variable is number of months young person was NEET
- Filled bar means workless category is statistically different from reference category (0 years workless). Empty bar means workless category is not statistically different from reference category.
- See Appendix F Table F.4 for full model statistics.

### Exploring multiple disadvantage

Persistently workless families are more likely to experience multiple linked risks compounding the likelihood of young people experiencing negative outcomes. Here we explore whether the multiplicity of risks alongside parental worklessness has an impact on the number of months the young person has been NEET.

Box L.3.1 described the risk factors associated with worklessness. Box L.4.3 lists which of these were also associated with the number of months the young person has been NEET (Figure ). It is this second list that we included in the analysis presented below.

**Box L.4.3** LSYPE information used to classify a family as having one or more linked risks when predicting the number of months the young person has been NEET

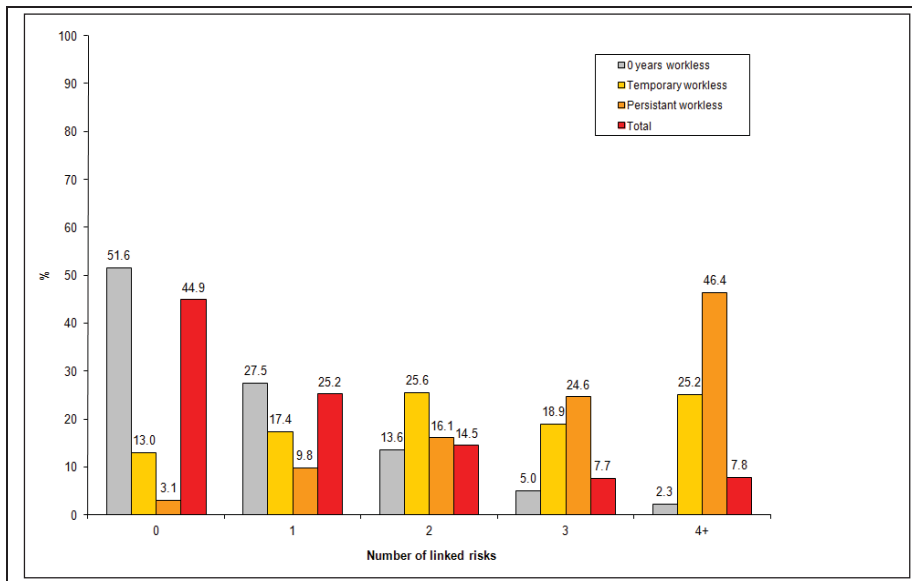
- Living in rented housing
- No qualifications in family
- Low income
- One or more marital transitions
- At least one parent with poor general health
- Living in most deprived employment area

Importantly, in this analysis we count the number of these risk factors a family has. For example if a family is living in rented accommodation, the main parent has poor general health and there have been one or more family transitions, they would be classified as a family with three risk factors. What we go on to explore here is the impact of having multiple risk factors alongside being temporary or persistently workless.

### Descriptive analysis

Figure confirms that when compared to families with temporary or no parental worklessness, persistently workless families are much more likely to have three or more linked risks. For example, 46 per cent of persistently workless families experienced four or more linked risks compared with 25 per cent of temporary workless families, and just 2 per cent of families with no parental worklessness (the right hand set of bars). And just over half of families with no parental worklessness have no linked risks, compared to only 3 per cent of persistently workless families.

**Figure L.4.3 Number of family risk factors by parental worklessness, descriptive analysis**

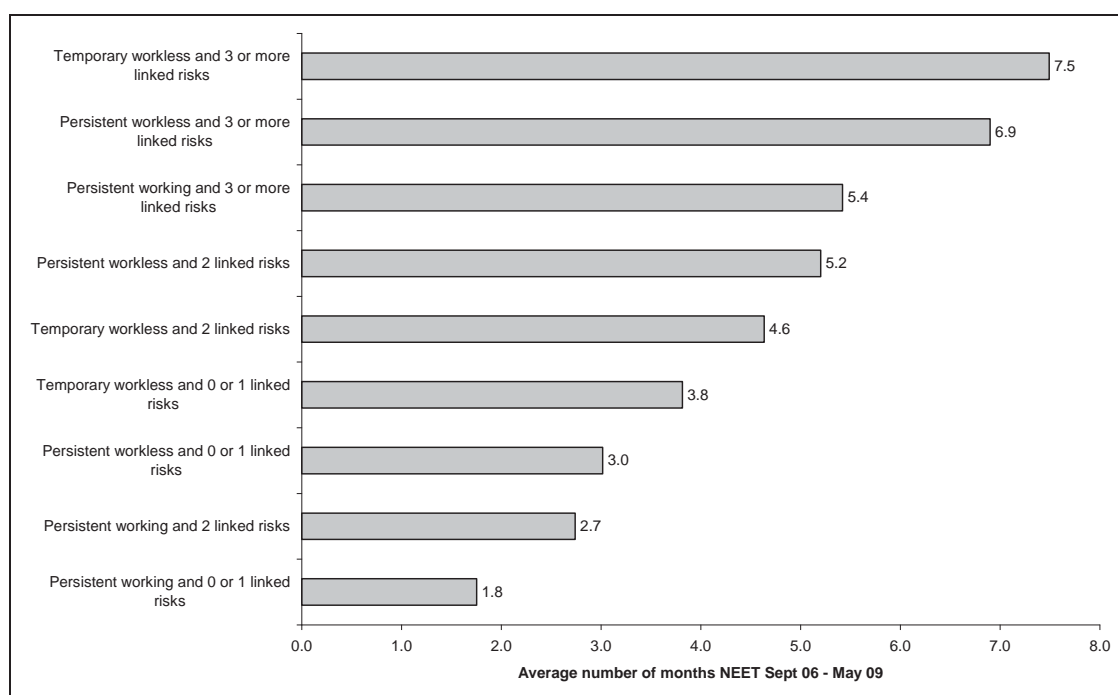


Source: LSYPE wave 1 - wave 3



We now turn to consider again the NEET outcomes for young people from these families. This analysis focuses specifically on the relationship between the number of linked risks alongside parental worklessness and the number of months the young person has been NEET. In Figure we see some difference in NEET outcomes for young people from families with three or more linked risks depending of the duration of parental worklessness. Young people from families with three or more linked risks and *persistent* parental worklessness were NEET for an average of 6.9 months, and young people from families with three or more linked risks and *temporary* parental worklessness were NEET for an average of 7.5 months. Young people from families with three or more linked risks and whose parents were persistently *working* were NEET for an average of 5.4 months. Young people's parents who are persistently working have on average been NEET for the least number of months if their families have two or less risk factors. We find however that also young people growing up in persistently working families who face none or only one linked risk experience NEET (however on average only 1.8 months)

**Figure L.4.4 Parental worklessness and number of family risk factors by the number of months the young person has been NEET, descriptive analysis**



Source: LSYPE wave 1 - wave 6

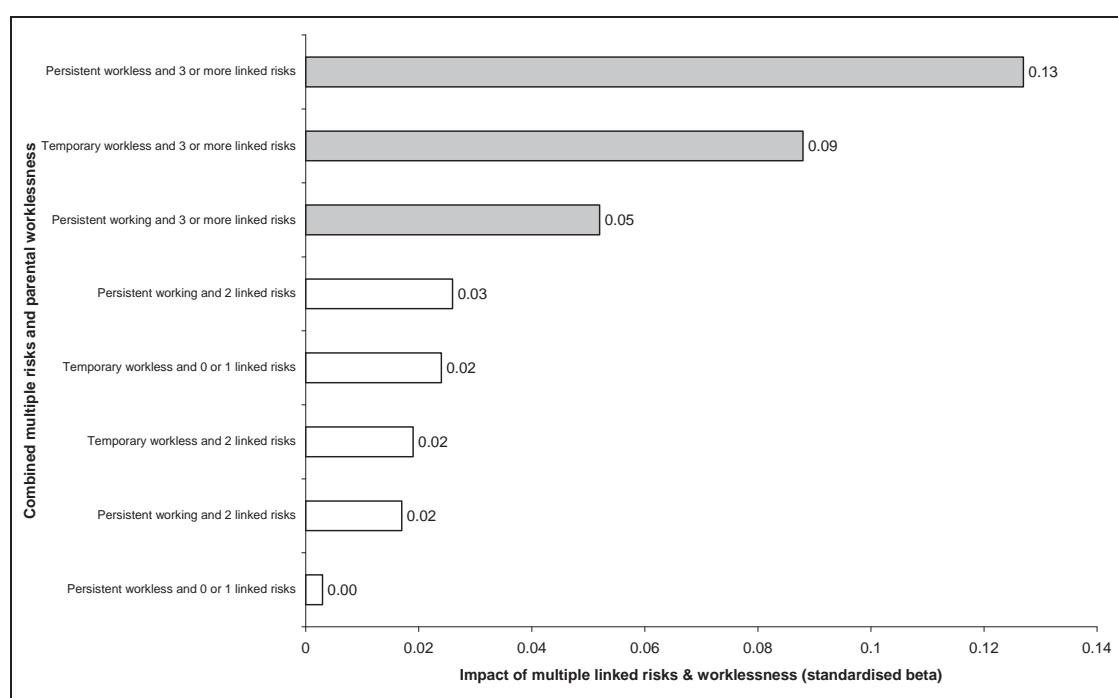
### Multivariate analysis

The measures presented in Box L.4.3, which record parental worklessness *and* the number of linked risks, was entered into a regression model to see how it impacts on the number of months young people spent NEET (see final column of

Table F.2 in Appendix F)<sup>11</sup>. Figure presents findings from the final model, which controls for all factors including potential protective factors. This shows that a young person, living in a family that has experienced either temporary or persistent worklessness, is significantly more likely to spend a greater number of months NEET if the family also has multiple linked risks.

Interestingly, young people living in families who have three or more linked risks and whose parents are persistently *working* are significantly more likely to be NEET for longer than those who live in persistently workless families with fewer additional linked risks. This suggests that working persistently is not necessarily enough to reduce the number of months a young person spends NEET, if the young person's family has three or more linked risks. This suggests a strong and independent effect of socio-economic disadvantage on young people's employment prospects, regardless of parental worklessness.<sup>12</sup>

**Figure L.4.5 Impact of parental worklessness and multiple linked risks on months young person has been NEET, regression model**



Source: LSYPE wave 1 - wave 6

Notes:

- Dependent variable is number of months young person was NEET
- Filled bar means workless category is statistically different from reference category (0 years workless & 0 or 1 linked risk). Empty bar means workless/linked risks category is not statistically different from reference category.
- See Table F.2 in Appendix F for full model statistics.

<sup>11</sup> Another model that entered these two variables separately confirmed that having multiple (three, or four or more) linked risks was significantly associated with months NEET, even after controlling for worklessness (see third column of Table F.2 in Appendix F).

<sup>12</sup> This analysis does not include any explanation of why a young person is NEET.

In conclusion, the combination of parental worklessness and having multiple additional risk factors is very difficult for a young person to overcome in relation to the number of months they spend NEET.

There is evidence that protective factors could<sup>13</sup> mitigate against these effects for specific subgroups of young people. If the family is persistently working the protective factors reduce the risk of being NEET as long as the family has less than three linked risks. If the family is temporarily workless it is possible to counteract the effects of two or fewer linked risks. However if the family is persistently workless this is only true if the family has one or no linked risks.

Factors that suggest a protective influence on young people avoiding NEET are:

- not moving school;
- parents attending parents evenings or similar events;
- achieving Level 2 education;
- intentions to stay in education after compulsory schooling;
- not playing truant; and
- being bullied.

Furthermore, of the linked risks associated with parental workless, the following are associated with young people avoiding NEET:

- having well educated parents;
- living in a less deprived area; and
- not living in social rented housing

See Table F.2 in Appendix F for model statistics.

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<sup>13</sup> See Box L.3 for a list of protective factors.

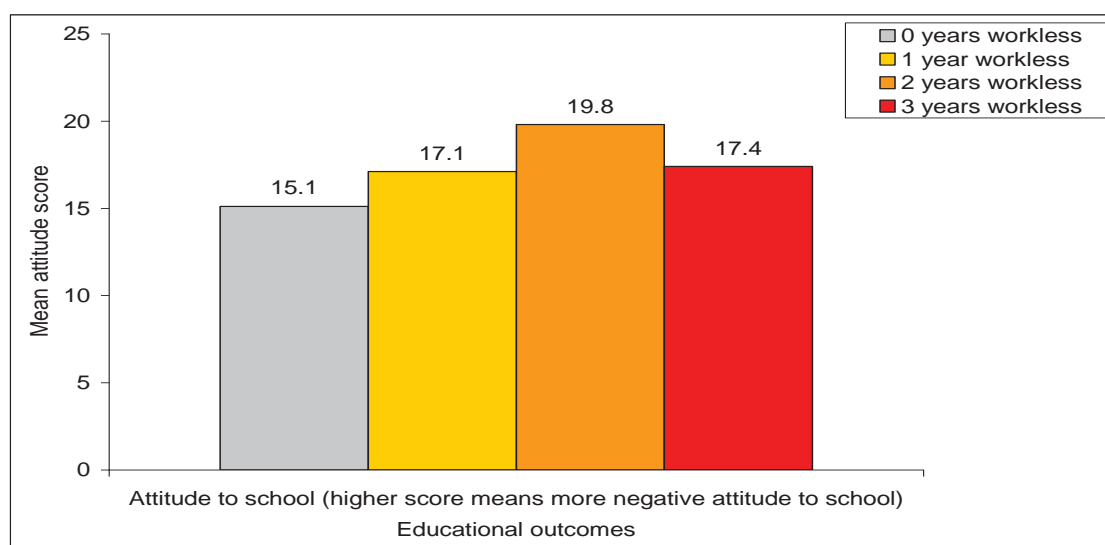
## L.4.2. Educational outcomes for young people

In this section we are concerned with the impact of parental worklessness on the attitudes and aspirations of young people towards their education, and their educational attainment. We consider four measures of educational outcome; young people's attitude to school, GCSE performance (whether achieved 5 or more GCSEs at A\*-C and total GCSE point score), and how likely they think they are to apply to university.

### Descriptive analysis: Bivariate associations

We begin by looking at young people's attitude to school. Young people were asked 12 questions relating to how they felt about school<sup>14</sup>. An attitude scale was created where the highest possible score was 48, with higher scores indicating more negative feelings about school. Figure shows that it is young people from families with two years of worklessness that had the most negative attitudes to school – higher even than young people from persistently workless families.

**Figure L.4.6 Educational outcomes (attitudes to school) by parental worklessness, descriptive statistics**



Source: LSYPE wave 1 - wave 3, National Pupil Database

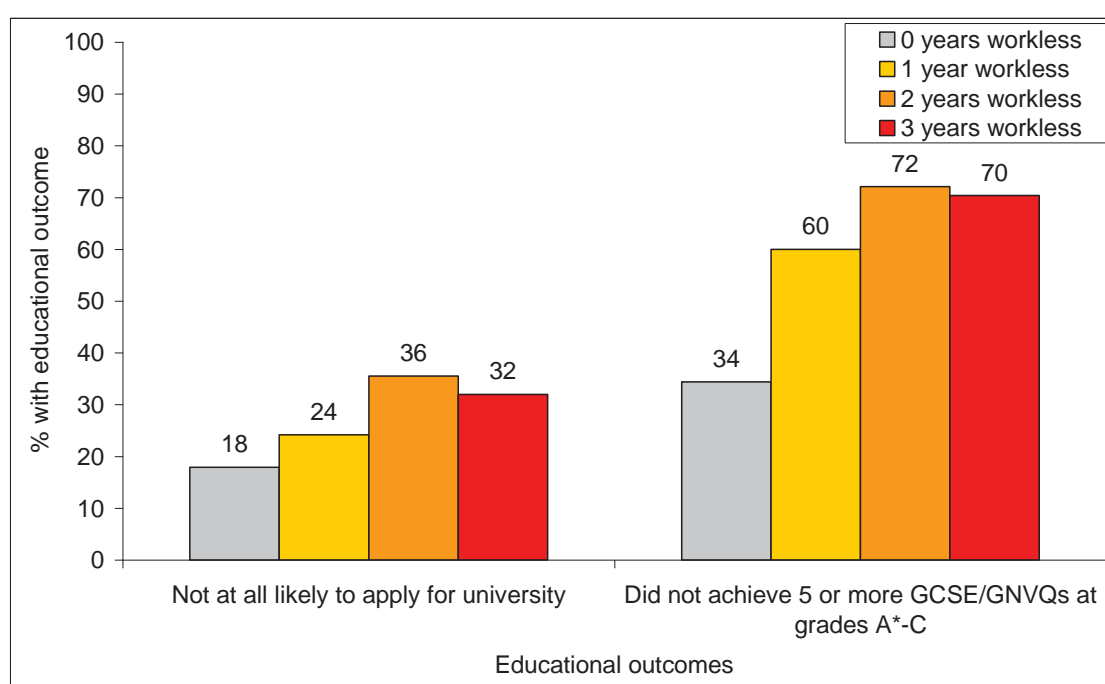
Notes:

- Association between parental worklessness and young people's attitudes is statistically significant.

<sup>14</sup> Young people aged 15 were asked how strongly they agree or disagree (strongly agree, agree, disagree, strongly disagree) with each of the following statements: I am happy when I am at school; School is a waste of time for me; School work is worth doing; Most of the time I don't want to go to school; People think my school is a good school; On the whole I like being at school; I work as hard as I can in school; In a lesson, I often count the minutes till it ends; I am bored in lessons; The work I do in lessons is a waste of time; The work I do in lessons is interesting to me; I get good marks for my work; My school is clean and tidy.

Figure shows descriptive statistics (without controls) for young people who do not think they are likely to apply to university in the future and for young people who fail to achieve the level 2 educational threshold. It is clear to see that these two educational outcomes worsen as the duration of parental worklessness increases – and again, young people from families who had two years of parental worklessness were just as likely to have poor educational outcomes as those whose parents were persistently workless.

**Figure L.4.7 Educational outcomes (not likely to apply to university and not achieving level 2 education threshold) by parental worklessness, descriptive statistics**



Source: LSYPE wave 1 - wave 3, National Pupil Database

Notes:

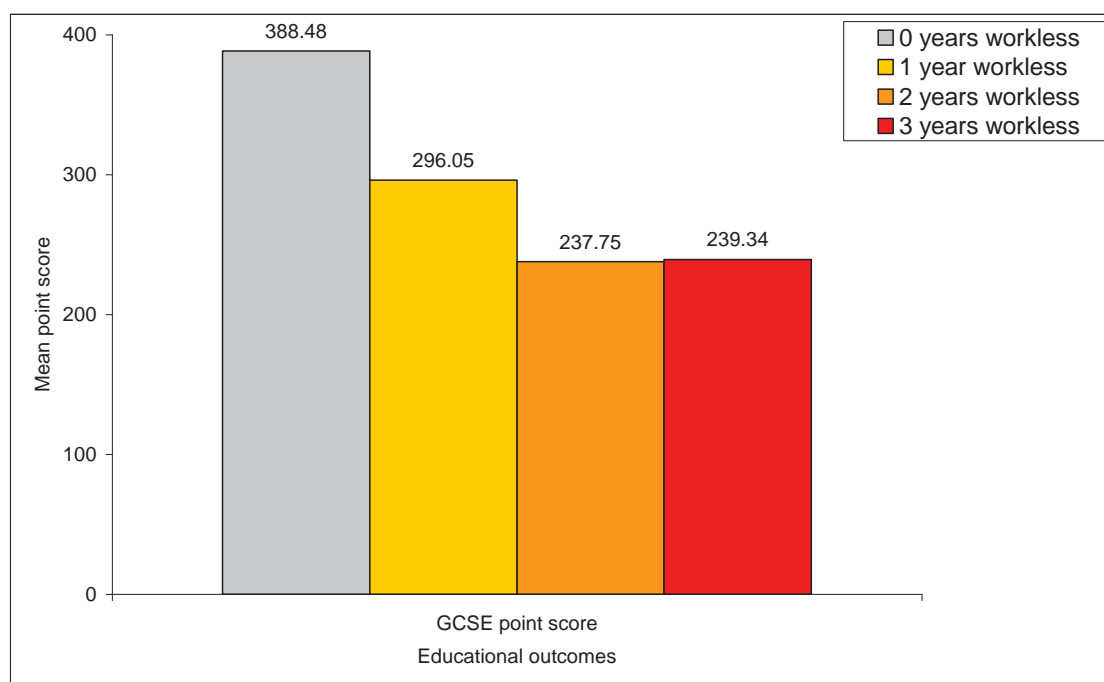
- Association between parental worklessness and young people's perception of likelihood of applying for university is statistically significant.
- Association between parental worklessness and GCSE attainment is statistically significant.

Finally Figure shows young people's GCSE point score<sup>15</sup> by worklessness. Again we see a relationship with worklessness, with young people from workless families having markedly lower point scores. Young people from persistently workless families have, on average, GCSE point scores almost 150 points lower than those from persistently working families - this equates to over 4 GCSEs at grade C (note that young people from families with two and three years of

<sup>15</sup> Average GCSE point score is calculated by summing the total number of points allocated to each qualification a pupil has achieved and then dividing by a volume indicator (this is assessed in relation to one full time GCSE). Each pupil's qualifications are then sorted in descending order of standardised score and the best eight results are counted as their point score (DfE October 2011). For a summary of the number of points allocated to each grade see [http://www.education.gov.uk/schools/performance/primary\\_11/PointsScoreAllocation2011.pdf](http://www.education.gov.uk/schools/performance/primary_11/PointsScoreAllocation2011.pdf)

worklessness achieve similar point scores). Of course we are not controlling for any other factors in this analysis, so we cannot show that it is living in a workless family by itself that is driving this difference (we explore this in the regression models below).

**Figure L.4.8 Educational outcomes (GCSE point score) by parental worklessness, descriptive statistics**



Source: LSYPE wave 1 - wave 3, National Pupil Database

Notes:

- Association between parental worklessness and GCSE attainment is statistically significant.
- Note that higher point score means better attainment.

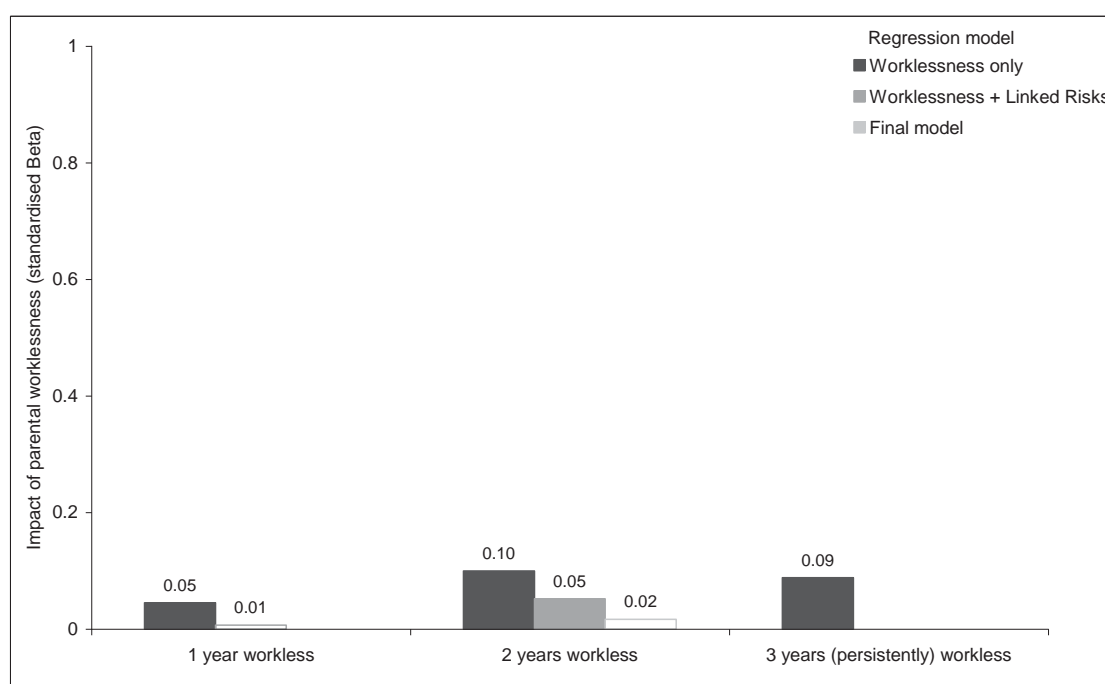
### Multivariate analysis

Again a series of regression models was used to explore the association between parental worklessness and each of the educational outcomes (see Figure to Figure ). In the charts we present statistics that show the impact of worklessness when assessed on its own, the impact of worklessness when the linked risks (see Box L.3.1) are added to the model, and the impact of worklessness when linked risks and protective factors (see Box L.4.2) are included in the model (the full set of outputs from the regressions models can be found in Table F5 in Appendix F). And there are three sets of statistics; a set for one year of parental worklessness, a set for two years of parental worklessness, and a set for three years of parental worklessness – to gain a better understanding of the timing effects of exposure to parental worklessness.

Figure shows little relationship between parental worklessness and young people's attitudes to school. The descriptive analyses (Figure ) suggested that

young people from families with two years of worklessness were slightly more likely than those from persistently workless households to have negative attitudes to school, and this is replicated in the analyses below. This relationship is also significant when the linked risks are brought into the analyses but it disappears when the protective factors are included. Table F.5 (Appendix F) shows that various factors are associated with young people's attitudes to school, including mental health, intentions to stay on in education, not being involved with anti-social behaviour in and out of school, and having good relationships with parents and teachers.

**Figure L.4.9 Association between parental worklessness and young people's attitudes to school, regression models**



Source: LSYPE wave 1 - wave 3

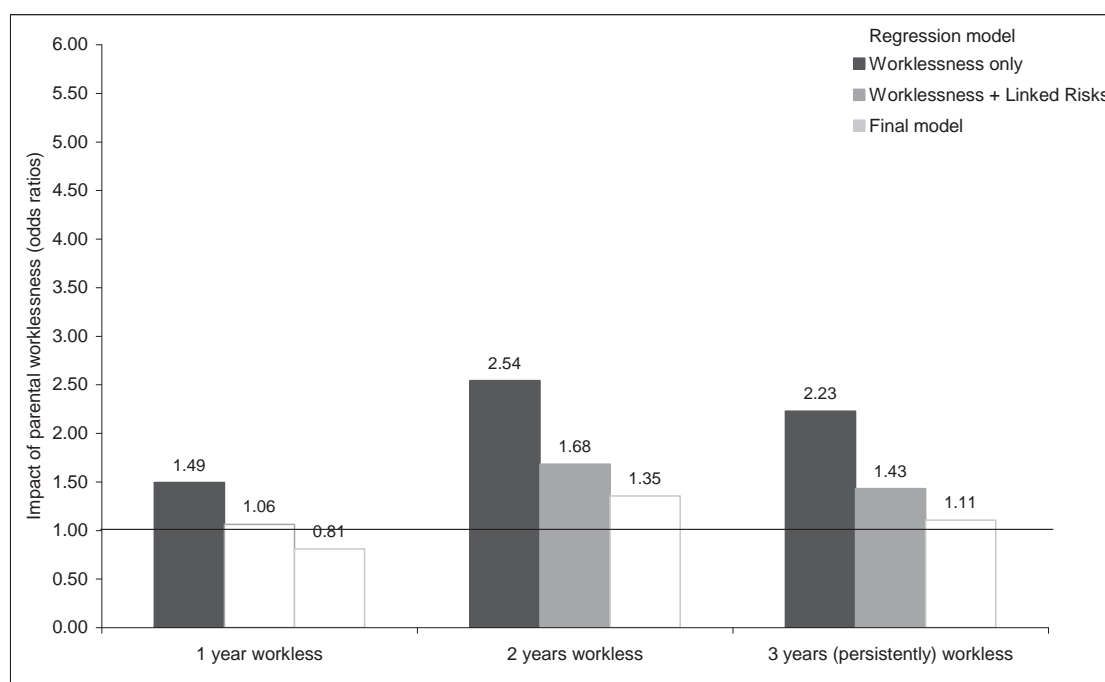
Notes:

- The dependent variable is attitude to school score, constructed from 12 questions with a maximum total score of 48
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.3.1 and 4.2 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.9 in Appendix F for model statistics.

The other educational outcome we present here is whether young people perceived themselves likely to apply to university (Figure ). Again it was the interlinked risk factors that had the strongest role in explaining the association between parental worklessness and education aspirations. Furthermore, young

people whose parents experienced two and three years of worklessness had an increased risk of not applying to university - even when a range of linked risks were taken into account. This relationship became non-significant when the protective factors were controlled for. In particular, positive parental and peer aspirations for further education were associated with young people maintaining the aspiration to go to university even when growing up in a persistent workless household (see Table F.5 in Annex F).

**Figure L.4.10 Association between parental worklessness and young people not likely to apply to university, regression models**



Source: LSYPE wave 1 - wave 3

Notes:

- The dependent variable is whether the young person is likely to apply for university (not very likely/not at all likely v likely/very likely)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.8 in Appendix F for model statistics.

The next two charts show young people's attainment at GCSEs. Figure looks at young people failing to achieve 5 or more GCSEs grade A\*-C. We have already seen that young people's attainment is lower for workless families (Figure ) and the black bars confirm this bivariate relationship. Interestingly there is still a significant relationship between parental worklessness and attainment when the linked risks are taken into account (Box L.1). However, although this association



remains significant, it is considerably reduced. And the relationship becomes non significant when the protective factors are introduced (empty bars which denote relationship is not statistically significant). Factors that protect young people from failing to achieve 5 or more GCSEs grade A\*-C includes:

- Being the first or second born child rather than third or more born
- Not having a SEN
- Not having a disability or long-term health problem that affects schools
- Not moving schools
- Having a positive attitude to school
- Not playing truant
- Wanting to stay on in full-time education
- Having friends who want the young person to stay on in full-time education
- Having parents who want the young person to stay on in full-time education
- Having parents who feel engaged with the school
- Having parents who go to parents evenings or similar events

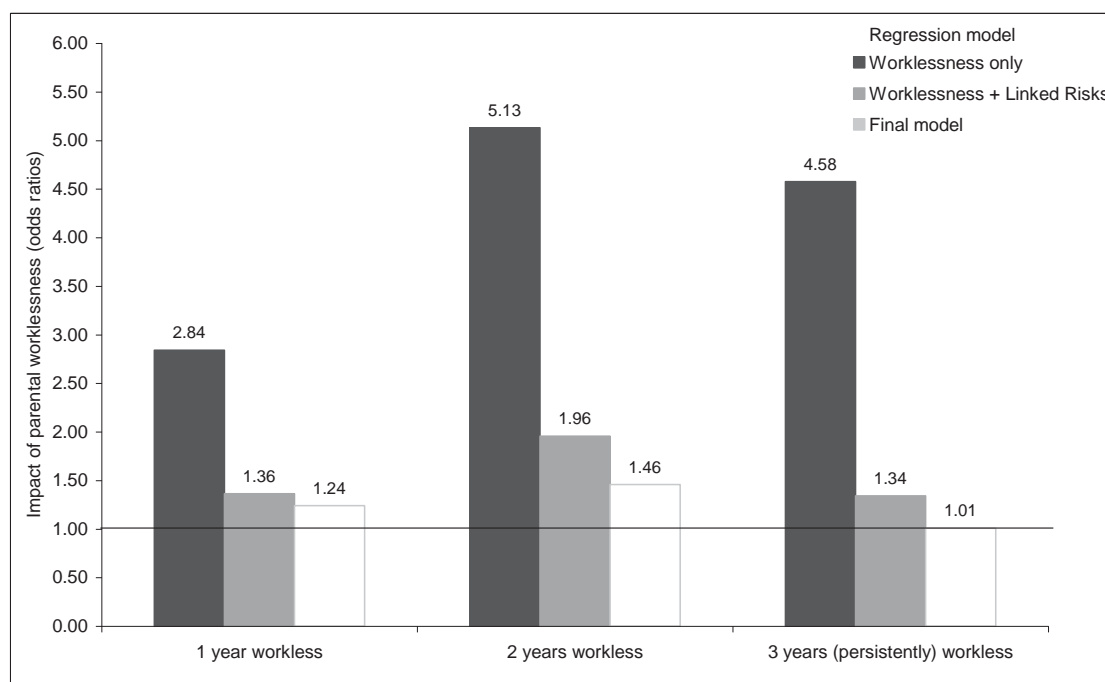
Factors that appear to increase the likelihood of young people failing to achieve 5 or more GCSEs grade A\*-C includes:

- Having a teenage parent
- Living in social rented accommodation
- Having parents with lower education and parents who had not gained a qualification during the period under investigation
- Having parents with a long-term illness
- Being Black Caribbean
- Feeling unhappy or depressed
- Having to be told do to their homework at home
- Having parents regularly speak to their teachers about their schoolwork
- Arranging to meet and talking to someone from the careers advisory service
- Going to a school with a higher percentage of children claiming free school meals
- Going to a school with a higher percentage of children with a SEN

It is also important to note that the relationship between parental worklessness and educational attainment appears slightly stronger where parents are workless for two rather than three years. As discussed earlier, this could be because of the disruption that temporary workless families experience.

The relationship between parental worklessness and educational attainment disappears when all linked risks and protective factors are taken into account (the final model in Figure ). This makes it difficult to isolate any particular protective factor; however, it is the linked risks - such as parental education level - that appear to explain away most of the direct impacts of parental worklessness (see Table F.5 in Appendix F).

**Figure L.4.21 Association between parental worklessness and young people not achieving 5 or more GCSEs grade A\*-C, regression models**



Source: LSYPE wave 1 - wave 3, National Pupil Database

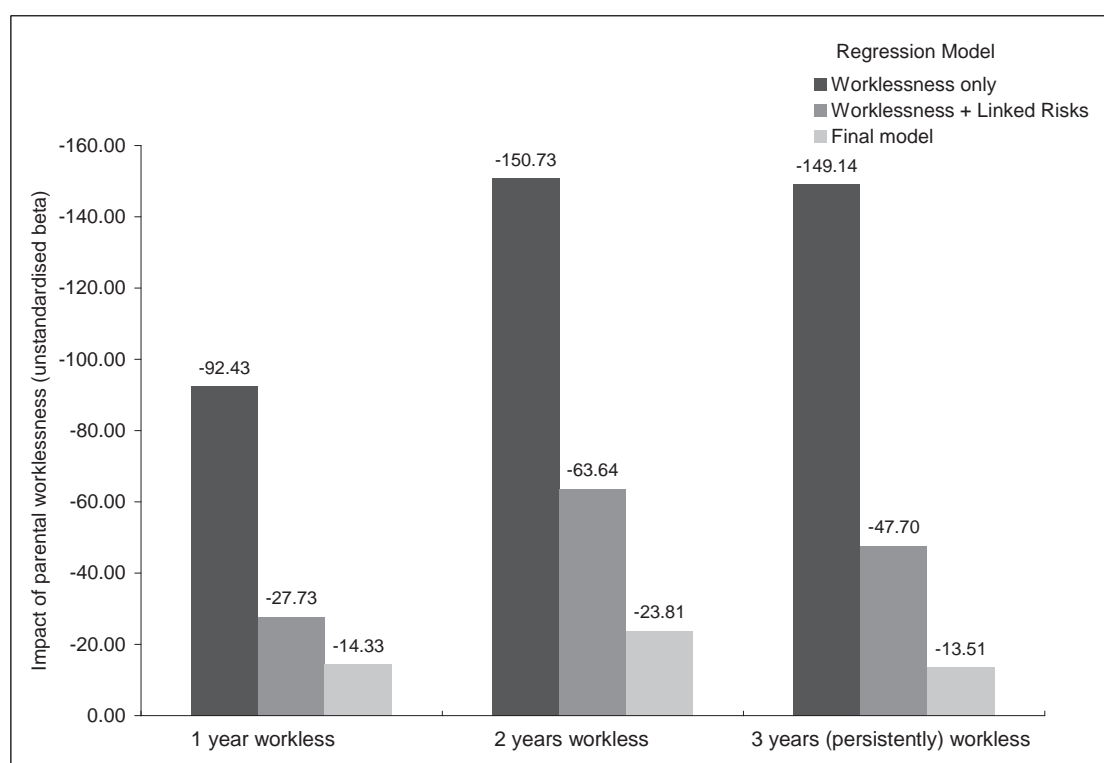
Notes:

- The dependent variable is whether the young person got 5 or more GCSEs at grade A\*-C (yes versus no)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.6 in Appendix F for model statistics.

We also look at young people's total GCSE point score. Figure shows that when we consider the whole distribution of GCSE scores (rather than just focusing on a low-attainment threshold as in Figure ) we see that young people from workless families score significantly lower than other children - even when linked risk and protective factors are taken into account. Much of the relationship can be explained by the linked risks, although controlling for the potential protective factors further reduces the association between parental worklessness and the outcome. We also see that young people from families with two and three years of parental worklessness gained fewer GCSE points than young people from families who avoided worklessness over the period – even when the linked risk and the potential protective factors are taken into account.

This model can be interpreted in terms of the relative effect parental worklessness has on average GCSE point scores. For example, a young person with three years of parental worklessness would expect to have an average score 14 points lower than a young person with similar characteristics who lives in a household with no worklessness. This is roughly equivalent to a drop in GCSE from grade B to grade D.

**Figure L.4.22 Association between parental worklessness and young people's GCSE point score, regression models**



Source: LSYPE wave 1 - wave 3, National Pupil Database

Notes:

- The dependent variable is total GCSE point score.
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness

is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.

- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.6 in Appendix F for model statistics.

### L.4.3. Psycho-social outcomes for young people

In this section we explore a range of psycho-social outcomes for young people. These types of outcomes can play an important role in shaping young people's life chances in addition to academic and vocational skills.

#### Descriptive analysis: Bivariate associations

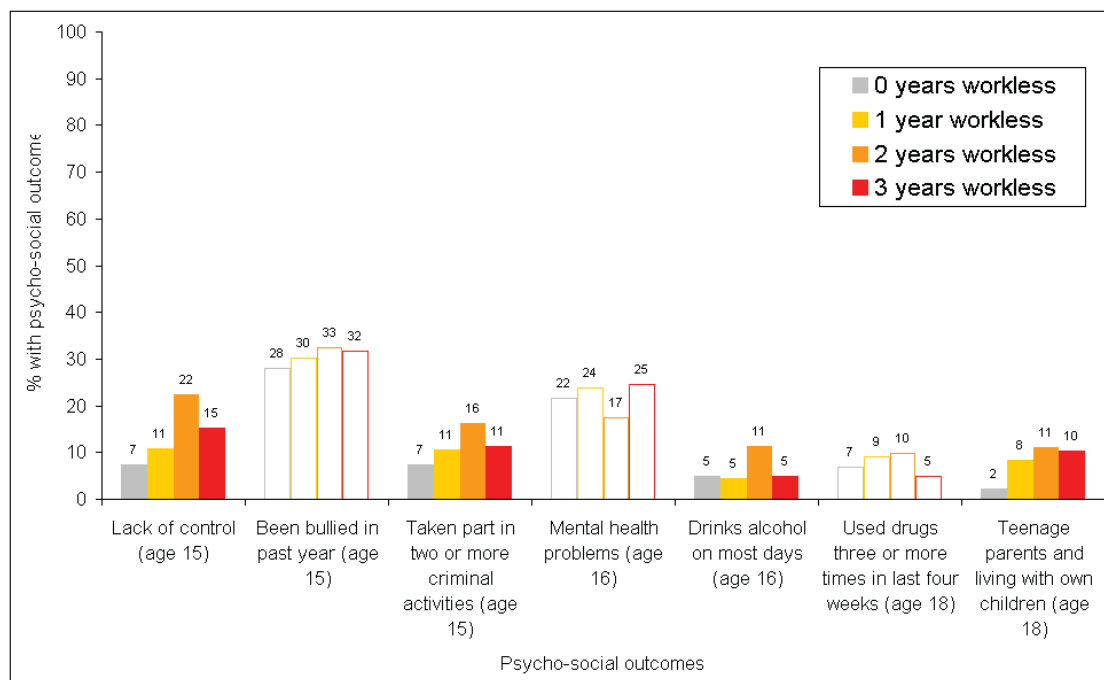
The different outcomes we look at are presented in Figure . We see that not all outcomes are associated with parental worklessness. The sets of coloured bars – lack of control, criminal activity, regular alcohol consumption and teenage parenthood – are associated with parental worklessness, whereas the empty sets of bars are not – being bullied, mental health problems and regular drug use.

Again there is an increase in risk of the outcome as the duration of parental worklessness increases - but no further increased risk for the persistent parental workless. In fact for some of the outcomes (lack of control, criminal activity, and regular alcohol consumption<sup>16</sup>) the risk appears markedly lower for young people from persistently workless families than for young people whose parents were workless for two of the three years. This perhaps is further evidence to suggest that the disruption of unemployment, and other family-related events, can have wide repercussions on young people.

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<sup>16</sup> This is acknowledged in recent research that has identified the professional classes as the most frequent consumers of alcohol (ONS, 2012).

**Figure L.4.23 Psycho-social outcomes by parental worklessness, descriptive statistics**



Source: LSYPE wave 1 - wave 3, wave 4, wave 6

Notes:

- If bars are full then association between worklessness and outcomes is statistically significant. If bars are empty then association between worklessness and outcomes is *not* statistically significant.
- Lack of control signified by young person agreeing or strongly agreeing to statement “people like me don’t have much chance in life”
- Mental health problems signified by scoring 4 or more on General Health Questionnaire (GHQ)
- Criminal activities include graffiti, fighting, shoplifting and vandalism

## Multivariate analysis

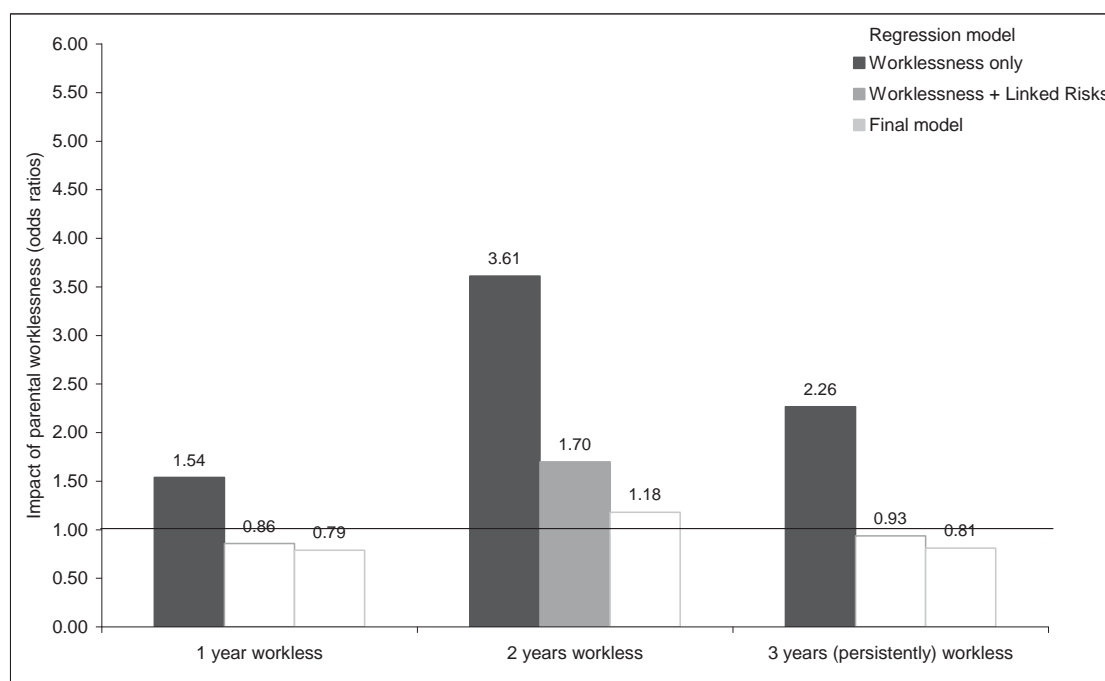
We now take each of the psycho-social outcomes in turn and run the series of regression models to explore whether the relationship with worklessness changes when the linked risk and protective factors are taken into account. For more details see Appendix F Tables 18a-g.

Descriptive statistics suggested a relationship between parental worklessness and young people’s lack of control. Figure shows that this relationship exists but that the impact of worklessness disappears when the linked risks are taken into account – apart from for young people whose parents had two years of worklessness.

Again the impact of worklessness is stronger for young people whose parents had two years of worklessness rather than the persistently workless. And having parents with two years of worklessness was still associated with negative attitudes when the linked risks were taken into account. That this relationship

disappears in the final model (which includes all linked risks and protective factors) which suggests that some of the protective factors were playing a significant role in reducing the negative association with parental worklessness in addition and above the linked risk factors— most notably young people’s experiences with school and parents engagement with young people’s education (see Table F.10 in Appendix F).

**Figure L.4.24 Association between parental worklessness and young people’s lack of control at age 15, regression models**



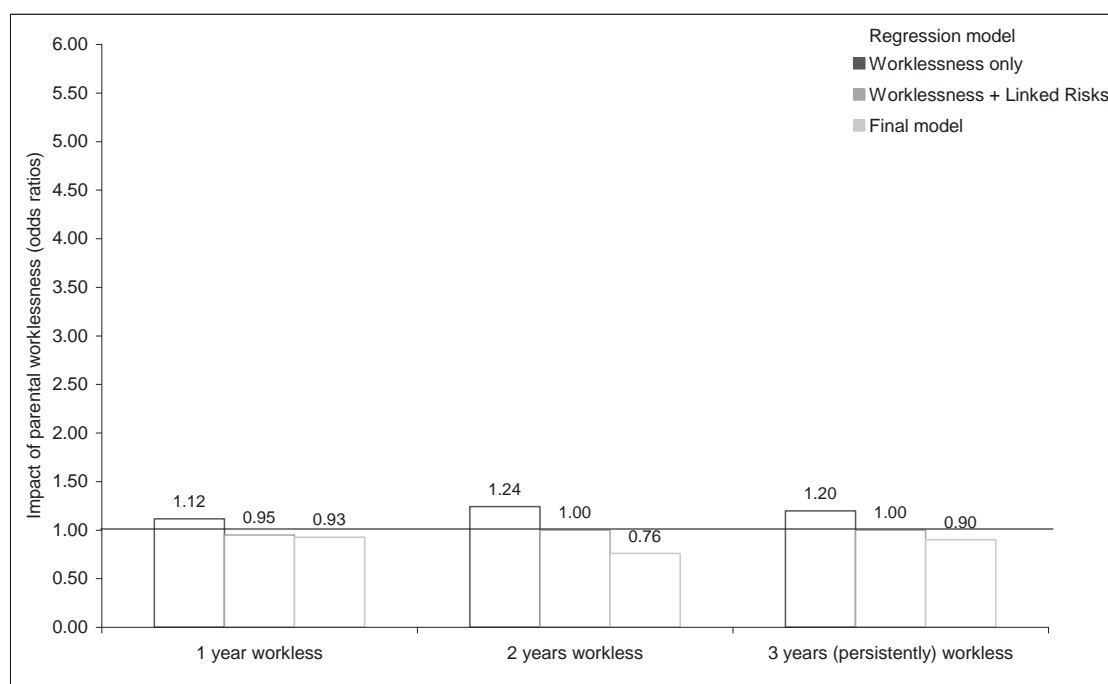
Source: LSYPE wave 1 - wave 3

Notes:

- The dependent variable measures young people’s response to the statement “people like me don’t have much chance in life” (strongly agree/agree v strongly disagree)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.17 in Appendix F for model statistics.

Descriptive statistics suggested no relationship between parental worklessness and young people being bullied, and that is borne out in the regression analysis (Figure ). This finding is consistent with Green et al's (2010) analysis of young people being bullied - research also using data from LSYPE.

**Figure L.4.25 Association between parental worklessness and young people being bullied at age 15, regression models**



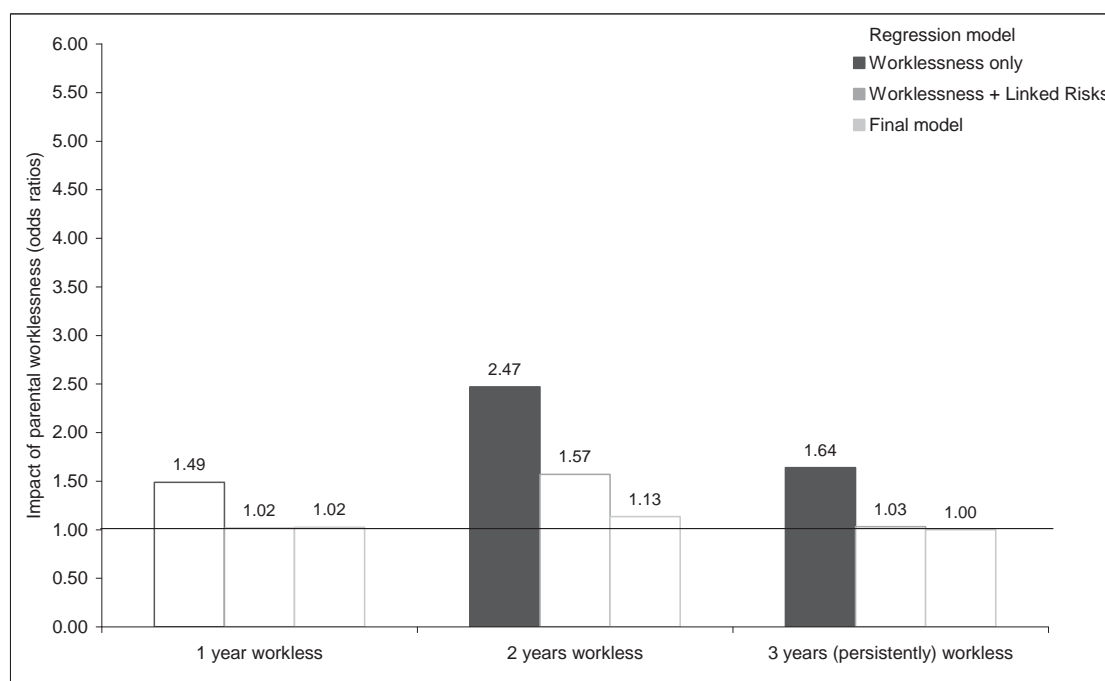
Source: LSYPE wave 1 - wave 3

Notes:

- The dependent variable is having been bullied in last year (yes versus no)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.11 in Appendix F for model statistics.

Descriptive statistics suggested a relationship between parental worklessness and young people taking part in criminal behaviour. Figure shows that this relationship exists but that the impact of worklessness disappears when the linked risks are taken into account. Again the impact of worklessness is stronger for young people whose parents had two years of worklessness rather than the persistently workless.

**Figure L.4.26 Association between parental worklessness and young people taking part in criminal behaviour at age 15, regression models**



Source: LSYPE wave 1 - wave 3

Notes:

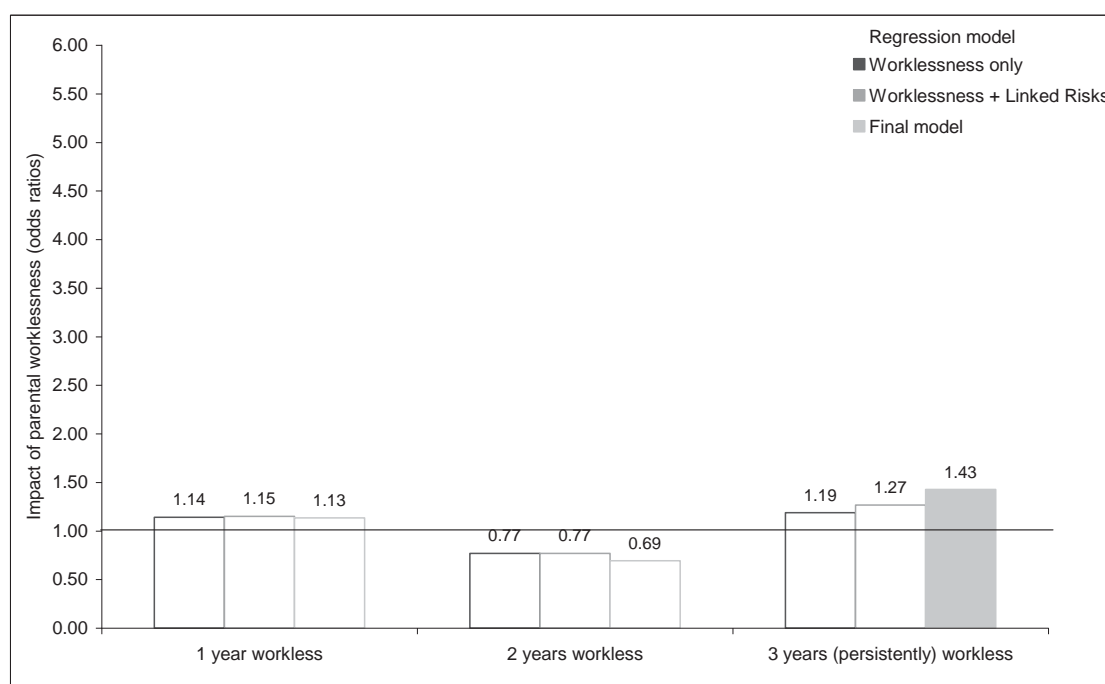
- The dependent variable is taken part in 2 or more criminal activities in the last year (yes versus no)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.12 in Appendix F for model statistics.



Psychological well-being and mental health play an important role in the development of many young people. The Department for Education has a focus on the well-being of children and young people, to promote capabilities and life chances and to support strong stable families and communities. Poor well-being is associated with mental health problems, and here we use the General Health Questionnaire (GHQ) to identify young people at risk of mental health problems.

Descriptive statistics suggested no relationship between parental worklessness and young people's mental health. Figure suggests that generally this is the case, although persistent parental worklessness is associated with young people's mental health when all other factors are taken into account. Some of the other factors associated with mental health problems were being female, being bullied, playing truant and previously feeling unhappy or depressed (see Table F.10 in Appendix F).

**Figure L.4.27 Association between parental worklessness and young people's mental health problems at age 16, regression models**



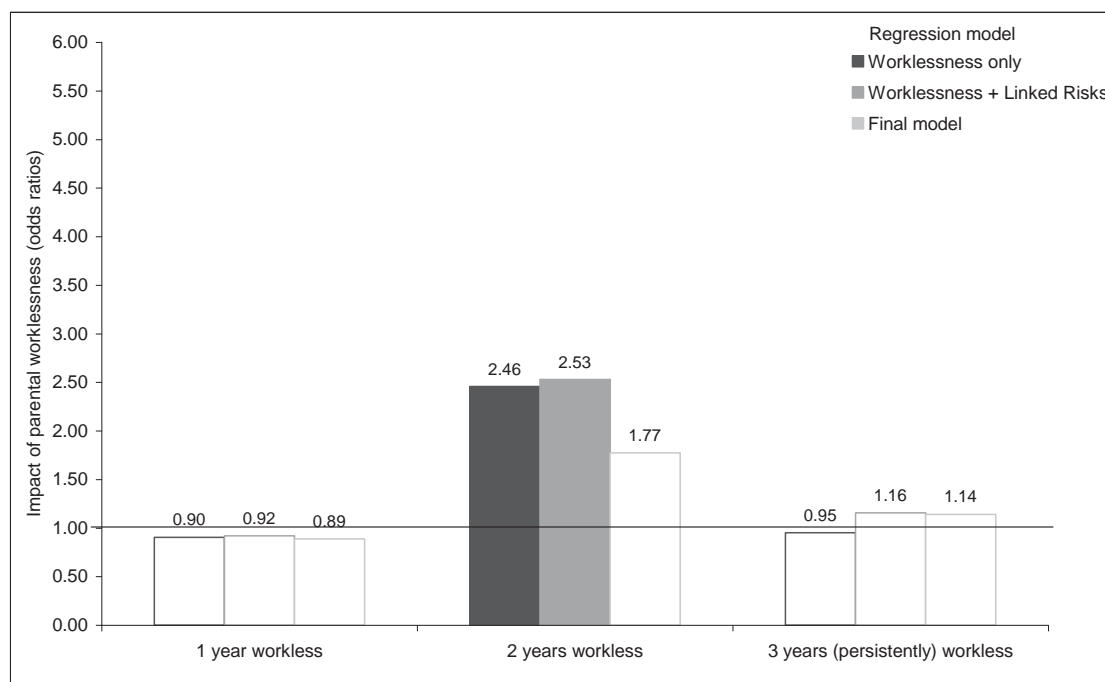
Source: LSYPE wave 1 – wave 3, wave 4

Notes:

- The dependent variable measures young person score on General Health Questionnaire (4 or more versus 3 or less)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.13 in Appendix F for model statistics.

Descriptive statistics suggested a relationship between parental worklessness and young people regularly drinking alcohol – but this was only apparent for young people whose parents were workless for two years, but not for three years (Figure ). .

**Figure L.4.28 Association between parental worklessness and young people regularly drinking alcohol at age 16, regression models**



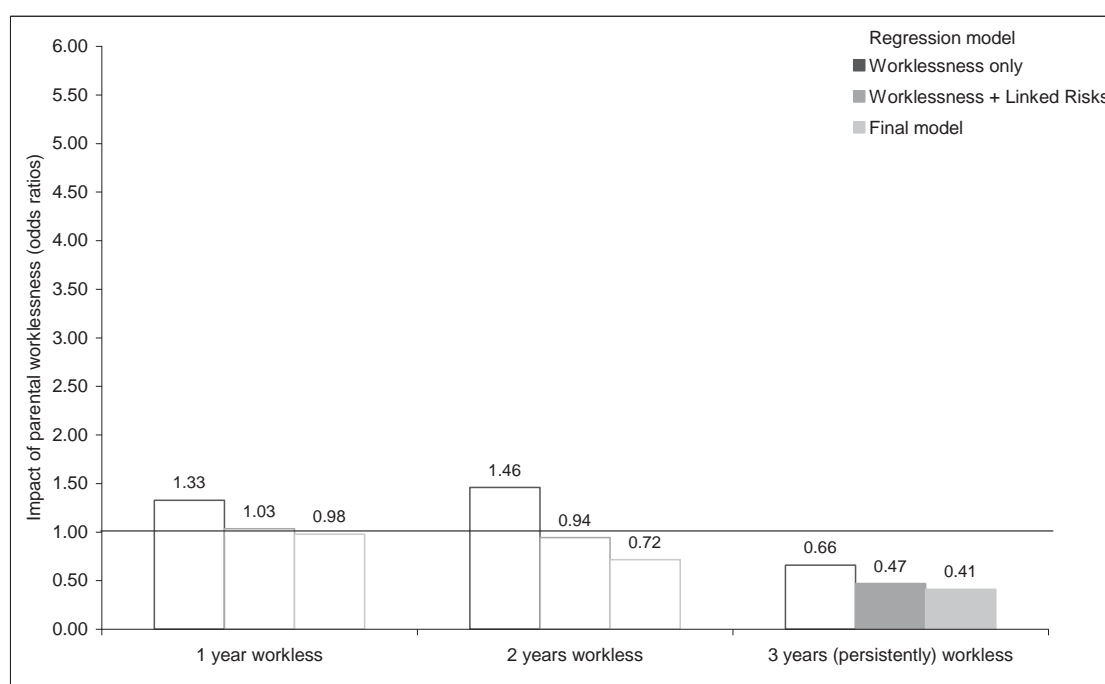
Source: LSYPE wave 1 - wave 3, wave 4

Notes:

- The dependent variable is young person drinks alcohol on most days (yes versus no)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.14 in Appendix F for model statistics.

Descriptive statistics suggested no relationship between parental worklessness and young people regularly using drugs, and that is borne out in the regression analysis (Figure ). There was an indication that young people from persistently workless families were in fact less likely to take drugs, and this is backed up in the regression analysis. This measure captures information on young people's use of cannabis and 'other drugs', which are not specified in detail, so it is not possible to distinguish between the types of drugs used. Regardless of this, it is likely that young people from workless families have less income to spend on drugs.

**Figure L.4.29 Association between parental worklessness and young people using drugs at age 18, regression models**



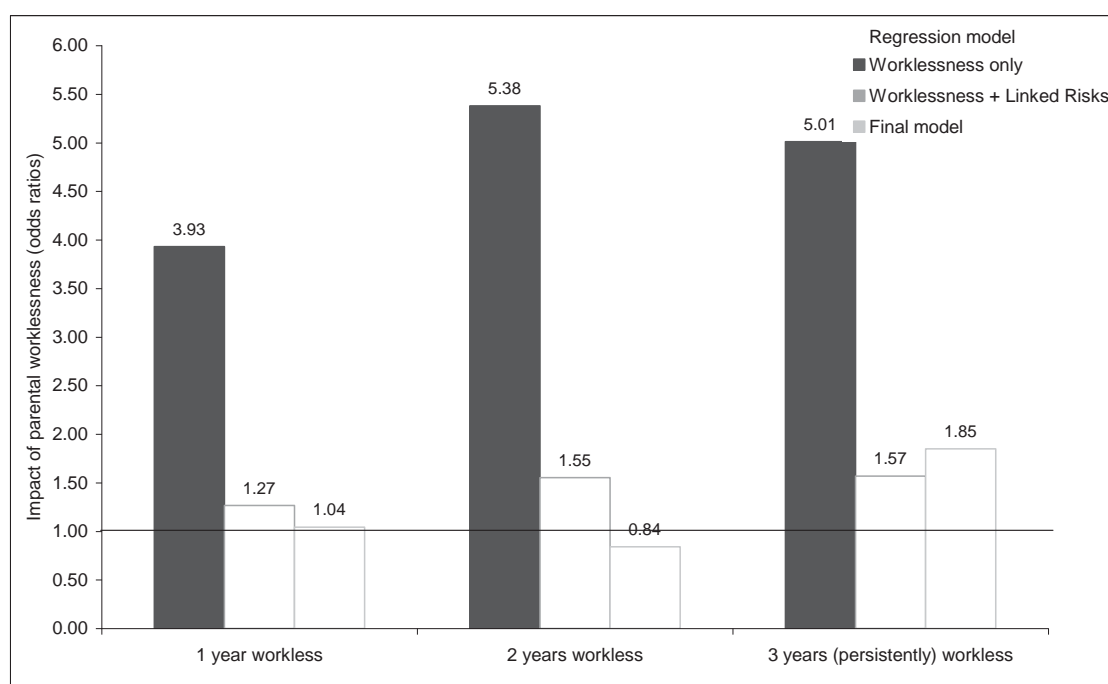
Source: LSYPE wave 1 - wave 3, wave 6

Notes:

- The dependent variable is used drugs three times or more in the past week (yes versus no)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.15 in Appendix F for model statistics.

Descriptive statistics suggested a relationship between parental worklessness and becoming a teenage parent. This is confirmed in Figure but the relationship becomes non-significant when the linked risks are taken into account, suggesting that this association can be largely explained by the interlinked socio-economic risk factors (such as having a mother who gave birth as a teenager, parental education, family structure, etc). The finding suggests that parental worklessness is not the main driver of teen parenthood among their offspring. Again the impact of worklessness is stronger for young people whose parents had two years of worklessness rather than the persistently workless, underlining again the role of stability, or rather adaptation to negative experiences, which might be easier for the young person to accept or adjust to than repeated upheaval and change in family circumstances.

**Figure L.4.30 Association between parental worklessness and young people being teenage parents at age 18, regression models**



Source: LSYPE wave 1 - wave 3, wave 6

Notes:

- The dependent variable is young person is a parent and living with their child (yes versus no)
- Each bar represents the coefficient for the stated workless category. For example, the first set of three bars are the coefficients for the 1 year workless – the first bar is the coefficient when just worklessness is in the model, the second bar is the coefficient when linked risks are added to the model, and the third bar is the full model including linked risks and protective factors. Please see Box L.1 and L.3 for the full list of linked risks and protective factors.
- Filled bar means workless category is statistically different from reference category. Empty bar means category is not statistically different from reference category. The reference category is 0 years workless (persistently working)
- See Table F.16 in Appendix F for model statistics.

## **L.5 Summary**

In this chapter we have used LSYPE to explore the impacts of parental worklessness on young people's educational and occupational outcomes and their psycho-social adjustment. Parental worklessness was assessed during a key period of their school years (years 9-11 when aged 13-15). We have defined worklessness to mean that no parent in the household is working. So, for a family to be workless both parents in a couple family are not in work; or a single parent is not in work. Clearly having two parents, either of whom could be working, gives couple families more chance of avoiding worklessness so we see rates of worklessness much higher amongst single parents than couple families.

One of the strengths of LSYPE is that it re-interviews the same young people on an annual basis. We found 1 in 10 families to be workless across all three years ('persistently workless'). We found a further 7 per cent of families to have had one or two years of worklessness ('temporary workless').

Various factors were found to be associated with parental worklessness – namely having been a teenage mother, having lower levels of education, being a single parent, and having a long-term limiting illness. These factors are also more likely to be found among persistently rather than temporary workless families, and we found that nearly four in five persistently workless families have four or more of the linked risks we identified in this research.

Temporary workless families on the other hand were more likely than persistently workless families to have experienced a marital change (either separation or partnering). This transition alone may well have had a marked impact on the family, even more so when it coincides with an event such as unemployment or finding a new job.

The crux of the analysis was to explore the relationship between parental worklessness and a range of outcomes for young people. We looked at three types of outcomes for young people; employment outcomes, such as being Not in Employment, Education or Training (NEET); education outcomes, such as not achieving Level 2 qualifications (comparable to GCSE grade A\*-C); and psycho-social outcomes, such as mental health problems and regularly drinking alcohol.

Young people whose parents experienced two and three years of worklessness had an increased risk of being NEET and spent more months being NEET - even when a range of linked socio-economic risks and protective factors were taken into account. The magnitude of the independent effect of worklessness was relatively modest; between one and two months being NEET. However, the findings suggests that parental worklessness was an independent risk factor associated with the young person being NEET, after controlling for a number of linked risks and potential protective factors. Our study thus provides some

evidence of an intergenerational transmission of worklessness, although we have not established causality. It is also important to note that there was relatively little difference in the magnitude of the relationship between two or three years of parental worklessness and the probability of the young person being NEET/ months of NEET. This implies that spending some time in a workless household significantly increased a young person's chances of ever being NEET and spending longer time being NEET.

Workless families in the LSYPE data also faced other interlinked linked risks – such as low education and poor mental and physical health. Parental worklessness had a more negative impact on young people's probability of being NEET and how long they spent being NEET if the family simultaneously faced many other types of socio-economic disadvantage. Furthermore, most of these other linked risks had themselves an independent effect on the likelihood of a young person being NEET and spending longer time being NEET. Hence whilst worklessness is clearly one risk factor associated with an increased probability of the young person being NEET and spending more months being NEET, other risk factors are also implicated.

Young people in workless households also achieved less well at GCSE (measured by their average point score), even taking into account a range of interlinked risks and protective factors. The magnitude of this effect is relatively modest however. For example, a young person with three years of parental worklessness would expect to have an average score 14 points lower than a young person with similar characteristics who lives in a household with no worklessness. This is roughly equivalent to a drop in GCSE from grade B to grade D.

In terms of protective factors, there was some evidence to suggest that parents' engagement in their children's education, for example by attending parents' evenings and speaking to teachers about schooling, reduced the association between worklessness and these poor outcomes – as did young people's engagement with education, particularly wanting to stay on in full-time education and not playing truant.

The story is different for the other outcomes. The probability of gaining 5 A\*-C GCSEs and young people's intentions to remain in education past age 16 did not remain significantly associated with parental worklessness after other interlinked risks and a range of protective factors were taken into account. The association between parental worklessness and general mental health was insignificant even before interlinked risks were added to the model. The association between parental worklessness and teenage parenthood became insignificant when the interlinked risk factors were taken into account. The association between persistent parental worklessness and lack of control, education aspirations and attitudes to school became insignificant once we controlled for the inter-linked risk factors and the protective factors.

In conclusion, there was an independent effect of parental worklessness and the likelihood of a young person becoming NEET, spending longer time being NEET and achieving lower point scores/grades at GCSE. This result held firm when taking into account other socio-economic linked risks faced by these young people, such as low parental education, poor parental health and marital status and a range of potential protective factors. Hence we have identified an independent negative effect from parental worklessness for these three outcomes only. It is particularly worrying that parental worklessness is likely to affect the chances of a young person becoming NEET and remaining NEET given the long run impact of early unemployment on later labour market participation.

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## Appendices

### Appendix A: Describing LSYPE

#### Appendix B: Missing data

- Table B.1: Unit non-response to the four core components at wave 1
- Table B.2: Unit non-response young person only waves 1-6
- Table B.3: Unit non-response by worklessness
- Table B.4: Item missing data for young person outcomes
- Table B.5: Wave 4-6 outcomes, response status by worklessness (unweighted)
- Table B.6: Item missing data for linked risks by wave
- Table B.7: Item missing data for protective factors

#### Appendix C: Collinearity between model variables

- Table C.1: Correlation between model variables

#### Appendix D: Pattern of work status for the temporary workless group

- Table D.1: Household work status by LSYPE wave

#### Appendix E: Descriptive analyses

- Table E.1: Descriptives: linked risks
- Table E.2: Descriptives: worklessness and outcomes
- Table E.3: Descriptives: worklessness and protective factors

#### Appendix F: Multivariate analyses

- Table F.1: Predicting worklessness
- Table F.2: Associations between worklessness, linked risks, protective factors and outcomes – Employment outcomes
- Tables F.3 – F.4: Associations between worklessness and outcomes – Employment outcomes
- Table F.5: Associations between worklessness, linked risks, protective factors and outcomes – Education outcomes
- Tables F.6 – F.9 Associations between worklessness and outcomes – Education outcomes
- Table F.10: Associations between worklessness, linked risks, protective factors and outcomes – Psycho-social outcomes
- Tables F.11 – F.17: Associations between worklessness and outcomes – Psycho-social outcomes

**Appendix A****The Longitudinal Study of Young People in England****Information available from the study**

As well as interviews with the sampled young people, LSYPE also includes interviews with parents or guardians (both main carers and secondary carers if available) in its first three waves. Only the main carer was interviewed at Wave 4, while from Wave 5 no parents or guardians were interviewed, as the young people are likely to be more independent at this stage. There is also a self-completion section used to record more sensitive information from the young person. The main types of information available from the core LSYPE dataset are listed below, divided into the categories in which the questions are asked:

- *Family background* – including household situation, languages spoken in the home, family activities, household responsibilities and resources, parental qualifications and education, parental occupations and employment history, parental health, household benefits and tax credits and estimates of household income.
- *Parental attitudes* – including attitudes to the young person's school and involvement in education, parental expectations and aspirations for the young person, school history, vocational courses and choice of current school.
- *Young person characteristics* – including demographics, health, Year 10 subject choices and reasons for these, rules and discipline at school, homework, ICT, study support, future plans and advice, household responsibilities, use of leisure time, subjects being studied and expected qualifications and knowledge of and intentions towards apprenticeships and related schemes.
- *Young person self-completion* – including relationships with parents, risk factors such as drinking and smoking and attitudes to school.
- *Household grid* – includes information about every household member (sex, marital status, employment status and ethnic group) and their relationship to other household members including the young person.

## Data linkage

The LSYPE data have been linked to administrative data held on the National Pupil Database (NPD), a pupil-level database which matches pupil and school characteristics to attainment. The data are also linked to school-level and Local Authority-level indicators such as school size, proportion of pupils gaining five or more GCSEs at grades A\*-C and ethnic composition, and to geographical indicators such as the Index of Multiple Deprivation (IMD) and classifications of urban and rural areas.

This data linkage enables researchers to draw links between the data collected at all waves of LSYPE and subsequent educational attainment in the same pupils. It also means that characteristics of particular schools or Local Authorities (e.g. ethnic composition or percentage of pupils receiving free school meals) can be investigated in conjunction with individual pupil characteristics. Linkage to the NPD database has enabled a range of other measures to be recorded, and these are listed below:

- *Individual-level data* – including attainment at Key Stages 2, 3 and 4, free school meal eligibility and Special Educational Needs.
- *School-level data* – including OFSTED reports, numbers of pupils, percentage of pupils eligible for free school meals, percentage of pupils with Special Educational Needs, ethnic composition, percentage for whom English is not a first language and school-level attainment at Key Stages 2, 3 and 4.
- *Local Authority-level data* – including percentage of pupils with Special Educational Needs, ethnic composition and LA-level attainment at Key Stages 2, 3 and 4.
- *Geographical data* – including indicator of urban or rural residence, number of schools attended since Year 7, Index of Multiple Deprivation and Government Office Region.

## Sampling and response rates

The original sample drawn for the first wave of the study was of over 33,000 young people in Year 9 attending maintained schools, independent schools and pupil referral units (PRUs) in England in February 2004 (Ward and D'Souza, 2008). The final issued sample was approximately 21,000 young people, all of whom were born between 1<sup>st</sup> September 1989 and 31<sup>st</sup> August 1990. The young people sampled for the study were aged 13-14 when the study began, and were aged 19-20 when the study completed its seventh wave in Autumn 2010. Cleaned data are currently available for Waves 1-5.

The sample was taken from a school census database supplied by the then Department for Education and Schools (now DfE), and 892 schools were selected in total. Of these, 647 schools (73%) co-operated with the study.

School-level non-response was a specific problem with LSYPE, especially in inner London, where only 56% of schools responded, and in the independent sector, where only 57% co-operated with the study. The final issued sample was therefore much smaller than the initial sample drawn from the census database.

Further information on LSYPE, including the ability to download anonymised LSYPE data and metadata, can be found at the interactive LSYPE website <http://ilsype.education.gov.uk/>

## Appendix B Missing data

The LSYPE is a longitudinal survey therefore respondents who participate in the first wave of data collection are not necessarily present in any or all of the subsequent waves. It is also possible that respondents drop out for some waves and then re-enter at a later point. Although the dataset contains sample weights, which we used during analysis to compensate for oversampling and attrition, it is useful to understand non-response and missing data patterns<sup>17</sup>. Table B.1 shows how non-response patterns vary across the component parts of LSYPE wave one. This analysis utilised the young person dataset but also made use of the history data.

**Table B.1: Unit non-response to the four core components at wave 1**

| Survey Type   | Response | Non-Response | Total  | Conditional Non-Response Rate |
|---------------|----------|--------------|--------|-------------------------------|
|               | Count    | Count        | Count  | %                             |
| Young person  | 15,298   | 472          | 15,770 | 3.0                           |
| Main parent   | 15,157   | 613          | 15,770 | 3.9                           |
| Second parent | 14,288   | 1,482        | 15,770 | 9.4                           |
| History       | 14,740   | 1,030        | 15,770 | 6.5                           |

Source: Piesse & Kalton (2009:11)

Table B.2 shows how unit response varies across the LSYPE waves. As expected as the number of waves increases a larger proportion of the wave one respondents drop out. 12,437 respondents participated in all three of waves 1-3 and 9,173 participated in all waves (1-6).

**Table B.2: Unit non-response young person only waves 1-6**

| Wave   | Year of data collection | Response | Non-Response | Total  | % Non-Response (% of W1) |
|--------|-------------------------|----------|--------------|--------|--------------------------|
|        |                         | Count    | Count        | Count  | %                        |
| Wave 1 | 2004                    | 15,770   | ~            | 15,770 | ~                        |
| Wave 2 | 2005                    | 13,539   | 2,231        | 15,770 | 14.1                     |
| Wave 3 | 2006                    | 12,439   | 3,331        | 15,770 | 21.1                     |
| Wave 4 | 2007                    | 11,425   | 4,345        | 15,770 | 27.6                     |
| Wave 5 | 2008                    | 10,176   | 5,594        | 15,770 | 35.5                     |
| Wave 6 | 2009                    | 9,539    | 6,231        | 15,770 | 39.5                     |

The parental worklessness variable used throughout the analysis was derived using non-missing wave 1-3 variable categories. Therefore it is only possible to look at the parental worklessness characteristics of respondents who dropped out of LSYPE after wave 3.

<sup>17</sup> For further information see the missing data strategy report <https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DCSF-RW086>

Table B.3 summarises the profile of each of the populations considered in the analysis for a selection of linked risk variables. The proportion of respondents who fall into each variable category varies slightly depending on the selection of respondents who are analysed, but not enough to suggest that attrition and respondent selection is biasing the analysis.

| <b>Table B.3: Comparing respondents<br/>in wave 1 with respondents in waves<br/>1-3</b> | <b>W1 Respondents</b> |          | <b>W1-3 Respondents</b> |          |
|-----------------------------------------------------------------------------------------|-----------------------|----------|-------------------------|----------|
|                                                                                         | <b>N</b>              | <b>%</b> | <b>N</b>                | <b>%</b> |
| <b><u>Linked Risks</u></b>                                                              |                       |          |                         |          |
| <b>First language of household</b>                                                      |                       |          |                         |          |
| English                                                                                 | 14754                 | 94       | 11637                   | 94       |
| Other language                                                                          | 1016                  | 6        | 800                     | 6        |
| Missing                                                                                 | 0                     | 0        | 0                       | 0        |
| <b>Tenure</b>                                                                           |                       |          |                         |          |
| Owned                                                                                   | 11214                 | 71       | 8952                    | 72       |
| Rented (Social)                                                                         | 3444                  | 22       | 2707                    | 22       |
| Rented (Private)                                                                        | 858                   | 5        | 570                     | 5        |
| Other                                                                                   | 254                   | 2        | 202                     | 2        |
| Missing                                                                                 | 0                     | 0        | 6                       | 0        |
| <b>Highest qualification in household</b>                                               |                       |          |                         |          |
| Degree or equivalent                                                                    | 2610                  | 17       | 2121                    | 17       |
| Higher education below degree level                                                     | 2329                  | 15       | 1884                    | 16       |
| GCE A Level or equivalent                                                               | 2692                  | 18       | 2162                    | 18       |
| GCSE grades A-C or equivalent                                                           | 4187                  | 27       | 3283                    | 27       |
| Qualifications at level 1 and below                                                     | 1043                  | 7        | 824                     | 7        |
| Other qualifications                                                                    | 192                   | 1        | 152                     | 1        |
| No qualification                                                                        | 2243                  | 15       | 1720                    | 14       |
| Missing                                                                                 | 474                   | 3        | 292                     | 2        |
| <b>Gained higher qualification during period</b>                                        |                       |          |                         |          |
| Yes, gained a qualification                                                             | 672                   | 5        | 601                     | 5        |
| No, not gained a qualification                                                          | 12210                 | 95       | 11091                   | 95       |
| Missing                                                                                 | 2888                  | 18       | 745                     | 6        |
| <b>Household income</b>                                                                 |                       |          |                         |          |
| Less than £10,400                                                                       | 2080                  | 13       | 1632                    | 13       |
| £10,400-15,600                                                                          | 1853                  | 12       | 1479                    | 12       |
| £15,600-£26,000                                                                         | 2922                  | 19       | 2331                    | 19       |
| £26,000-£36,400                                                                         | 2256                  | 14       | 1843                    | 15       |
| Above £36,4000                                                                          | 3063                  | 19       | 2478                    | 20       |
| Missing                                                                                 | 3595                  | 23       | 2674                    | 21       |
| <b>Marital status</b>                                                                   |                       |          |                         |          |
| Married                                                                                 | 10314                 | 66       | 8226                    | 67       |
| Cohabiting                                                                              | 1391                  | 9        | 1059                    | 9        |
| Single parent                                                                           | 3774                  | 24       | 2954                    | 24       |
| Missing                                                                                 | 127                   | 1        | 80                      | 1        |
| <b>Number of marital transitions<sup>1</sup></b>                                        |                       |          |                         |          |
| 0                                                                                       | 12935                 | 96       | 11744                   | 96       |
| 1 or more                                                                               | 509                   | 4        | 523                     | 4        |
| Missing                                                                                 | 2326                  | 15       | 171                     | 1        |
| <b>Long-term limiting illness</b>                                                       |                       |          |                         |          |

|                                     |               |    |               |    |
|-------------------------------------|---------------|----|---------------|----|
| No limiting long term illness       | 11930         | 77 | 9356          | 76 |
| LLTI at W1 or W3                    | 2549          | 16 | 1943          | 16 |
| LLTI at W1 & W3                     | 992           | 6  | 1002          | 8  |
| Missing                             | 299           | 2  | 136           | 1  |
| <b>Main parent's general health</b> |               |    |               |    |
| Very good                           | 8122          | 52 | 6393          | 52 |
| Fairly good                         | 5426          | 35 | 4320          | 35 |
| Not very good                       | 1513          | 10 | 1180          | 10 |
| Not good at all                     | 504           | 3  | 401           | 3  |
| Missing                             | 205           | 1  | 144           | 1  |
| <b>Region</b>                       |               |    |               |    |
| North East                          | 810           | 5  | 619           | 5  |
| North West                          | 2442          | 15 | 1939          | 16 |
| Yorkshire and The Humber            | 1647          | 10 | 1299          | 10 |
| East Midlands                       | 1291          | 8  | 1030          | 8  |
| West Midlands                       | 1798          | 11 | 1413          | 11 |
| East of England                     | 1674          | 11 | 1324          | 11 |
| London                              | 2081          | 13 | 1647          | 13 |
| South East                          | 2554          | 16 | 2002          | 16 |
| South West                          | 1467          | 9  | 1161          | 9  |
| Missing                             | 7             | 0  | 6             | 0  |
| <b>Rurality</b>                     |               |    |               |    |
| Urban                               | 12708         | 81 | 10004         | 80 |
| Town & Fringe                       | 1406          | 9  | 1121          | 9  |
| Village                             | 1120          | 7  | 888           | 7  |
| Hamlet & isolated village           | 530           | 3  | 419           | 3  |
| Missing                             | 5             | 0  | 4             | 0  |
| <b>Total N (Weighted)</b>           | <b>15,770</b> |    | <b>12,437</b> |    |

Source: LSYPE wave 1 - wave 3

Notes:

<sup>1</sup> 'Number of marital transitions' measures whether the marital status of the parent/s that the young person lives with has changed over the three years of interest (when the young person was aged 13-15 years).

There are some definitional rules applied to this measure. Observing a change in marital status does not distinguish between living with married or cohabiting parents. So parents who were cohabiting and then married would not be recorded as a marital status transition, whereas changing from either married or cohabiting to single parent would. Furthermore, if a young person changed from living with their lone parent mother to their lone parent father this would not be recorded as marital status transition. Nor would the situation where the young person's parents separate and the parent who the young person lives with re-partners in the year between the annual LSYPE interviews, as this would be recorded as married/cohabiting at the two annual interviews. However, these more unusual situations are likely to be infrequent and hence are not expected to significantly impact on the analysis.

Table B.4 summarises item non-response for each of the outcome variables analysed. Mental health, being bullied and alcohol consumption have the highest item non-response. Respondents who did not provide a valid answer to each outcome were removed from the subsequent analysis.

**Table B.4: Item missing data for young person outcomes**  
row % within variable

|                                                                      | Missing Data |     |
|----------------------------------------------------------------------|--------------|-----|
|                                                                      | Count        | %   |
| <b><u>Young person outcomes at age 15</u></b>                        |              |     |
| Attitude to school (higher score means worse attitude) (mean)        | 250          | 2.0 |
| Achieved 5 or more GCSE/GNVQs at grades A*-C                         | 143          | 1.1 |
| GCSE point score (mean)                                              | 143          | 1.1 |
| Likelihood of applying for university                                | 145          | 1.2 |
| Been bullied                                                         | 645          | 5.2 |
| Taken part in 2 or more criminal activities                          | 263          | 2.1 |
| Lack of control - people like me don't have much of a chance in life | 402          | 3.2 |
| <i>Unweighted base</i>                                               | 12437        |     |
| <b><u>Young person outcomes at age 16</u></b>                        |              |     |
| Mental health                                                        | 789          | 6.9 |
| Drinks alcohol on most days                                          | 566          | 5.0 |
| <i>Unweighted base</i>                                               | 11425        |     |
| <b><u>Young person outcomes at age 18</u></b>                        |              |     |
| NEET in May 2009                                                     | 24           | 0.3 |
| Number of months NEET Sep 2007 – May 2009 (mean)                     | 66           | 0.7 |
| Frequency of using drugs in last 4 weeks                             | 97           | 1.0 |
| Teenage parent and living with own children                          | 154          | 1.6 |
| <i>Unweighted base</i>                                               | 9539         |     |
| Source: LSYPE wave 1 - wave 3, wave 4, wave 6                        |              |     |



Table B.5 shows how parental worklessness varies across the key outcomes by response status. The pattern concurs with the unit non-response findings, non-responders to all wave 4-6 outcomes are more likely to have workless parents, mental health and drinking on most days are the outcomes where this is most apparent. In conclusion, we don't have any information about the workless status of drop outs prior to wave 3 but the findings for waves 4-6 suggest that there is evidence of some bias towards households who are persistently working. This is then confounded further by item non-response, the wave 4-6 outcomes confirm that cases not included in the analysis because of item missing data are again less likely to live in persistently working households.

**Table B.5: Wave 4,-6 outcomes by workless status**

| Outcome                    | Response Status   | 0 sweeps workless (persistent working)<br>% | 1 sweep workless<br>% | 2 sweeps workless<br>% | 3 sweeps workless (persistent workless)<br>% | Total<br>% | Missing workless Data<br>% | Unweighted base<br>Count |
|----------------------------|-------------------|---------------------------------------------|-----------------------|------------------------|----------------------------------------------|------------|----------------------------|--------------------------|
| <b>GHQ score</b>           | Item non-response | 69.7                                        | 5.3                   | 4.4                    | 20.6                                         | 100        | 70.5                       | 5134                     |
|                            | Responders        | 81.0                                        | 3.7                   | 2.7                    | 12.6                                         | 100        | 9.8                        | 10636                    |
| <b>Drinks on most days</b> | Item non-response | 69.7                                        | 5.3                   | 4.4                    | 20.6                                         | 100        | 70.5                       | 5134                     |
|                            | Responders        | 81.0                                        | 3.7                   | 2.7                    | 12.6                                         | 100        | 9.8                        | 10636                    |
| <b>YP NEET</b>             | Item non-response | 70.0                                        | 5.7                   | 4.6                    | 19.6                                         | 100        | 60.8                       | 6255                     |
|                            | Responders        | 82.1                                        | 3.4                   | 2.4                    | 12.0                                         | 100        | 9.0                        | 9515                     |
| <b>Drug use</b>            | Item non-response | 70.2                                        | 5.6                   | 4.7                    | 19.6                                         | 100        | 60.2                       | 6328                     |
|                            | Responders        | 82.2                                        | 3.5                   | 2.4                    | 12.0                                         | 100        | 9.1                        | 9442                     |
| <b>Teen Parent</b>         | Item non-response | 70.3                                        | 5.7                   | 4.7                    | 19.3                                         | 100        | 59.8                       | 6385                     |
|                            | Responders        | 82.2                                        | 3.4                   | 2.4                    | 12.0                                         | 100        | 9.0                        | 9385                     |

Source: LSYPE wave 1 - wave 3, wave 4, wave 6

Table B.6 shows how item non-response varies across the linked risk variables included in the models. Household income, qualification and age of mother at birth of young person have the largest proportion of item missing data. The outcomes presented are applicable to three different time periods each with their own outcomes, therefore, Table B.1 also shows how item non-response changes across the different datasets used in the analysis. Worklessness is key to the analysis; therefore the analysis only retains respondents who have a valid response when measuring worklessness across wave 1-3.

**Table B.6: Item missing data for linked risks by wave**

| row % within variable                                 | LSYPE dataset |      |            |      |            |      |
|-------------------------------------------------------|---------------|------|------------|------|------------|------|
|                                                       | YP Aged 15    |      | YP Aged 16 |      | YP Aged 18 |      |
|                                                       | Count         | %    | Count      | %    | Count      | %    |
| No. times workless (W1-W3)                            | 1330          | 10.7 | 1141       | 10.0 | 867        | 9.1  |
| <b><u>Linked Risks</u></b>                            |               |      |            |      |            |      |
| Age of mother at birth of young person                | 316           | 2.5  | 274        | 2.4  | 200        | 2.1  |
| First language of household                           | 0             | 0.0  | 0          | 0.0  | 0          | 0.0  |
| Tenure                                                | 5             | 0.0  | 4          | 0.0  | 2          | 0.0  |
| Highest qualification in household                    | 295           | 2.4  | 255        | 2.2  | 190        | 2.0  |
| Gained higher qualification during period             | 739           | 5.9  | 637        | 5.6  | 482        | 5.1  |
| Household income                                      | 2952          | 23.7 | 2673       | 23.4 | 2219       | 23.3 |
| Marital status                                        | 77            | 0.6  | 67         | 0.6  | 52         | 0.5  |
| Number of marital transitions                         | 206           | 1.7  | 190        | 1.7  | 151        | 1.6  |
| Long-term limiting illness                            | 149           | 1.2  | 110        | 1.0  | 82         | 0.9  |
| Main parent's general health                          | 152           | 1.2  | 133        | 1.2  | 108        | 1.1  |
| Number of children in household                       | 95            | 0.8  | 85         | 0.7  | 62         | 0.6  |
| IMD deprivation (employment)                          | 4             | 0.0  | 4          | 0.0  | 2          | 0.0  |
| Region                                                | 4             | 0.0  | 4          | 0.0  | 2          | 0.0  |
| Rurality                                              | 3             | 0.0  | 3          | 0.0  | 2          | 0.0  |
| Proportion of households in LA receiving JSA          | 231           | 1.9  | 220        | 1.9  | 181        | 1.9  |
| Proportion of households in LA with no qualifications | 231           | 1.9  | 220        | 1.9  | 181        | 1.9  |
| Number of linked risks <sup>1</sup>                   | N/A           | N/A  | N/A        | N/A  | 575        | 6.0  |
| <i>Unweighted base</i>                                | 12437         |      | 11425      |      | 9539       |      |

Source: LSYPE wave 1 - wave 3, wave 4, wave6

Table B.7 shows how item non-response varies across the protective factors. Feeling unhappy or depressed, efficacy of the relationship with the school and the school level characteristics had the largest item non-response. Although in isolation the non-response is seemingly unsubstantial, if listwise deletion<sup>18</sup> is applied approximately 33% of cases would be removed from the analysis. The data presented here indicates the proportion of the total available sample for each time period; however, the analysis additionally excludes respondents with missing outcome or worklessness data.

| row % within variable                                                    | LSYPE dataset |     |            |     |            |     |
|--------------------------------------------------------------------------|---------------|-----|------------|-----|------------|-----|
|                                                                          | YP Aged 15    |     | YP Aged 16 |     | YP Aged 18 |     |
|                                                                          | Count         | %   | Count      | %   | Count      | %   |
| <b><u>Young person characteristics</u></b>                               |               |     |            |     |            |     |
| Birth order                                                              | 137           | 1.1 | 122        | 1.1 | 96         | 1.0 |
| Ethnic group                                                             | 18            | 0.1 | 16         | 0.1 | 12         | 0.1 |
| Sex                                                                      | 13            | 0.1 | 10         | 0.1 | 3          | 0.0 |
| Special Educational Need                                                 | 199           | 1.6 | 177        | 1.5 | 143        | 1.5 |
| Disability or long-standing illness                                      | 84            | 0.7 | 74         | 0.6 | 57         | 0.6 |
| Feeling unhappy or depressed recently                                    | 779           | 6.3 | 672        | 5.9 | 512        | 5.4 |
| <b><u>Young person school experiences</u></b>                            |               |     |            |     |            |     |
| Moved school                                                             | 291           | 2.3 | 232        | 2.0 | 158        | 1.7 |
| Intentions for after Year 11                                             | 144           | 1.2 | 115        | 1.0 | 75         | 0.8 |
| Played truant                                                            | 67            | 0.5 | 52         | 0.5 | 34         | 0.4 |
| Attitude to school (mean)                                                | 283           | 2.3 | 242        | 2.1 | 176        | 1.8 |
| <b><u>Family cohesion &amp; parenting</u></b>                            |               |     |            |     |            |     |
| How often family know where YP is when going out in evening (W1)         | 151           | 1.2 | 133        | 1.2 | 109        | 1.1 |
| How well YP gets on with mother (or father if single-father family) (W1) | 593           | 4.8 | 521        | 4.6 | 402        | 4.2 |
| How often had a family meal in last 7 days (W1)                          | 158           | 1.3 | 140        | 1.2 | 113        | 1.2 |
| How often spend evening together at home as a family (W1)                | 152           | 1.2 | 132        | 1.2 | 107        | 1.1 |
| <b><u>Parental aspirations for young person</u></b>                      |               |     |            |     |            |     |
| Would like them to do after school leaving age                           | 306           | 2.5 | 241        | 2.1 | 188        | 2.0 |
| Wants them to have a better education than they did                      | 288           | 2.3 | 263        | 2.3 | 211        | 2.2 |
| <b><u>Parental engagement with school</u></b>                            |               |     |            |     |            |     |
| Been to parents evenings                                                 | 186           | 1.5 | 143        | 1.3 | 108        | 1.1 |
| How often speak to teachers                                              | 162           | 1.3 | 121        | 1.1 | 92         | 1.0 |
| Whether anyone at home makes sure that do homework                       | 190           | 1.5 | 154        | 1.3 | 103        | 1.1 |
| Efficacy of relationship with school (high                               | 757           | 6.1 | 669        | 5.9 | 551        | 5.8 |

<sup>18</sup> If a respondent has missing data for any one variable included in the model, the whole case is deleted and not included in any subsequent analysis.

score=better relationship)

**Aspirations of peers**

|                                                  |     |     |     |     |    |     |
|--------------------------------------------------|-----|-----|-----|-----|----|-----|
| What think most of friends will do after Year 11 | 144 | 1.2 | 115 | 1.0 | 75 | 0.8 |
|--------------------------------------------------|-----|-----|-----|-----|----|-----|

**Young person contact with teachers**

|                                                                             |     |     |     |     |    |     |
|-----------------------------------------------------------------------------|-----|-----|-----|-----|----|-----|
| How often talk about plans for future study with teachers as part of lesson | 176 | 1.4 | 142 | 1.2 | 95 | 1.0 |
|-----------------------------------------------------------------------------|-----|-----|-----|-----|----|-----|

|                                                                             |     |     |     |     |    |     |
|-----------------------------------------------------------------------------|-----|-----|-----|-----|----|-----|
| How often talk about plans for future study with teachers outside of lesson | 182 | 1.5 | 149 | 1.3 | 99 | 1.0 |
|-----------------------------------------------------------------------------|-----|-----|-----|-----|----|-----|

**Young person use of services**

|                                       |     |     |     |     |     |     |
|---------------------------------------|-----|-----|-----|-----|-----|-----|
| Talked to Connexions Personal Advisor | 209 | 1.7 | 164 | 1.4 | 104 | 1.1 |
|---------------------------------------|-----|-----|-----|-----|-----|-----|

|                                                                |     |     |     |     |    |     |
|----------------------------------------------------------------|-----|-----|-----|-----|----|-----|
| Had paid for private classes in subjects also taught at school | 155 | 1.2 | 115 | 1.0 | 88 | 0.9 |
|----------------------------------------------------------------|-----|-----|-----|-----|----|-----|

|                                                                           |     |     |     |     |    |     |
|---------------------------------------------------------------------------|-----|-----|-----|-----|----|-----|
| How often talk about plans for future study with Careers Advisory Service | 144 | 1.2 | 115 | 1.0 | 75 | 0.8 |
|---------------------------------------------------------------------------|-----|-----|-----|-----|----|-----|

**Characteristics of the school**

|                                        |      |     |     |     |    |     |
|----------------------------------------|------|-----|-----|-----|----|-----|
| % of pupils claiming Free School Meals | 1131 | 9.1 | 138 | 1.2 | 97 | 1.0 |
|----------------------------------------|------|-----|-----|-----|----|-----|

|                                            |      |     |     |     |    |     |
|--------------------------------------------|------|-----|-----|-----|----|-----|
| % of pupils with Special Educational Needs | 1131 | 9.1 | 138 | 1.2 | 97 | 1.0 |
|--------------------------------------------|------|-----|-----|-----|----|-----|

*Unweighted base*

12437

11425

9539

Source: LSYPE wave 1 - wave 3, wave 4, wave6

Missing data is potentially a problem because the respondents who chose not to respond to individual items may be systematically different to those who did. This is particularly pertinent given the nature of the items with the highest levels of non-response. If missingness is systematic rather than random then the analysis is potentially biased towards those who were likely to respond to all questions.

In order to address the issue of covariate (linked risks and protective factors) item non-response the following methodology was followed:

- Items with less than 10 missing cases were retained as they are, so respondents with missing data for these items were not included in the analysis.
- A missing data category was created for each of the items with 10 or more cases of non-response. When testing the overall variable for significance in each model only valid categories were included in the significance test.
- A footnote is included with each table to identify any variables where respondents with missing data were identified as significantly different to those who responded.

## Appendix C

## Collinearity between model variables

A statistical assumption associated with regression analysis is that the variables included in the model are not highly correlated with either the outcome or each other. This assumption is applied to linear regression with more rigour; however, the principle is still valid when logistic regressions are considered. A large number of variables were included in each model, therefore, a correlation coefficient or equivalent<sup>19</sup> was produced for each pair to assess the degree of collinearity.

Table C.1 displays the maximum and minimum coefficients for each group of variables used in the modelling. The largest association (0.79) is between the outcomes GCSE point score and whether or not the young person achieved GCSE A\*-C aged 15. It is not at all surprising that these variables are highly correlated; consequently when each outcome was modelled the other was not included. The same was true for the number of months NEET and whether or not the young person was NEET aged 18 (0.68).

Main parents ethnic group and a binary indicator of whether English is the main language spoken at home by the main parent were both considered as linked risks. When cross tabulated they had a Cramer's V coefficient of 0.74 which is reasonably high. Both variables were included independently when modelling worklessness, the model fit statistics were marginally better when language was included rather than ethnicity therefore ethnicity was excluded.

Main language spoken at home by the main parent was also highly correlated with young person's ethnicity (0.75) a protective factor. Substantively it was decided that including young person's ethnicity was important, so the models were interrogated to look for signs of multi-collinearity. Standard errors and coefficients were not disproportionately large, and the model findings were as expected and consistent with the bivariate findings.

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<sup>19</sup> Pairs of continuous and binary variables were analysed using Pearson's Correlation Coefficient; Pairs of continuous and categorical, or continuous and ordinal variables were analysed using Spearman's Rank coefficients; Pairs of categorical variables were analysed using Cramer's V statistics.

**Table C.1: Correlation between model variables**

| Variables          |                    | Maximum correlation | Minimum correlation |
|--------------------|--------------------|---------------------|---------------------|
| Linked Risks       | Linked Risks       | 0.52                | -0.49               |
| Linked Risks       | Protective Factors | 0.75                | 0.01                |
| Linked Risks       | Outcomes           | 0.43                | 0.00                |
| Protective Factors | Protective Factors | 0.43                | 0.00                |
| Protective Factors | Outcomes           | 0.48                | 0.02                |
| Outcomes           | Outcomes           | 0.79                | 0.01                |
| <b>OVERALL</b>     |                    | 0.79                | 0.00                |

Source: LSYPE wave 1 - wave 3, wave 5, wave 6

The MCS analysis (Technical report MCS) includes a poverty indicator as a linked risk therefore an equivalent variable was derived using a number of benefits (Incapacity benefit, Job Seekers Allowance or Housing benefit). A binary indicator of receipt of a means tested benefit was included in the workless model; this was highly correlated (0.81) with the derived worklessness variable so was not included in the final models. Income was included as a poverty proxy as this was less correlated (0.28) with worklessness.

## Appendix D

## Pattern of work status for the temporary workless group

The temporary workless households are an interesting group and here we explore their patterns of worklessness over the period. Nearly half of the temporary workless families had made a movement into work – so had actually escaped worklessness. A quarter (25 per cent) of the families had moved into work in the third year of our three-year period and a further 23 per cent had moved into work in the second year and remained in work. A lower proportion - a third (33 per cent), had made a movement out of work only (20 per cent after two years of working and 13 per cent after one year of working). The remaining families (18 per cent) had two changes of work status – working  $\square$  workless  $\square$  working (13 per cent) or workless  $\square$  working  $\square$  workless (5 per cent).

| <b>Table D.1: Household work status by LSYPE wave</b>     |          |                                | <b>Per cent (weighted)</b> | <b>n (unweighted)</b> |
|-----------------------------------------------------------|----------|--------------------------------|----------------------------|-----------------------|
| <b>Workless for 1 or 2 years (the temporary workless)</b> |          |                                |                            |                       |
| 2004                                                      | 2005     | 2006                           |                            |                       |
| Working                                                   | Working  | Workless                       | 20.1                       | 160                   |
| Working                                                   | Workless | Working                        | 13.8                       | 108                   |
| Workless                                                  | Working  | Working                        | 22.9                       | 170                   |
| Workless                                                  | Workless | Working                        | 25.2                       | 175                   |
| Workless                                                  | Working  | Workless                       | 4.9                        | 41                    |
| Working                                                   | Workless | Workless                       | 13.1                       | 109                   |
|                                                           |          |                                | 100                        | 763                   |
| <b>Workless for 0, 1, 2 or 3 years (all households)</b>   |          |                                |                            |                       |
| 2004                                                      | 2005     | 2006                           |                            |                       |
| Working                                                   | Working  | Working (persistent working)   | 82.2                       | 8,824                 |
| Working                                                   | Working  | Workless                       | 1.3                        | 160                   |
| Working                                                   | Workless | Working                        | 0.9                        | 108                   |
| Workless                                                  | Working  | Working                        | 1.5                        | 170                   |
| Workless                                                  | Workless | Working                        | 1.6                        | 175                   |
| Workless                                                  | Working  | Workless                       | 0.3                        | 41                    |
| Working                                                   | Workless | Workless                       | 0.8                        | 109                   |
| Workless                                                  | Workless | Workless (persistent workless) | 11.1                       | 1,520                 |
|                                                           |          |                                | 100.0                      | 11,107                |

Source: LSYPE wave 1 - wave 3

## Appendix E

## Descriptive analysis

| Table E.1: Descriptive statistics for linked risks by number of years workless (2004-2006)<br>Col % within category | Number of years household (i.e. all parents) were workless |                   |                    |                    |       |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------|--------------------|--------------------|-------|
|                                                                                                                     | 0 years workless %                                         | 1 year workless % | 2 years workless % | 3 years workless % | All % |
| <b>No. times workless (W1-W3)</b>                                                                                   | 82.2                                                       | 3.7               | 2.8                | 11.3               | N/A   |
| <b><u>Linked Risks</u></b>                                                                                          |                                                            |                   |                    |                    |       |
| <b>Age of mother at birth of young person</b>                                                                       |                                                            |                   |                    |                    |       |
| under 20                                                                                                            | 4.6                                                        | 15.8              | 16.1               | 12.3               | 6.7   |
| 20-24                                                                                                               | 22.0                                                       | 27.0              | 35.1               | 33.0               | 24.2  |
| 25-29                                                                                                               | 36.8                                                       | 34.6              | 27.2               | 25.4               | 34.9  |
| 30-34                                                                                                               | 26.1                                                       | 15.4              | 13.9               | 16.3               | 23.8  |
| 35+                                                                                                                 | 10.5                                                       | 7.2               | 7.7                | 13.0               | 10.4  |
| <b>First language of household</b>                                                                                  |                                                            |                   |                    |                    |       |
| English                                                                                                             | 95.7                                                       | 89.9              | 88.4               | 82.9               | 93.6  |
| Other language                                                                                                      | 4.3                                                        | 10.1              | 11.6               | 17.1               | 6.4   |
| <b>Tenure</b>                                                                                                       |                                                            |                   |                    |                    |       |
| Owned                                                                                                               | 83.7                                                       | 45.5              | 26.0               | 18.7               | 72.0  |
| Rented (Social)                                                                                                     | 11.5                                                       | 43.2              | 64.0               | 71.3               | 21.8  |
| Rented (Private)                                                                                                    | 3.3                                                        | 9.2               | 8.9                | 9.0                | 4.6   |
| Other                                                                                                               | 1.5                                                        | 2.1               | 1.1                | 1.0                | 1.6   |
| <b>Highest qualification in household</b>                                                                           |                                                            |                   |                    |                    |       |
| Degree or equivalent                                                                                                | 20.7                                                       | 7.8               | 7.9                | 2.8                | 17.5  |
| Higher education below degree level                                                                                 | 17.8                                                       | 11.8              | 9.4                | 3.9                | 15.5  |
| GCE A Level or equivalent                                                                                           | 19.6                                                       | 14.4              | 9.2                | 7.7                | 17.8  |
| GCSE grades A-C or equivalent                                                                                       | 27.3                                                       | 27.2              | 26.8               | 23.3               | 27.0  |
| Qualifications at level 1 and below                                                                                 | 5.5                                                        | 11.4              | 12.0               | 10.4               | 6.8   |
| Other qualifications                                                                                                | 1.0                                                        | 2.7               | 2.2                | 2.4                | 1.3   |
| No qualification                                                                                                    | 8.0                                                        | 24.7              | 32.5               | 49.4               | 14.2  |
| <b>Gained higher qualification during period</b>                                                                    |                                                            |                   |                    |                    |       |
| Yes, gained a qualification                                                                                         | 5.6                                                        | 4.9               | 2.7                | 1.5                | 5.1   |
| No, not gained a qualification                                                                                      | 94.4                                                       | 95.1              | 97.3               | 98.5               | 94.9  |
| <b>Household income</b>                                                                                             |                                                            |                   |                    |                    |       |
| Less than £10,400                                                                                                   | 6.7                                                        | 34.1              | 47.5               | 43.8               | 13.1  |
| £10,400-15,600                                                                                                      | 9.4                                                        | 17.8              | 21.8               | 24.8               | 11.9  |



|                                        |      |      |      |      |      |
|----------------------------------------|------|------|------|------|------|
| £15,600-£26,000                        | 20.5 | 17.0 | 8.3  | 8.9  | 18.7 |
| £26,000-£36,400                        | 18.1 | 3.9  | 2.0  | 1.1  | 14.8 |
| Above £36,4000                         | 24.3 | 4.1  | .7   | .6   | 19.9 |
| <b>Marital status</b>                  |      |      |      |      |      |
| Married                                | 76.4 | 38.4 | 27.1 | 27.7 | 66.6 |
| Cohabiting                             | 7.2  | 3.8  | 4.1  | 5.0  | 8.6  |
| Single parent                          | 16.4 | 57.8 | 68.8 | 67.3 | 23.9 |
| <b>Number of marital transitions</b>   |      |      |      |      |      |
| 0                                      | 99.4 | 94.1 | 96.8 | 99.0 | 95.7 |
| 1 or more                              | 0.6  | 5.9  | 3.2  | 1.0  | 4.3  |
| <b>Long-term limiting illness</b>      |      |      |      |      |      |
| No limiting long term illness          | 81.6 | 66.3 | 63.6 | 43.8 | 76.1 |
| LLTI at W1 or W3                       | 13.3 | 21.9 | 23.0 | 25.5 | 15.8 |
| LLTI at W1 & W3                        | 5.1  | 11.8 | 13.3 | 30.8 | 8.1  |
| <b>Main parent's general health</b>    |      |      |      |      |      |
| Very good                              | 57.2 | 43.8 | 33.2 | 28.6 | 52.0 |
| Fairly good                            | 34.4 | 37.8 | 43.1 | 33.2 | 35.1 |
| Not very good                          | 6.7  | 14.2 | 16.6 | 26.1 | 9.6  |
| Not good at all                        | 1.6  | 4.3  | 7.1  | 12.1 | 3.3  |
| <b>Number of children in household</b> |      |      |      |      |      |
| 1                                      | 22.5 | 26.9 | 21.9 | 21.2 | 22.9 |
| 2                                      | 48.7 | 33.9 | 36.5 | 31.3 | 45.1 |
| 3                                      | 20.4 | 24.5 | 21.2 | 23.0 | 21.0 |
| 4 or more                              | 8.4  | 14.7 | 20.4 | 24.4 | 11.0 |
| <b>IMD deprivation (employment)</b>    |      |      |      |      |      |
| 0.00->0.04 [least deprived]            | 11.3 | 7.0  | 1.3  | 2.4  | 9.6  |
| 0.04->0.05                             | 11.1 | 6.7  | 3.8  | 3.3  | 9.7  |
| 0.05->0.06                             | 11.8 | 5.4  | 5.5  | 3.2  | 10.3 |
| 0.06->0.07                             | 11.1 | 6.7  | 6.2  | 4.2  | 9.7  |
| 0.07->0.08                             | 10.7 | 8.3  | 5.0  | 3.9  | 9.6  |
| 0.08->0.10                             | 10.0 | 8.5  | 9.9  | 6.7  | 9.7  |
| 0.10->0.12                             | 9.6  | 9.6  | 11.0 | 11.7 | 10.0 |
| 0.12->0.16                             | 8.2  | 9.3  | 16.3 | 13.3 | 9.3  |
| 0.16->0.21                             | 8.4  | 17.5 | 15.3 | 21.9 | 10.7 |
| 0.21->0.69 [most deprived]             | 7.8  | 21.1 | 25.7 | 29.4 | 11.4 |
| <b>Region</b>                          |      |      |      |      |      |
| North East                             | 4.7  | 7.2  | 5.8  | 7.3  | 5.0  |
| North West                             | 15.4 | 15.7 | 19.2 | 19.4 | 15.6 |
| Yorkshire and The Humber               | 10.5 | 8.6  | 8.8  | 10.7 | 10.4 |
| East Midlands                          | 8.6  | 6.2  | 6.5  | 6.5  | 8.3  |
| West Midlands                          | 11.6 | 10.2 | 11.4 | 11.5 | 11.4 |
| East of England                        | 11.4 | 8.0  | 11.0 | 6.4  | 10.6 |
| London                                 | 11.2 | 17.3 | 16.8 | 22.4 | 13.2 |
| South East                             | 17.0 | 17.1 | 13.3 | 9.9  | 16.1 |

|                                                          |                 |         |         |                 |                   |
|----------------------------------------------------------|-----------------|---------|---------|-----------------|-------------------|
| South West                                               | 9.6             | 9.8     | 7.1     | 5.9             | 9.3               |
| <b>Rurality</b>                                          |                 |         |         |                 |                   |
| Urban                                                    | 78.1            | 85.3    | 86.7    | 92.3            | 80.5              |
| Town & Fringe                                            | 10.0            | 7.6     | 5.0     | 4.0             | 9.0               |
| Village                                                  | 8.1             | 4.1     | 6.2     | 2.4             | 7.1               |
| Hamlet & isolated village                                | 3.8             | 3.0     | 2.0     | 1.3             | 3.4               |
| <b>% households in LEA receiving JSA (mean)</b>          | 16.3            | 17.0    | 17.1    | 18.0            | 16.6              |
| <b>% households in LEA with no qualifications (mean)</b> | 13.5            | 14.1    | 14.7    | 15.4            | 13.8              |
| <b>Number of linked risks<sup>1</sup></b>                |                 |         |         |                 |                   |
| 1                                                        | 43.7            | 7.6     | 1.1     | 0.6             | 35.4              |
| 2                                                        | 34.8            | 19.6    | 9.9     | 5.2             | 30.3              |
| 3                                                        | 14.2            | 25.5    | 23.9    | 14.7            | 15.4              |
| 4                                                        | 5.3             | 22.9    | 30.6    | 30.9            | 9.8               |
| 5+                                                       | 1.9             | 24.4    | 34.4    | 48.7            | 9.1               |
| <b>Unweighted base (lowest-highest)<sup>2</sup></b>      | 8,218-<br>8,824 | 379-438 | 273-325 | 1,365-<br>1,520 | 10,182-<br>11,107 |

Base: Young people who took part in waves 1, 2 and 3 of LSYPE (2004-2006) and had valid data on parental worklessness

Source: LSYPE wave 1 - wave 3

Notes:

<sup>1</sup> Linked risks used in this calculation are mother's birth age under 20, first language not English, living in rented housing, no qualifications in household, lowest income, lone parent household, one or more family transitions, not gained higher qualification during period, not good general health, four or more children in household, living in most deprived employment area.

<sup>2</sup> The base for these calculations changes according to the number of missing cases for the linked risk in question. Hence we present a range for the base, from lowest (i.e. most missing cases) to highest (i.e. least missing cases)

**Table E.2: Descriptive statistics for protective factors by number of years workless**  
**Col % within category**

|                                               | Number of years household (i.e. all parents) were workless |                   |                    |                    | All % |
|-----------------------------------------------|------------------------------------------------------------|-------------------|--------------------|--------------------|-------|
|                                               | 0 years workless %                                         | 1 year workless % | 2 years workless % | 3 years workless % |       |
| <b><u>Young person characteristics</u></b>    |                                                            |                   |                    |                    |       |
| <b>Birth order</b>                            |                                                            |                   |                    |                    |       |
| 3rd or more born                              | 6.1                                                        | 11.3              | 14.1               | 21.2               | 8.3   |
| 2nd born                                      | 50.2                                                       | 46.5              | 47.2               | 46.1               | 49.4  |
| First born                                    | 43.7                                                       | 42.2              | 38.7               | 32.8               | 42.3  |
| <b>Sex</b>                                    |                                                            |                   |                    |                    |       |
| Male                                          | 50.9                                                       | 50.1              | 46.2               | 51.8               | 50.9  |
| Female                                        | 49.1                                                       | 49.9              | 53.8               | 48.2               | 49.1  |
| <b>Ethnic group</b>                           |                                                            |                   |                    |                    |       |
| White                                         | 89.4                                                       | 77.6              | 78.5               | 72.3               | 86.3  |
| Mixed                                         | 2.3                                                        | 5.6               | 4.8                | 4.2                | 2.8   |
| Indian                                        | 2.6                                                        | 2.4               | 1.2                | 2.5                | 2.4   |
| Pakistani                                     | 1.6                                                        | 4.1               | 3.3                | 6.5                | 2.3   |
| Bangladeshi                                   | .3                                                         | 1.2               | 2.5                | 4.2                | .9    |
| Black Caribbean                               | 1.1                                                        | 3.5               | 3.9                | 1.6                | 1.4   |
| Black African                                 | 1.0                                                        | 2.9               | 3.2                | 3.8                | 1.6   |
| Other                                         | 1.7                                                        | 2.6               | 2.5                | 5.0                | 2.3   |
| <b>Special Educational Need</b>               |                                                            |                   |                    |                    |       |
| Yes                                           | 11.1                                                       | 16.0              | 17.5               | 23.4               | 13.1  |
| No                                            | 88.9                                                       | 84.0              | 82.5               | 76.6               | 86.9  |
| <b>Disability or long-standing illness</b>    |                                                            |                   |                    |                    |       |
| Yes and schooling affected                    | 5.5                                                        | 9.5               | 10.4               | 14.2               | 6.8   |
| Yes but schooling not affected                | 7.9                                                        | 8.4               | 10.0               | 6.8                | 8.0   |
| No                                            | 86.6                                                       | 82.1              | 79.6               | 79.0               | 85.2  |
| <b>Feeling unhappy or depressed recently</b>  |                                                            |                   |                    |                    |       |
| Much more than usual                          | 8.3                                                        | 12.7              | 13.7               | 12.1               | 9.3   |
| Rather more than usual                        | 15.3                                                       | 13.0              | 17.2               | 13.7               | 15.0  |
| No more than usual                            | 33.4                                                       | 31.1              | 29.7               | 27.4               | 32.5  |
| Not at all                                    | 43.0                                                       | 43.3              | 39.4               | 46.9               | 43.2  |
| <b><u>Young person school experiences</u></b> |                                                            |                   |                    |                    |       |
| <b>Moved school</b>                           |                                                            |                   |                    |                    |       |
| Yes                                           | 3.7                                                        | 7.3               | 12.1               | 11.3               | 5.5   |
| No                                            | 96.3                                                       | 92.7              | 87.9               | 88.7               | 94.5  |

|                                                                            |      |      |      |      |      |
|----------------------------------------------------------------------------|------|------|------|------|------|
| <b>Attitude to school (mean)</b>                                           | 32.4 | 31.0 | 28.4 | 30.5 | 32.0 |
| <b>Intentions for after Year 11</b>                                        |      |      |      |      |      |
| Leave full-time education                                                  | 12.1 | 19.4 | 25.1 | 19.7 | 14.0 |
| Don't know                                                                 | 4.7  | 4.5  | 6.8  | 6.5  | 5.0  |
| Leave FT education but return later                                        | .7   | 1.7  | .8   | 1.2  | .8   |
| Stay on in full-time education                                             | 82.5 | 74.4 | 67.4 | 72.6 | 80.2 |
| <b>Played truant</b>                                                       |      |      |      |      |      |
| Yes                                                                        | 24.4 | 29.9 | 41.9 | 34.0 | 26.9 |
| No                                                                         | 75.6 | 70.1 | 58.1 | 66.0 | 73.1 |
| <b>Suspended</b>                                                           |      |      |      |      |      |
| Yes                                                                        | 5.8  | 12.0 | 20.8 | 13.9 | 7.7  |
| No                                                                         | 94.2 | 88.0 | 79.2 | 86.1 | 92.3 |
| <b><u>Family cohesion &amp; parenting</u></b>                              |      |      |      |      |      |
| <b>How often family know where YP is when going out in the evening</b>     |      |      |      |      |      |
| Sometimes/usually/hardly ever/never                                        | 2.8  | 5.3  | 8.0  | 7.3  | 3.9  |
| Usually                                                                    | 13.2 | 17.8 | 14.1 | 14.6 | 13.7 |
| Always                                                                     | 74.2 | 63.7 | 63.3 | 62.5 | 71.7 |
| Does not go out                                                            | 9.7  | 13.1 | 14.6 | 15.6 | 10.7 |
| <b>How well YP gets on with mother (or father if single-father family)</b> |      |      |      |      |      |
| Fairly or very badly/don't see her/him                                     | 2.2  | 3.6  | 4.3  | 3.2  | 2.5  |
| Fairly well                                                                | 30.6 | 33.3 | 28.1 | 29.1 | 30.6 |
| Very well                                                                  | 67.2 | 63.1 | 67.6 | 67.7 | 66.9 |
| <b>How often had a family meal in last 7 days</b>                          |      |      |      |      |      |
| Less often                                                                 | 27.1 | 25.5 | 21.1 | 20.5 | 26.4 |
| Once a week or more                                                        | 72.9 | 74.5 | 78.9 | 79.5 | 73.6 |
| <b>How often spend evening together at home as a family</b>                |      |      |      |      |      |
| Less often                                                                 | 12.0 | 11.0 | 13.5 | 13.6 | 12.5 |
| Once a week or more                                                        | 88.0 | 89.0 | 86.5 | 86.4 | 87.5 |
| <b><u>Parental aspirations for young person</u></b>                        |      |      |      |      |      |
| <b>Would like them to do after school leaving age</b>                      |      |      |      |      |      |
| Training place/apprenticeship/work/other                                   | 17.3 | 24.7 | 26.1 | 23.6 | 19.1 |
| Continue in full time education                                            | 82.7 | 75.3 | 73.9 | 76.4 | 80.9 |
| <b>Wants them to have a better education than they did</b>                 |      |      |      |      |      |
| Disagree strongly                                                          | 2.9  | 3.2  | 0.9  | 1.4  | 2.7  |
| Disagree a little                                                          | 6.9  | 5.1  | 2.1  | 3.2  | 6.3  |
| Agree a little                                                             | 17.7 | 15.2 | 13.6 | 8.5  | 16.1 |

|                                                                                    |      |      |      |      |      |
|------------------------------------------------------------------------------------|------|------|------|------|------|
| Agree strongly                                                                     | 72.4 | 76.6 | 83.4 | 87.0 | 74.9 |
| <b><u>Parental engagement with school</u></b>                                      |      |      |      |      |      |
| <b>Efficacy of relationship with school</b> (high score=better relationship)       | 9.3  | 8.8  | 8.2  | 8.9  | 9.2  |
| <b>Whether anyone at home makes sure that do homework</b>                          |      |      |      |      |      |
| Never                                                                              | 15.3 | 14.4 | 16.1 | 16.8 | 15.7 |
| Occasionally                                                                       | 14.0 | 13.9 | 9.8  | 6.9  | 13.0 |
| Sometimes                                                                          | 34.4 | 26.6 | 27.8 | 28.9 | 33.1 |
| Every time                                                                         | 33.8 | 38.1 | 34.0 | 35.2 | 34.0 |
| Other (depends / never set homework)                                               | 2.5  | 7.1  | 12.3 | 12.3 | 4.3  |
| <b>How often speak to teachers</b>                                                 |      |      |      |      |      |
| Never                                                                              | 26.7 | 23.2 | 19.6 | 26.1 | 26.5 |
| Less often than once a term                                                        | 35.8 | 28.2 | 33.0 | 28.8 | 34.0 |
| At least once a term                                                               | 30.6 | 34.3 | 32.9 | 33.2 | 31.4 |
| Every 2 or 3 weeks or more frequently                                              | 6.9  | 14.3 | 14.5 | 11.9 | 8.2  |
| <b>Been to parents evenings</b>                                                    |      |      |      |      |      |
| No                                                                                 | 12.4 | 18.9 | 37.9 | 34.3 | 16.8 |
| Yes                                                                                | 87.6 | 81.1 | 62.1 | 65.7 | 83.2 |
| <b><u>Aspirations of peers</u></b>                                                 |      |      |      |      |      |
| <b>What think most of friends will do after Year 11</b>                            |      |      |      |      |      |
| Leave FT education                                                                 | 16.8 | 24.6 | 30.5 | 27.9 | 19.4 |
| Stay in FT education                                                               | 75.3 | 62.8 | 55.5 | 57.0 | 71.1 |
| Something else                                                                     | 1.7  | 4.4  | 2.7  | 2.1  | 1.8  |
| Don't know                                                                         | 6.3  | 8.3  | 11.3 | 13.0 | 7.8  |
| <b><u>Young person contact with teachers</u></b>                                   |      |      |      |      |      |
| <b>How often talk about plans for future study with teachers as part of lesson</b> |      |      |      |      |      |
| Not at all                                                                         | 16.0 | 17.4 | 20.3 | 21.4 | 17.3 |
| Not very often                                                                     | 33.6 | 32.5 | 28.1 | 26.7 | 32.3 |
| A little                                                                           | 34.5 | 31.1 | 30.1 | 32.5 | 34.0 |
| Quite a lot/a lot                                                                  | 15.8 | 18.9 | 21.4 | 19.5 | 16.5 |
| <b>How often talk about plans for future study with teachers outside of lesson</b> |      |      |      |      |      |
| Not at all                                                                         | 42.3 | 41.5 | 40.1 | 44.5 | 42.5 |
| Not very often                                                                     | 33.7 | 32.3 | 32.2 | 26.0 | 32.5 |
| A little                                                                           | 18.0 | 18.2 | 24.7 | 20.5 | 18.7 |
| Quite a lot/a lot                                                                  | 6.0  | 8.0  | 3.1  | 9.0  | 6.3  |
| <b><u>Young person use of services</u></b>                                         |      |      |      |      |      |
| <b>Talked to Connexions Personal Advisor</b>                                       | 34.3 | 29.6 | 28.8 | 25.4 | 32.6 |

|                                                                                  |             |         |         |             |               |
|----------------------------------------------------------------------------------|-------------|---------|---------|-------------|---------------|
| No                                                                               |             |         |         |             |               |
| Yes                                                                              | 65.7        | 70.4    | 71.2    | 74.6        | 67.4          |
| <b>Had paid for private classes in subjects also taught at school</b>            |             |         |         |             |               |
| No                                                                               | 83.4        | 92.5    | 93.8    | 95.1        | 85.7          |
| Yes                                                                              | 16.6        | 7.5     | 6.2     | 4.9         | 14.3          |
| <b>How often talk about plans for future study with Careers Advisory Service</b> |             |         |         |             |               |
| Not at all                                                                       | 61.6        | 62.2    | 59.5    | 61.5        | 61.4          |
| Not very often                                                                   | 22.9        | 18.5    | 21.3    | 19.1        | 22.1          |
| A little                                                                         | 10.9        | 14.3    | 13.7    | 13.4        | 11.7          |
| Quite a lot/a lot                                                                | 4.6         | 5.1     | 5.5     | 6.0         | 4.8           |
| <b><u>Characteristics of the school</u></b>                                      |             |         |         |             |               |
| <b>% of pupils claiming Free School Meals</b>                                    | 11.1        | 16.4    | 20.5    | 25.0        | 12.9          |
| <b>% of pupils with Special Educational Needs</b>                                | 2.9         | 4.6     | 3.2     | 8.1         | 3.5           |
| <b>Unweighted base (lowest-highest)<sup>1</sup></b>                              | 8,218-8,824 | 379-438 | 273-325 | 1,312-1,520 | 10,182-11,107 |

Base: Young people who took part in waves 1, 2 and 3 of LSYPE (2004-2006) and had valid data on parental worklessness

Source: LSYPE wave 1 - wave 3

<sup>1</sup> The base for these calculations changes according to the number of missing cases for the protective factor in question. Hence we present a range for the base, from lowest (i.e. most missing cases) to highest (i.e. least missing cases)

| <b>Table E.3: Descriptive statistics for young person outcomes by number of years workless</b><br><b>Col % within category</b> | <b>Number of years household (i.e. all parents) were workless</b> |                          |                           |                           |               |
|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------|---------------------------|---------------------------|---------------|
|                                                                                                                                | <b>0 years workless %</b>                                         | <b>1 year workless %</b> | <b>2 years workless %</b> | <b>3 years workless %</b> | <b>All %</b>  |
| <b><u>Young person outcomes at age 15</u></b>                                                                                  |                                                                   |                          |                           |                           |               |
| <b>Attitude to school (higher score means worse attitude) (mean)</b>                                                           | 15.1                                                              | 17.1                     | 19.8                      | 17.4                      | 15.5          |
| <b>Achieved 5 or more GCSE/GNVQs at grades A*-C</b>                                                                            |                                                                   |                          |                           |                           |               |
| Yes                                                                                                                            | 65.6                                                              | 40.0                     | 27.9                      | 29.6                      | 58.2          |
| No                                                                                                                             | 34.4                                                              | 60.0                     | 72.1                      | 70.4                      | 41.8          |
| <b>GCSE point score (mean)</b>                                                                                                 | 388.48                                                            | 296.05                   | 237.75                    | 239.34                    | 364.39        |
| <b>Likelihood of applying for university</b>                                                                                   | 65.4                                                              | 57.1                     | 46.8                      | 50.6                      | 62.1          |
| Very / Fairly likely or don't know                                                                                             |                                                                   |                          |                           |                           |               |
| Not at all / not very likely                                                                                                   | 34.6                                                              | 42.9                     | 53.2                      | 49.4                      | 37.9          |
| <b>Been bullied</b>                                                                                                            |                                                                   |                          |                           |                           |               |
| No                                                                                                                             | 72.0                                                              | 69.8                     | 67.5                      | 68.2                      | 70.9          |
| Yes                                                                                                                            | 28.0                                                              | 30.2                     | 32.5                      | 31.8                      | 29.1          |
| <b>Taken part in 2 or more criminal activities</b>                                                                             | 92.7                                                              | 89.5                     | 83.7                      | 88.6                      | 91.7          |
| No                                                                                                                             |                                                                   |                          |                           |                           |               |
| Yes                                                                                                                            | 7.3                                                               | 10.5                     | 16.3                      | 11.4                      | 8.3           |
| <b>Lack of control: People like me don't have much of a chance in life</b>                                                     | 92.6                                                              | 89.1                     | 77.7                      | 84.7                      | 90.7          |
| Strongly agree / agree                                                                                                         |                                                                   |                          |                           |                           |               |
| Neutral / disagree                                                                                                             | 7.4                                                               | 10.9                     | 22.3                      | 15.3                      | 9.3           |
| <b>Unweighted base (lowest-highest)</b>                                                                                        | 8,603-8,753                                                       | 409-430                  | 301-315                   | 1,396-1,495               | 10,549-11,107 |
| <b><u>Young person outcomes at age 16</u></b>                                                                                  |                                                                   |                          |                           |                           |               |
| <b>Mental health</b>                                                                                                           |                                                                   |                          |                           |                           |               |
| GHQ score <4                                                                                                                   | 78.5                                                              | 76.2                     | 82.6                      | 75.5                      | 78.0          |
| GHQ score 4+ (denotes health problems)                                                                                         | 21.5                                                              | 23.8                     | 17.4                      | 24.5                      | 22.0          |
| <b>Drinks alcohol on most days</b>                                                                                             |                                                                   |                          |                           |                           |               |
| No                                                                                                                             | 95.0                                                              | 95.5                     | 88.6                      | 95.2                      | 94.7          |
| Yes                                                                                                                            | 5.0                                                               | 4.5                      | 11.4                      | 4.8                       | 5.3           |
| <b>Unweighted base (lowest-highest)</b>                                                                                        | 7,768-7,898                                                       | 357-370                  | 259-264                   | 1,208-1,256               | 9,592-9,788   |
| <b><u>Young person outcomes at age 18</u></b>                                                                                  |                                                                   |                          |                           |                           |               |

|                                                         |             |         |         |             |             |
|---------------------------------------------------------|-------------|---------|---------|-------------|-------------|
| <b>NEET in May 2009</b>                                 |             |         |         |             |             |
| No                                                      | 87.5        | 75.0    | 67.9    | 69.2        | 84.0        |
| Yes                                                     | 12.5        | 25.0    | 32.1    | 30.8        | 16.0        |
| <b>Number of months NEET Sep 2007 – May 2009 (mean)</b> | 2.4         | 5.6     | 8.3     | 6.9         | 3.1         |
| <b>Frequency of using drugs in last 4 weeks</b>         |             |         |         |             |             |
| Less than three times                                   | 93.0        | 90.9    | 90.1    | 95.2        | 93.0        |
| Three or more times                                     | 7.0         | 9.1     | 9.9     | 4.8         | 7.0         |
| <b>Teenage parent and living with own children</b>      |             |         |         |             |             |
| No                                                      | 97.7        | 91.7    | 88.9    | 89.6        | 96.0        |
| Yes                                                     | 2.3         | 8.3     | 11.1    | 10.4        | 4.0         |
| <b>Unweighted base (lowest-highest)</b>                 | 7,020-7,106 | 293-297 | 204-211 | 1,024-1,040 | 8,541-8,654 |

Base: Young people who took part in waves 1, 2 and 3 of LSYPE (2004-2006) and had valid data on parental worklessness and who recorded outcomes at wave 3 (2006), wave 4 (2007) or wave 6 (2009)  
The base for these calculations changes according to the number of missing cases for the outcome in question. Hence we present a range for the base, from lowest (i.e. most missing cases) to highest (i.e. least missing cases)

Source: LSYPE wave 1 - wave 3, wave 4, wave 6



## Appendix F

## Multivariate analysis

| <b>Table F.1: Predicting worklessness</b>             | Number of years workless        | No (0 years) v temporary (1-2 years) worklessness | Temporary (1-2 years) v persistent (3 years) worklessness |
|-------------------------------------------------------|---------------------------------|---------------------------------------------------|-----------------------------------------------------------|
| <b>Associated risks</b>                               | $\beta$                         | Odds (SE)                                         | Odds (SE)                                                 |
| <b>Age group of mother at birth (W1)</b>              |                                 |                                                   |                                                           |
| 0=under 20 1=20-24                                    | -0.012<br>(0.045)               | 0.565 <sup>**</sup><br>(0.102)                    | 1.528 <sup>*</sup><br>(0.312)                             |
| 0=under 20 1=25-29                                    | -0.027<br>(0.044)               | 0.526 <sup>***</sup><br>(0.096)                   | 1.220<br>(0.258)                                          |
| 0=under 20 1=30-34                                    | 0.004<br>(0.045)                | 0.486 <sup>***</sup><br>(0.101)                   | 2.177 <sup>**</sup><br>(0.538)                            |
| 0=under 20 1=35 and over                              | 0.036 <sup>*</sup><br>(0.050)   | 0.563 <sup>*</sup><br>(0.147)                     | 3.852 <sup>***</sup><br>(1.205)                           |
| <b>Main parent Language (W1)</b>                      |                                 |                                                   |                                                           |
| 0=English, 1=Other                                    | 0.059 <sup>***</sup><br>(0.037) | 2.125 <sup>***</sup><br>(0.394)                   | 1.453 <sup>*</sup><br>(0.269)                             |
| <b>Housing Tenure (W1)</b>                            |                                 |                                                   |                                                           |
| 0=Owner Occupied 1=Rented (Social)                    | 0.235 <sup>***</sup><br>(0.032) | 2.736 <sup>***</sup><br>(0.334)                   | 1.999 <sup>***</sup><br>(0.326)                           |
| 0=Owner Occupied 1=Rented (Private)                   | 0.065 <sup>***</sup><br>(0.054) | 2.409 <sup>***</sup><br>(0.476)                   | 1.773 <sup>*</sup><br>(0.427)                             |
| 0=Owner Occupied 1=Other                              | 0.004<br>(0.056)                | 1.404<br>(0.573)                                  | 0.956<br>(0.455)                                          |
| <b>Highest Qualification (Household) (W1)</b>         |                                 |                                                   |                                                           |
| 0=Degree 1=Higher                                     | 0.002<br>(0.018)                | 0.945<br>(0.207)                                  | 1.108<br>(0.396)                                          |
| 0=Degree 1=A Level                                    | 0.010<br>(0.019)                | 0.739<br>(0.162)                                  | 2.014 <sup>*</sup><br>(0.679)                             |
| 0=Degree 1=GCSE A*-C                                  | 0.028 <sup>**</sup><br>(0.019)  | 0.903<br>(0.181)                                  | 2.556 <sup>**</sup><br>(0.767)                            |
| 0=Degree 1=Level 1                                    | 0.026 <sup>**</sup><br>(0.041)  | 1.054<br>(0.253)                                  | 2.229 <sup>*</sup><br>(0.749)                             |
| 0=Degree 1=Other                                      | 0.009<br>(0.099)                | 0.997<br>(0.379)                                  | 2.446<br>(1.235)                                          |
| 0=Degree 1=No Quals                                   | 0.161 <sup>***</sup><br>(0.038) | 1.364<br>(0.291)                                  | 4.442 <sup>***</sup><br>(1.311)                           |
| <b>Gained Higher Qualification (Household) (W1-3)</b> |                                 |                                                   |                                                           |
| 0=Yes 1=No                                            | 0.040 <sup>***</sup><br>(0.028) | 1.034<br>(0.288)                                  | 2.958 <sup>*</sup><br>(1.252)                             |
| <b>Gross HH Income Bands (W1)</b>                     |                                 |                                                   |                                                           |

| <b>Table F.1: Predicting worklessness</b>                                                        | Number of years workless | No (0 years) v temporary (1-2 years) worklessness | Temporary (1-2 years) v persistent (3 years) worklessness |
|--------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------|-----------------------------------------------------------|
|                                                                                                  | $\beta$<br>(SE)          | Odds<br>(SE)                                      | Odds<br>(SE)                                              |
| <b>Associated risks</b>                                                                          |                          |                                                   |                                                           |
| 0=£36,400+ 1=,£10,400                                                                            | 0.168***<br>(0.036)      | 10.609***<br>(3.075)                              | 1.321<br>(0.787)                                          |
| 0=£36,400+ 1=£10,400-£15,600                                                                     | 0.012<br>(0.033)         | 2.988***<br>(0.912)                               | 1.367<br>(0.820)                                          |
| 0=£36,400+ 1=£15,600-£26,000                                                                     | -0.084***<br>(0.019)     | 1.626<br>(0.502)                                  | 0.694<br>(0.424)                                          |
| 0=£36,400+ 1=£26,000-£36,400                                                                     | -0.043***<br>(0.014)     | 0.863<br>(0.299)                                  | 0.623<br>(0.464)                                          |
| <b>Marital Status (W1)</b>                                                                       |                          |                                                   |                                                           |
| 0=Married 1=Cohabiting                                                                           | -0.003<br>(0.030)        | 0.881<br>(0.201)                                  | 1.650<br>(0.556)                                          |
| 0=Married 1=Single                                                                               | 0.222***<br>(0.028)      | 5.570***<br>(0.798)                               | 2.548***<br>(0.448)                                       |
| <b>Number of marital transitions (W1-3)<br/>(range 0-3)</b>                                      |                          |                                                   |                                                           |
| 0=No family transitions 1=1 or more                                                              | -0.029***<br>(0.084)     | 1.951<br>(0.674)                                  | 0.155***<br>(0.065)                                       |
| <b>Long-term limiting illness (W1-3)</b>                                                         |                          |                                                   |                                                           |
| 0=No LT illness 1=At W1 or W3                                                                    | 0.071***<br>(0.025)      | 2.028***<br>(0.286)                               | 1.680**<br>(0.283)                                        |
| 0=No LT illness 1=At W1 & W3                                                                     | 0.202***<br>(0.044)      | 4.423***<br>(0.860)                               | 5.694***<br>(1.233)                                       |
| <b>Main parents general health (W1)</b>                                                          |                          |                                                   |                                                           |
| 0=Very good 1=Fairly good                                                                        | -0.004<br>(0.016)        | 1.159<br>(0.143)                                  | 0.799<br>(0.118)                                          |
| 0=Very good 1=Not very good                                                                      | 0.045***<br>(0.038)      | 1.292<br>(0.235)                                  | 1.185<br>(0.226)                                          |
| 0=Very good 1=Not good at all                                                                    | 0.064***<br>(0.063)      | 1.908**<br>(0.471)                                | 1.222<br>(0.342)                                          |
| <b>Number of children in the household (W1) (range 1-12)</b>                                     | 0.129***<br>(0.009)      | 1.378***<br>(0.072)                               | 1.348***<br>(0.072)                                       |
| <b>IMD deprivation employment deciles (employment) (W1)</b><br>(deciles, low score – high score) | 0.043***<br>(0.003)      | 1.113***<br>(0.032)                               | 0.994<br>(0.033)                                          |
| <b>GOR (W1)</b>                                                                                  |                          |                                                   |                                                           |
| 0=London 1=North East                                                                            | 0.014<br>(0.051)         | 0.766<br>(0.216)                                  | 1.138<br>(0.382)                                          |
| 0=London 1=North West                                                                            | 0.009<br>(0.041)         | 0.758<br>(0.202)                                  | 1.143<br>(0.348)                                          |

| <b>Table F.1: Predicting worklessness</b>                          | Number of years workless | No (0 years) v temporary (1-2 years) worklessness | Temporary (1-2 years) v persistent (3 years) worklessness |
|--------------------------------------------------------------------|--------------------------|---------------------------------------------------|-----------------------------------------------------------|
| <b>Associated risks</b>                                            | $\beta$<br>(SE)          | Odds<br>(SE)                                      | Odds<br>(SE)                                              |
| 0=London 1=Yorkshire & Humber                                      | -0.012<br>(0.035)        | 0.528*<br>(0.139)                                 | 1.020<br>(0.280)                                          |
| 0=London 1=East Midlands                                           | -0.017<br>(0.037)        | 0.497**<br>(0.127)                                | 1.021<br>(0.302)                                          |
| 0=London 1=West Midlands                                           | -0.014<br>(0.035)        | 0.685<br>(0.160)                                  | 0.851<br>(0.209)                                          |
| 0=London 1=East of England                                         | -0.020<br>(0.038)        | 0.702<br>(0.185)                                  | 0.943<br>(0.283)                                          |
| 0=London 1=South West                                              | -0.010<br>(0.033)        | 1.166<br>(0.268)                                  | 0.763<br>(0.213)                                          |
| 0=London 1=South East                                              | -0.012<br>(0.041)        | 0.742<br>(0.214)                                  | 0.746<br>(0.242)                                          |
| <b>Urban / Rural Indicator (W1)</b>                                |                          |                                                   |                                                           |
| 0=Urban 1=Town & Fringe                                            | -0.002<br>(0.026)        | 0.973<br>(0.231)                                  | 0.879<br>(0.262)                                          |
| 0=Urban 1=Village                                                  | 0.009<br>(0.025)         | 1.301<br>(0.319)                                  | 0.951<br>(0.322)                                          |
| 0=Urban 1=Hamlet & Isolated Dwelling                               | 0.005<br>(0.038)         | 1.599<br>(0.529)                                  | 0.949<br>(0.583)                                          |
| <b>Proportion of households in LEA receiving JSA (W3)</b>          | 0.034*<br>(0.003)        | 1.001<br>(0.022)                                  | 1.047<br>(0.028)                                          |
| <b>Proportion of households in LEA with no qualifications (W3)</b> | -0.001<br>(0.003)        | 0.993<br>(0.017)                                  | 0.992<br>(0.019)                                          |
| R2                                                                 | 0.505                    | N/A                                               | N/A                                                       |
| Observations                                                       | 11101                    | 9583                                              | 2280                                                      |

Source: LSYPE wave 1 - wave 3

Notes: Standardised beta coefficients; Standard errors in parentheses. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001  
Missing value categories were included for all predictors where the missingness was greater than 10 cases, where the odds ratios are not displayed the variable was dropped from the model because it was highly correlated with another missing data category. The following missing value categories were significant (p<0.05): Highest qualification in the household (Temporary vs. persistent), Income (No vs. temporary), number of marital transitions (Years workless), long term limiting illness (No vs. temporary), number of children in the household (Years workless & No vs. temporary), LEA variables (Years workless).

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>           | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|----------------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                        | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| <b>No. times workless (W1-W3)</b>                                                      |                    |                                           |                                           |                                           |
| 0=Never workless 1= workless in 1 wave                                                 | 1.296<br>(0.271)   | 1.012<br>(0.615)                          | 0.036*<br>(0.655)                         |                                           |
| 0=Never workless 1 = workless in 2                                                     | 1.230<br>(0.272)   | 1.895*<br>(0.813)                         | 0.057**<br>(0.837)                        |                                           |
| 0=Never workless 1= Persistently workless                                              | 1.460*<br>(0.229)  | 1.372**<br>(0.482)                        | 0.071***<br>(0.459)                       |                                           |
| <b>Associated Risks</b>                                                                |                    |                                           |                                           |                                           |
| <b>Combined linked risks (W1-3)</b>                                                    | N/A                | N/A                                       | **                                        | N/A                                       |
| 0=No risks 1= 1 linked risk                                                            |                    |                                           | 0.000<br>(0.171)                          |                                           |
| 0=No risks 1= 2 linked risks                                                           |                    |                                           | 0.015<br>(0.270)                          |                                           |
| 0=No risks 1= 3 linked risks                                                           |                    |                                           | 0.058**<br>(0.455)                        |                                           |
| 0=No risks 1= 4 or more linked risks                                                   |                    |                                           | 0.080***<br>(0.542)                       |                                           |
| <b>Combined linked risks including worklessness (W1-3)</b>                             | N/A                | N/A                                       | N/A                                       | *                                         |
| 0=Persistent working and 0/1 linked risk<br>1=Persistent working and 2 linked risks    |                    |                                           |                                           | 0.001<br>(0.172)                          |
| 0=Persistent working and 0/1 linked risk<br>1= Persistent working and 3+ linked risks  |                    |                                           |                                           | 0.016<br>(0.280)                          |
| 0=Persistent working and 0/1 linked risk<br>1= Temporary workless and 0/1 linked risks |                    |                                           |                                           | 0.049**<br>(0.439)                        |
| 0=Persistent working and 0/1 linked risk<br>1= Temporary workless and 2 linked risks   |                    |                                           |                                           | 0.023<br>(0.748)                          |
| 0=Persistent working and 0/1 linked risk<br>1= Temporary workless and 3+ linked risks  |                    |                                           |                                           | 0.023<br>(0.976)                          |
| 0=Persistent working and 0/1 linked risk<br>1= Persistent workless and 0/1 linked risk |                    |                                           |                                           | 0.083***<br>(0.872)                       |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>           | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|----------------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                        | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| 0=Persistent working and 0/1 linked risk<br>1=Persistent workless and 2 linked risks   |                    |                                           |                                           | 0.002<br><br>(0.822)                      |
| 0=Persistent working and 0/1 linked risk<br>1= Persistent workless and 3+ linked risks |                    |                                           |                                           | 0.067***<br><br>(0.614)                   |
| <b>Age group of mother at birth (W1)</b>                                               |                    |                                           | N/A                                       |                                           |
| 0=under 20 1=20-24                                                                     | 0.721<br>(0.122)   | -0.215<br>(0.528)                         |                                           |                                           |
| 0=under 20 1=25-29                                                                     | 0.585**<br>(0.103) | -0.376<br>(0.514)                         |                                           |                                           |
| 0=under 20 1=30-34                                                                     | 0.689<br>(0.131)   | -0.474<br>(0.529)                         |                                           |                                           |
| 0=under 20 1=35 and over                                                               | 0.802<br>(0.170)   | -0.089<br>(0.564)                         |                                           |                                           |
| <b>Main parent Language (W1)</b>                                                       |                    |                                           | N/A                                       | N/A                                       |
| 0=English, 1=Other                                                                     | 0.847<br>(0.180)   | -0.555<br>(0.384)                         |                                           |                                           |
| <b>Housing Tenure (W1)</b>                                                             |                    |                                           | N/A                                       | N/A                                       |
| 0=Owner Occupied 1=Rented (Social)                                                     | 1.320*<br>(0.156)  | 1.107***<br>(0.325)                       |                                           |                                           |
| 0=Owner Occupied 1=Rented (Private)                                                    | 1.238<br>(0.247)   | 1.295*<br>(0.576)                         |                                           |                                           |
| 0=Owner Occupied 1=Other                                                               | 1.334<br>(0.464)   | -0.080<br>(0.594)                         |                                           |                                           |
| <b>Highest Qualification (Household) (W1)</b>                                          |                    |                                           | N/A                                       | N/A                                       |
| 0=Degree 1=Higher                                                                      | 0.665**<br>(0.102) | -0.382*<br>(0.194)                        |                                           |                                           |
| 0=Degree 1=A Level                                                                     | 0.767<br>(0.112)   | -0.221<br>(0.226)                         |                                           |                                           |
| 0=Degree 1=GCSE A*-C                                                                   | 0.773<br>(0.107)   | -0.634**<br>(0.219)                       |                                           |                                           |
| 0=Degree 1=Level 1                                                                     | 0.552**<br>(0.114) | -0.261<br>(0.443)                         |                                           |                                           |
| 0=Degree 1=Other                                                                       | 0.703<br>(0.261)   | -0.722<br>(0.914)                         |                                           |                                           |
| 0=Degree 1=No Qualifications                                                           | 0.812              | 0.342                                     |                                           |                                           |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>                   | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                                | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| <b>Gained Higher Qualification (Household) (W1-3)</b><br>0=Yes 1=No                            | 1.098<br>(0.220)   | 0.491<br>(0.341)                          | N/A                                       | N/A                                       |
| <b>Gross HH Income Bands (W1)</b><br>0=£36,400+ 1=£10,400                                      | 0.886<br>(0.150)   | 0.150<br>(0.355)                          | N/A                                       | N/A                                       |
| 0=£36,400+ 1=£10,400-£15,600                                                                   | 0.737<br>(0.125)   | -0.419<br>(0.325)                         |                                           |                                           |
| 0=£36,400+ 1=£15,600-£26,000                                                                   | 0.906<br>(0.131)   | -0.316<br>(0.231)                         |                                           |                                           |
| 0=£36,400+ 1=£26,000-£36,400                                                                   | 0.856<br>(0.128)   | -0.405*<br>(0.201)                        |                                           |                                           |
| <b>Marital Status (W1)</b><br>0=Married 1=Cohabiting                                           | 1.377*<br>(0.212)  | 0.388<br>(0.398)                          | N/A                                       | N/A                                       |
| 0=Married 1=Single                                                                             | 1.128<br>(0.135)   | -0.025<br>(0.263)                         |                                           |                                           |
| <b>Number of marital transitions (W1-3) (range 0-3)</b><br>0=No family transitions 1=1 or more | 1.589<br>(0.547)   | 1.503<br>(1.193)                          | N/A                                       | N/A                                       |
| <b>Long-term limiting illness (W1-3)</b><br>0=No LT illness 1=At W1 or W3                      | 1.227<br>(0.137)   | 0.257<br>(0.268)                          | N/A                                       | N/A                                       |
| 0=No LT illness 1=At W1 & W3                                                                   | 1.030<br>(0.161)   | -0.860*<br>(0.375)                        |                                           |                                           |
| <b>Main parents general health (W1)</b><br>0=Very good 1=Fairly good                           | 1.075<br>(0.095)   | 0.382*<br>(0.178)                         | N/A                                       | N/A                                       |
| 0=Very good 1=Not very good                                                                    | 0.958<br>(0.144)   | 0.778<br>(0.417)                          |                                           |                                           |
| 0=Very good 1=Not good at all                                                                  | 0.996<br>(0.222)   | 0.918<br>(0.721)                          |                                           |                                           |
| <b>Number of children in the household (W1) (range 1-12)</b>                                   | 1.025<br>(0.043)   | 0.114<br>(0.100)                          | N/A                                       | N/A                                       |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>            | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|-----------------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                         | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| <b>IMD deprivation employment deciles (employment) (W1)</b><br>(low score – high score) | 1.067**<br>(0.022) | 0.112**<br>(0.040)                        | N/A                                       | N/A                                       |
| <b>GOR (W1)</b>                                                                         |                    |                                           | N/A                                       | N/A                                       |
| 0=London 1=North East                                                                   | 0.991<br>(0.224)   | 0.223<br>(0.474)                          |                                           |                                           |
| 0=London 1=North West                                                                   | 1.029<br>(0.205)   | 0.261<br>(0.410)                          |                                           |                                           |
| 0=London 1=Yorkshire & Humber                                                           | 0.905<br>(0.171)   | 0.415<br>(0.379)                          |                                           |                                           |
| 0=London 1=East Midlands                                                                | 0.899<br>(0.183)   | -0.179<br>(0.395)                         |                                           |                                           |
| 0=London 1=West Midlands                                                                | 1.018<br>(0.190)   | 0.426<br>(0.358)                          |                                           |                                           |
| 0=London 1=East of England                                                              | 0.829<br>(0.167)   | 0.196<br>(0.392)                          |                                           |                                           |
| 0=London 1=South East                                                                   | 0.856<br>(0.154)   | -0.190<br>(0.345)                         |                                           |                                           |
| 0=London 1=South West                                                                   | 0.853<br>(0.185)   | -0.428<br>(0.420)                         |                                           |                                           |
| <b>Urban / Rural Indicator (W1)</b>                                                     |                    |                                           | N/A                                       | N/A                                       |
| 0=Urban 1=Town & Fringe                                                                 | 1.079<br>(0.167)   | -0.081<br>(0.270)                         |                                           |                                           |
| 0=Urban 1=Village                                                                       | 0.888<br>(0.158)   | -0.283<br>(0.262)                         |                                           |                                           |
| 0=Urban 1=Hamlet & Isolated Dwelling                                                    | 0.990<br>(0.232)   | -0.495<br>(0.395)                         |                                           |                                           |
| <b>Proportion of households in LA receiving JSA (W3)</b>                                | 1.005<br>(0.017)   | 0.003<br>(0.036)                          | N/A                                       | N/A                                       |
| <b>Proportion of households in LA with no qualifications (W3)</b>                       | 0.988<br>(0.013)   | -0.046<br>(0.027)                         | N/A                                       | N/A                                       |
| <b><u>YPs characteristics</u></b>                                                       |                    |                                           |                                           |                                           |
| <b>YP Birth Order (W3)</b>                                                              |                    |                                           |                                           |                                           |
| 0=Third or more born 1=Second born                                                      | 0.868<br>(0.127)   | -0.462<br>(0.405)                         | -0.029<br>(0.416)                         | -0.029<br>(0.415)                         |
| 0=Third or more born 1=First born                                                       | 0.737<br>(0.118)   | -0.540<br>(0.416)                         | -0.031<br>(0.422)                         | -0.031<br>(0.422)                         |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b> | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                              | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| <b>YP Gender (W1)</b>                                                        |                    |                                           |                                           |                                           |
| 0=Male 1=Female                                                              | 0.992<br>(0.085)   | 0.001<br>(0.168)                          | 0.005<br>(0.172)                          | 0.007<br>(0.172)                          |
| <b>YP Ethnic Group (W1)</b>                                                  |                    |                                           |                                           |                                           |
| 0=White 1=Mixed                                                              | 1.043<br>(0.196)   | -1.021**<br>(0.390)                       | -0.018<br>(0.389)                         | -0.017<br>(0.397)                         |
| 0=White 1=Indian                                                             | 0.742<br>(0.210)   | -0.316<br>(0.366)                         | -0.015*<br>(0.279)                        | -0.015*<br>(0.281)                        |
| 0=White 1=Pakistani                                                          | 1.192<br>(0.270)   | 0.172<br>(0.573)                          | -0.002<br>(0.547)                         | -0.001<br>(0.551)                         |
| 0=White 1=Bangladeshi                                                        | 0.903<br>(0.264)   | -1.924**<br>(0.661)                       | 0.030***<br>(0.570)                       | -0.031***<br>(0.584)                      |
| 0=White 1=Black Caribbean                                                    | 0.944<br>(0.259)   | -1.140*<br>(0.554)                        | -0.015<br>(0.517)                         | -0.015<br>(0.516)                         |
| 0=White 1=Black African                                                      | 0.625<br>(0.235)   | -2.281***<br>(0.462)                      | 0.037***<br>(0.399)                       | -0.037***<br>(0.399)                      |
| 0=White 1=Other                                                              | 0.886<br>(0.312)   | -0.334<br>(0.688)                         | -0.007<br>(0.740)                         | -0.007<br>(0.733)                         |
| <b>YP Statement of SEN (W1-3)</b>                                            |                    |                                           |                                           |                                           |
| 0=SEN 1=no SEN                                                               | 0.938<br>(0.124)   | -0.081<br>(0.383)                         | -0.003<br>(0.384)                         | -0.003<br>(0.384)                         |
| <b>YP disability/illness or long term health problem (W2)</b>                |                    |                                           |                                           |                                           |
| 0=Yes and schooling affected 1=Yes but schooling not affected                | 0.679<br>(0.144)   | -1.205*<br>(0.553)                        | -0.039<br>(0.559)                         | -0.040<br>(0.560)                         |
| 0=Yes and schooling affected 1=No                                            | 0.800<br>(0.129)   | -0.624<br>(0.508)                         | -0.022<br>(0.514)                         | -0.024<br>(0.515)                         |
| <b>YP feeling unhappy &amp; depressed recently (W2)</b>                      |                    |                                           |                                           |                                           |
| 0=Much more than usual 1=Rather more than usual                              | 0.901<br>(0.147)   | -0.049<br>(0.387)                         | -0.001<br>(0.386)                         | -0.001<br>(0.385)                         |
| 0=Much more than usual 1=No more than usual                                  | 0.878<br>(0.132)   | 0.146<br>(0.365)                          | 0.013<br>(0.365)                          | 0.014<br>(0.363)                          |
| 0=Much more than usual 1=Not at all                                          | 0.902<br>(0.137)   | -0.184<br>(0.364)                         | -0.009<br>(0.363)                         | -0.008<br>(0.362)                         |
| <b>School experiences</b>                                                    |                    |                                           |                                           |                                           |



| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b> | NEET at age 18      | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|------------------------------------------------------------------------------|---------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                              | Odds ratio<br>(SE)  | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| <b>YP Moved School (W1-3)</b>                                                |                     |                                           |                                           |                                           |
| 0=Moved School 1=Did not move school                                         | 0.560**<br>(0.106)  | -2.291**<br>(0.722)                       | -0.075**<br>(0.716)                       | -0.075**<br>(0.718)                       |
| <b>YP Attitude to school - (Range 0-48)</b>                                  | 0.991<br>(0.006)    | -0.030<br>(0.016)                         | -0.039<br>(0.016)                         | -0.039<br>(0.016)                         |
| <b>YP Intentions after Year 11 (W2)</b>                                      |                     |                                           |                                           |                                           |
| 0=Leave FT education 1=Don't know                                            | 0.936<br>(0.177)    | -0.578<br>(0.621)                         | -0.019<br>(0.631)                         | -0.018<br>(0.629)                         |
| 0=Leave FT education 1=Leave FT education but return later                   | 1.861<br>(0.654)    | 1.506<br>(1.090)                          | 0.019<br>(1.117)                          | 0.019<br>(1.119)                          |
| 0=Leave FT education 1=Stay in FT education                                  | 0.774<br>(0.102)    | -1.133**<br>(0.437)                       | -0.067*<br>(0.443)                        | -0.067*<br>(0.443)                        |
| <b>YP played truant in last 12 months (W3)</b>                               |                     |                                           |                                           |                                           |
| 0=Yes 1=No                                                                   | 0.695***<br>(0.067) | -1.001***<br>(0.247)                      | 0.069***<br>(0.254)                       | -0.070***<br>(0.254)                      |
| <b>YP been bullied in last 12 months (W3)</b>                                |                     |                                           |                                           |                                           |
| 0=Yes 1=No                                                                   | 0.888<br>(0.081)    | -0.469*<br>(0.203)                        | -0.035*<br>(0.207)                        | -0.035*<br>(0.209)                        |
| <b>YP taken part in 2+ criminal activities (w3)</b>                          |                     |                                           |                                           |                                           |
| 0=Yes 1=No                                                                   | 1.247<br>(0.197)    | -0.059<br>(0.456)                         | -0.006<br>(0.470)                         | -0.007<br>(0.473)                         |
| <b>YP likelihood of applying for university (W3)</b>                         |                     |                                           |                                           |                                           |
| 0= Not at all likely 1=Fairly / Not very likely                              | 0.819<br>(0.091)    | -0.755*<br>(0.357)                        | -0.047*<br>(0.367)                        | -0.047*<br>(0.371)                        |
| <b>Family cohesion &amp; parenting</b>                                       |                     |                                           |                                           |                                           |
| <b>How often family know where YP is when going out in the evening (W1)</b>  |                     |                                           |                                           |                                           |
| 0=Sometimes/usually/hardly ever/never 1=Usually                              | 0.635*<br>(0.138)   | -1.814*<br>(0.767)                        | -0.101*<br>(0.799)                        | -0.104*<br>(0.802)                        |
| 0=Sometimes/usually/hardly ever/never 1=Always                               | 0.653*<br>(0.138)   | -1.832*<br>(0.767)                        | -0.137**<br>(0.799)                       | -0.142**<br>(0.802)                       |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>                      | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|---------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                                   | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| 0=Sometimes/usually/hardly ever/never<br>1=Does not go out in evening                             | 0.627*<br>(0.130)  | -2.009**<br>(0.720)                       | -0.102**<br>(0.749)                       | -0.104**<br>(0.753)                       |
| <b>How well YP gets on with mother (or father if single-father family) (W1)</b>                   |                    |                                           |                                           |                                           |
| 0=Fairly or very badly/don't see her/him<br>1=Fairly well                                         | 1.299<br>(0.343)   | -0.100<br>(0.742)                         | -0.013<br>(0.732)                         | -0.012<br>(0.727)                         |
| 0=Fairly or very badly/don't see her/him<br>1=Very well                                           | 1.206<br>(0.313)   | -0.387<br>(0.732)                         | -0.037<br>(0.724)                         | -0.035<br>(0.719)                         |
| <b>How often had a family meal in last 7 days (W1)</b>                                            |                    |                                           |                                           |                                           |
| 0=Less often 1=once a week or more                                                                | 0.915<br>(0.086)   | -0.045<br>(0.195)                         | -0.000<br>(0.198)                         | 0.002<br>(0.199)                          |
| <b>How often spend evening together at home as a family (W1)</b>                                  |                    |                                           |                                           |                                           |
| 0=Less often 1=once a week or more                                                                | 1.119<br>(0.143)   | 0.095<br>(0.299)                          | -0.004<br>(0.311)                         | -0.004<br>(0.309)                         |
| <b>Parental aspirations</b>                                                                       |                    |                                           |                                           |                                           |
| <b>What MP would like YP to do when they leave school (W3)</b>                                    |                    |                                           |                                           |                                           |
| 0=Training place/apprenticeship /work/other 1=Continue in FTE education/apprenticeship/work/other | 0.982<br>(0.117)   | -0.378<br>(0.369)                         | -0.024<br>(0.374)                         | -0.024<br>(0.374)                         |
| <b>Whether want YP to have a better education than MP had (W1)</b>                                |                    |                                           |                                           |                                           |
| 0=Disagree strongly 1=Disagree a little                                                           | 1.532<br>(0.518)   | 1.157*<br>(0.450)                         | 0.042*<br>(0.488)                         | 0.041*<br>(0.488)                         |
| 0=Disagree strongly 1=Agree a little                                                              | 1.384<br>(0.431)   | 0.826*<br>(0.382)                         | 0.042<br>(0.420)                          | 0.042<br>(0.423)                          |
| 0=Disagree strongly 1=Agree strongly                                                              | 1.535<br>(0.463)   | 0.910*<br>(0.365)                         | 0.057*<br>(0.400)                         | 0.056*<br>(0.404)                         |
| <b>Parents engagement with the school</b>                                                         |                    |                                           |                                           |                                           |
| <b>MP efficacy of relationship with school : high score better (range 0-12) (W1)</b>              | 1.015<br>(0.015)   | 0.005<br>(0.036)                          | 0.006<br>(0.037)                          | 0.006<br>(0.037)                          |
| <b>Whether anyone at home makes sure YP does their homework (W2)</b>                              |                    |                                           |                                           |                                           |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>                 | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|----------------------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                              | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| 0=Never 1=Occasionally                                                                       | 1.050<br>(0.153)   | 0.083<br>(0.319)                          | 0.001<br>(0.325)                          | -0.000<br>(0.326)                         |
| 0=Never 1=Sometimes                                                                          | 0.954<br>(0.117)   | -0.154<br>(0.254)                         | -0.016<br>(0.258)                         | -0.017<br>(0.257)                         |
| 0=Never 1=Every time                                                                         | 0.898<br>(0.113)   | -0.373<br>(0.263)                         | -0.030<br>(0.267)                         | -0.031<br>(0.268)                         |
| 0=Never 1=Other (depends / never set homework)                                               | 1.330<br>(0.318)   | 1.500<br>(0.850)                          | 0.042<br>(0.850)                          | 0.042<br>(0.849)                          |
| <b>How often MP speaks to YP's teachers about schooling (W3)</b>                             |                    |                                           |                                           |                                           |
| 0=Never 1=Less often than once a term                                                        | 1.029<br>(0.108)   | -0.088<br>(0.191)                         | -0.009<br>(0.196)                         | -0.009<br>(0.196)                         |
| 0=Never 1=At least once a term                                                               | 1.006<br>(0.110)   | 0.183<br>(0.217)                          | 0.014<br>(0.218)                          | 0.014<br>(0.217)                          |
| 0=Never 1=Every 2/3 weeks or more frequently                                                 | 1.574**<br>(0.230) | 1.663***<br>(0.480)                       | 0.073***<br>(0.497)                       | 0.073***<br>(0.499)                       |
| <b>Whether MP or partner have been to any parent's evenings or similar events (W3)</b>       |                    |                                           |                                           |                                           |
| 0=No 1=Yes                                                                                   | 0.797*<br>(0.088)  | -1.356***<br>(0.363)                      | 0.089***<br>(0.364)                       | -0.092***<br>(0.366)                      |
| <b>Peers</b>                                                                                 |                    |                                           |                                           |                                           |
| <b>What most of YP's friends will do after year 11 (W2)</b>                                  |                    |                                           |                                           |                                           |
| 0=Leave FTE 1=Stay in FTE                                                                    | 0.868<br>(0.096)   | -0.589<br>(0.303)                         | -0.040<br>(0.302)                         | -0.039<br>(0.303)                         |
| 0=Leave FTE 1=Something else                                                                 | 0.862<br>(0.229)   | -0.706<br>(0.613)                         | -0.013<br>(0.618)                         | -0.012<br>(0.619)                         |
| 0=Leave FTE 1=Don't know                                                                     | 0.993<br>(0.163)   | 0.440<br>(0.547)                          | 0.016<br>(0.562)                          | 0.016<br>(0.564)                          |
| <b>YPs relations with Teachers</b>                                                           |                    |                                           |                                           |                                           |
| <b>How often YP talks about plans for future study with teachers as part of lessons (W3)</b> |                    |                                           |                                           |                                           |
| 0=Not at all 1=Not very often                                                                | 0.986<br>(0.119)   | 0.066<br>(0.267)                          | 0.008<br>(0.271)                          | 0.008<br>(0.271)                          |
| 0=Not at all 1=A little                                                                      | 0.912<br>(0.112)   | -0.185<br>(0.277)                         | -0.011<br>(0.280)                         | -0.012<br>(0.281)                         |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b>                               | NEET at age 18      | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                                            | Odds ratio<br>(SE)  | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| 0=Not at all 1=Quite a lot/ a lot                                                                          | 0.940<br>(0.136)    | -0.013<br>(0.327)                         | -0.000<br>(0.331)                         | 0.000<br>(0.333)                          |
| <b>How often YP talks about plans for future study with teachers outside lessons (W3)</b>                  |                     |                                           |                                           |                                           |
| 0=Not at all 1=Not very often                                                                              | 1.080<br>(0.105)    | 0.130<br>(0.191)                          | 0.009<br>(0.195)                          | 0.009<br>(0.195)                          |
| 0=Not at all 1=A little                                                                                    | 0.949<br>(0.115)    | 0.087<br>(0.249)                          | 0.005<br>(0.252)                          | 0.004<br>(0.252)                          |
| 0=Not at all 1=Quite a lot/ a lot                                                                          | 0.890<br>(0.166)    | -0.161<br>(0.367)                         | -0.005<br>(0.365)                         | -0.005<br>(0.365)                         |
| <b><u>Use of services</u></b>                                                                              |                     |                                           |                                           |                                           |
| <b>Whether YP has ever talked to a Connexions personal advisor (W3)</b>                                    |                     |                                           |                                           |                                           |
| 0=No 1=Yes                                                                                                 | 1.184*<br>(0.101)   | 0.632***<br>(0.182)                       | 0.042**<br>(0.186)                        | 0.042**<br>(0.186)                        |
| <b>Whether in the last 12 months MP has paid for private classes in subjects taught at YPs school (W3)</b> |                     |                                           |                                           |                                           |
| 0=No 1=Yes had private lessons                                                                             | 0.920<br>(0.117)    | -0.336*<br>(0.141)                        | -0.019**<br>(0.140)                       | -0.019**<br>(0.140)                       |
| <b>How often YP talks about plans for future study with careers advisory service (W3)</b>                  |                     |                                           |                                           |                                           |
| 0=Not at all 1=Not very often                                                                              | 0.878<br>(0.092)    | -0.082<br>(0.201)                         | -0.007<br>(0.202)                         | -0.007<br>(0.202)                         |
| 0=Not at all 1=A little                                                                                    | 0.997<br>(0.131)    | -0.239<br>(0.270)                         | -0.009<br>(0.272)                         | -0.009<br>(0.272)                         |
| 0=Not at all 1=Quite a lot / a lot                                                                         | 0.975<br>(0.185)    | 0.142<br>(0.359)                          | 0.003<br>(0.355)                          | 0.003<br>(0.357)                          |
| <b><u>School Information</u></b>                                                                           |                     |                                           |                                           |                                           |
| <b>% pupils receiving Free School Meals (W3)</b>                                                           |                     |                                           |                                           |                                           |
|                                                                                                            | 1.000<br>(0.004)    | 0.012<br>(0.011)                          | 0.034<br>(0.010)                          | 0.036*<br>(0.010)                         |
|                                                                                                            | 0.994               | -0.005                                    | -0.014                                    | -0.015                                    |
| <b>% pupils with a statement of SEN (W3)</b>                                                               |                     |                                           |                                           |                                           |
|                                                                                                            | (0.005)             | (0.019)                                   | (0.018)                                   | (0.018)                                   |
| <b>Achieved Level 2 (W3)</b>                                                                               |                     |                                           |                                           |                                           |
| 0=No 1=Yes                                                                                                 | 0.592***<br>(0.059) | -1.492***<br>(0.213)                      | 0.114***<br>(0.214)                       | -0.116***<br>(0.213)                      |

| <b>Table F.2: Multiple regressions on employment outcomes (final models)</b> | NEET at age 18     | Months NEET (1) age 15 – 18 (Sep06-May09) | Months NEET (2) age 15 – 18 (Sep06-May09) | Months NEET (3) age 15 – 18 (Sep06-May09) |
|------------------------------------------------------------------------------|--------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                              | Odds ratio<br>(SE) | $\beta^+$<br>(SE)                         | $\beta$<br>(SE)                           | $\beta$<br>(SE)                           |
| F Statistic                                                                  | 4.323              | N/A                                       | N/A                                       | N/A                                       |
| Degrees of freedom                                                           | 8640               | N/A                                       | N/A                                       | N/A                                       |
| R <sup>2</sup>                                                               | N/A                | 0.253                                     | 0.247                                     | 0.245                                     |
| Observations                                                                 | 8641               | 8546                                      | 8612                                      | 8612                                      |

Source: LSYPE wave 1 - wave 6

Notes: Standardised beta coefficients / Odds ratios; Standard errors in parentheses. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 + Unstandardised coefficients displayed for this model to aid interpretation.

Only respondents with valid worklessness responses were included in the models.

Missing value categories were included for all predictors where the missingness was greater than 10 cases, where the odds ratios are not displayed the variable was dropped from the model because it was highly correlated with another missing data category. The following missing value categories were significant (p<0.05): Disability/long term health problems (Months NEET (2)), attitude to school (Months NEET (2&3)), likelihood of applying to university (Months NEET (2)), how YP talks with teachers about plans for the future (NEET, Months NEET (1, 2&3)).

## Worklessness coefficients at each modelling step – Employment outcomes

Model 1: Worklessness

Model 2: Worklessness + Interlinked problems

Model 3: Worklessness + Interlinked problems + Young person's characteristics

- YP birth order (W3)
- YP gender (W1)
- YP ethnic group (W1)
- YP statement of SEN (W1-3)
- YP disability / long term health problem (W2)
- YP feeling unhappy & depressed recently (W2)

Model 4: Worklessness + Interlinked problems + Young persons school experiences

- YP moved school (W1-3)
- YP attitude to school – range 0-48 (W3)
- YP intentions after Year 11 (W2)
- YP played truant in last 12 months (W3)
- YP been bullied in last 12 months (W3)
- YP taken part in 2+ criminal activities (W3)
- YP likelihood of applying to university (W3)

Model 5: Worklessness + Interlinked problems + Parenting/Family cohesion

- How often family know where YP is when going out in the evening (W1)
- How well YP gets on with mother (or father if single-father family) (W1)
- How often had a family meal in the last 7 days (W1)
- How often spend evening together at home as a family (W1)

Model 6: Worklessness + Interlinked problems + Parental aspirations

- What MP would like YP to do when they leave school (W3)
- Whether want YP to have a better education than MP had (W1)

Model 7 Worklessness + Interlinked problems + Parental engagement

- MP efficacy of relationship with school: high score indicates better relationship – range 0-12 (W1)
- Whether anyone at home makes sure YP does their homework (W2)
- How often MP speaks to YP's teachers about schooling (W3)
- Whether MP or partner have been to any parent's evenings or similar events (W3)

Model 8: Worklessness + Interlinked problems + Peers

- What most of YP's friends will do after Year 11 (W2)

Model 9: Worklessness + Interlinked problems + Young person's relationship with teachers

- How often YP talks about plans for future study with teachers as part of lessons (W3)
- How often YP talks about plans for future study with teachers outside lessons (W3)

Model 10: Worklessness + Interlinked problems + Use of services

- Whether YP has ever talked to a Connexions personal advisor (W3)
- Whether in the last 12 months MP has paid for private classes in subjects taught at YP's school (W3)
- How often YP talks about plans for future study with careers advisory service (W3)

Model 11: Worklessness + Interlinked problems + School Characteristics

- % pupils receiving FSM within school (W3)
- % pupils with a statement of SEN within school (W3)

Model 12: Worklessness + Interlinked problems + All measures

**Table F.3: Logistic Regression on YP NEET aged 18 (W6)**

|                     | Model 1  | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
|---------------------|----------|---------|---------|---------|---------|---------|---------|---------|
| <b>No. times</b>    |          |         |         |         |         |         |         |         |
| 1 workless          | 2.349*** | 1.43**  | 1.330   | 1.388   | 1.365   | 1.416   | 1.439   | 1.398   |
|                     | (0.424)  | (0.288) | (0.273) | (0.284) | (0.27)  | (0.288) | (0.293) | (0.287) |
| 2 workless          | 3.324*** | 1.723*  | 1.343   | 1.433   | 1.732*  | 1.688*  | 1.485   | 1.671*  |
|                     | (0.657)  | (0.367) | (0.291) | (0.311) | (0.378) | (0.351) | (0.318) | (0.358) |
| <b>Persistently</b> | 3.129*** | 1.506** | 1.476** | 1.487** | 1.500** | 1.489** | 1.476** | 1.457*  |
|                     | (0.319)  | (0.222) | (0.223) | (0.224) | (0.224) | (0.221) | (0.221) | (0.222) |
| F                   | 53.997   | 6.207   | 7.393   | 6.990   | 6.990   | 6.240   | 6.055   | 6.339   |
| DF (respondents)    | 8653     | 8649    | 8649    | 8649    | 8649    | 8649    | 8649    | 8649    |
| Observations        | 8654     | 8650    | 8650    | 8650    | 8650    | 8650    | 8650    | 8650    |

**Table F.4: Linear Regression on number of months NEET aged 15-18 (W6)**

|                     | Model 1  | Model 2  | Model 3  | Model 4   | Model 5  | Model 6  | Model 7 | Model 8  |
|---------------------|----------|----------|----------|-----------|----------|----------|---------|----------|
| <b>No. times</b>    |          |          |          |           |          |          |         |          |
| 1 workless          | 3.159*** | 1.393    | 1.418*   | 1.083     | 1.201    | 1.348    | 1.367*  | 1.276    |
|                     | (0.778)  | (0.735)  | (0.709)  | (0.669)   | (0.701)  | (0.721)  | (0.695) | (0.709)  |
| 2 workless          | 5.924*** | 3.220*** | 2.984**  | 2.245**   | 3.160*** | 3.112*** | 2.507** | 3.095*** |
|                     | (1.025)  | (0.960)  | (0.933)  | (0.860)   | (0.947)  | (0.911)  | (0.908) | (0.925)  |
| <b>Persistently</b> | 4.516*** | 1.802*** | 1.534**  | 1.638***  | 1.745*** | 1.718*** | 1.654** | 1.636**  |
|                     | (0.480)  | (0.521)  | (0.522)  | (0.485)   | (0.514)  | (0.510)  | (0.502) | (0.509)  |
| <b>Constant</b>     | 2.401*** | 0.467    | 5.686*** | 11.729*** | 6.219*** | 2.449*   | 3.788** | 2.749*   |
| R <sup>2</sup>      | 0.063    | 0.131    | 0.156    | 0.229     | 0.149    | 0.155    | 0.182   | 0.156    |
| Observations        | 8621     | 8617     | 8608     | 8617      | 8617     | 8617     | 8617    | 8617     |

**Table F.5: Logistic Regressions on education outcomes (final models)**

|                                           | Attitude to school (high=-ve) (age 15) C GCSEs (age 15) score (a) |         | Not achieved 5 A*- Total G |           |
|-------------------------------------------|-------------------------------------------------------------------|---------|----------------------------|-----------|
|                                           | $\beta$                                                           | (SE)    | Odds ratio                 | $\beta^+$ |
|                                           |                                                                   |         | (SE)                       | (SE)      |
| <b>No. times workless (W1-W3)</b>         |                                                                   |         |                            |           |
| 0=Never workless 1= workless in 1 wave    | -0.001                                                            | (0.465) | 1.240                      | -14.32    |
|                                           |                                                                   |         | (0.190)                    | (6.667)   |
| 0=Never workless 1 = workless in 2 waves  | 0.017                                                             | (0.514) | 1.457                      | -23.81    |
|                                           |                                                                   |         | (0.286)                    | (7.698)   |
| 0=Never workless 1= Persistently workless | -0.008                                                            | (0.352) | 1.008                      | -13.50    |
|                                           |                                                                   |         | (0.119)                    | (5.178)   |
| <b><u>Associated Risks</u></b>            |                                                                   |         |                            |           |
| <b>Age group of mother at birth (W1)</b>  |                                                                   |         |                            |           |
| 0=under 20 1=20-24                        | -0.021                                                            | (0.378) | 0.638***                   | 15.327*** |
|                                           |                                                                   |         | (0.083)                    | (5.458)   |
| 0=under 20 1=25-29                        | -0.039                                                            | (0.374) | 0.427***                   | 26.379*** |
|                                           |                                                                   |         | (0.057)                    | (5.510)   |
| 0=under 20 1=30-34                        | -0.029                                                            | (0.397) | 0.422***                   | 33.697*** |
|                                           |                                                                   |         | (0.062)                    | (5.816)   |
| 0=under 20 1=35 and over                  | -0.020                                                            | (0.449) | 0.415***                   | 34.596*** |
|                                           |                                                                   |         | (0.070)                    | (6.586)   |
| <b>Main parent Language (W1)</b>          |                                                                   |         |                            |           |
| 0=English, 1=Other                        | -0.018                                                            | (0.336) | 1.144                      | 1.818     |
|                                           |                                                                   |         | (0.150)                    | (6.483)   |
| <b>Housing Tenure (W1)</b>                |                                                                   |         |                            |           |
| 0=Owner Occupied 1=Rented (Social)        | 0.013                                                             | (0.259) | 1.394***                   | -23.23    |
|                                           |                                                                   |         | (0.123)                    | (3.662)   |
| 0=Owner Occupied 1=Rented (Private)       | 0.003                                                             |         | 1.281                      | -14.41    |



|                                                       |                             |                             |                              |
|-------------------------------------------------------|-----------------------------|-----------------------------|------------------------------|
| 0=Owner Occupied 1=Other                              | (0.407)<br>0.014<br>(0.623) | (0.173)<br>1.245<br>(0.236) | (5.754)<br>-11.27<br>(8.180) |
| <b>Highest Qualification (Household) (W1)</b>         |                             |                             |                              |
| 0=Degree 1=Higher                                     | 0.016<br>(0.241)            | 1.732***<br>(0.214)         | -29.77<br>(3.532)            |
| 0=Degree 1=A Level                                    | 0.024*<br>(0.249)           | 1.899***<br>(0.228)         | -31.74<br>(3.573)            |
| 0=Degree 1=GCSE A*-C                                  | 0.030*<br>(0.243)           | 2.689***<br>(0.312)         | -44.78<br>(3.605)            |
| 0=Degree 1=Level 1                                    | 0.016<br>(0.418)            | 3.500***<br>(0.541)         | -55.15<br>(5.638)            |
| 0=Degree 1=Other                                      | -0.009<br>(0.730)           | 3.800***<br>(0.969)         | -61.77<br>(10.87)            |
| 0=Degree 1=No Qualifications                          | 0.010<br>(0.336)            | 3.576***<br>(0.494)         | -60.81<br>(5.056)            |
| <b>Gained Higher Qualification (Household) (W1-3)</b> |                             |                             |                              |
| 0=Yes 1=No                                            | 0.020<br>(0.320)            | 1.439*<br>(0.204)           | -15.65<br>(5.194)            |
| <b>Gross HH Income Bands (W1)</b>                     |                             |                             |                              |
| 0=£36,400+ 1=£10,400                                  | 0.003<br>(0.327)            | 1.501**<br>(0.190)          | -12.64<br>(4.554)            |
| 0=£36,400+ 1=£10,400-£15,600                          | 0.009<br>(0.310)            | 1.157<br>(0.146)            | -5.786<br>(4.371)            |
| 0=£36,400+ 1=£15,600-£26,000                          | -0.014<br>(0.254)           | 1.467***<br>(0.160)         | -9.748<br>(3.599)            |
| 0=£36,400+ 1=£26,000-£36,400                          | 0.011<br>(0.250)            | 1.388**<br>(0.156)          | -4.478<br>(3.512)            |

|                                                              |                   |                     |                   |
|--------------------------------------------------------------|-------------------|---------------------|-------------------|
| <b>Marital Status (W1)</b>                                   |                   |                     |                   |
| 0=Married 1=Cohabiting                                       | 0.003<br>(0.309)  | 0.961<br>(0.116)    | -0.185<br>(4.459) |
| 0=Married 1=Single                                           | 0.003<br>(0.233)  | 1.170<br>(0.100)    | -9.470<br>(3.406) |
| <b>Number of marital transitions (W1-3) (range 0-3)</b>      |                   |                     |                   |
| 0=No family transitions 1=1 or more                          | -0.007<br>(0.918) | 1.550<br>(0.428)    | 6.758<br>(12.13)  |
| <b>Long-term limiting illness (W1-3)</b>                     |                   |                     |                   |
| 0=No LT illness 1=At W1 or W3                                | -0.001<br>(0.235) | 1.073<br>(0.094)    | -2.152<br>(3.298) |
| 0=No LT illness 1=At W1 & W3                                 | -0.007<br>(0.323) | 1.553***<br>(0.190) | -5.054<br>(4.735) |
| <b>Main parents general health (W1)</b>                      |                   |                     |                   |
| 0=Very good 1=Fairly good                                    | -0.016<br>(0.166) | 1.102<br>(0.072)    | -8.033<br>(2.412) |
| 0=Very good 1=Not very good                                  | 0.006<br>(0.326)  | 1.052<br>(0.122)    | -3.767<br>(4.422) |
| 0=Very good 1=Not good at all                                | -0.004<br>(0.532) | 1.008<br>(0.181)    | -0.920<br>(7.165) |
| <b>Number of children in the household (W1) (range 1-12)</b> | -0.036***         | 1.055               | -0.954            |
|                                                              | (0.082)           | (0.032)             | (1.217)           |
|                                                              | -0.019            | 1.007               | -1.795            |
|                                                              | (0.038)           | (0.015)             | (0.549)           |
| <b>IMD deprivation employment deciles (employment) (W1)</b>  |                   |                     |                   |
| (low score – high score)                                     |                   |                     |                   |
| <b>GOR (W1)</b>                                              |                   |                     |                   |
| 0=London 1=North East                                        | 0.012<br>(0.463)  | 0.988<br>(0.185)    | -1.501<br>(7.087) |
| 0=London 1=North West                                        | 0.000             | 1.167               | -17.09            |

|                                                                   |         |          |          |
|-------------------------------------------------------------------|---------|----------|----------|
| 0=London 1=Yorkshire & Humber                                     | (0.392) | (0.188)  | (5.689)  |
|                                                                   | -0.011  | 1.542**  | -28.07   |
|                                                                   | (0.363) | (0.216)  | (5.270)  |
| 0=London 1=East Midlands                                          | -0.007  | 1.302    | -13.27   |
|                                                                   | (0.380) | (0.200)  | (5.743)  |
| 0=London 1=West Midlands                                          | -0.009  | 1.326*   | -20.20   |
|                                                                   | (0.338) | (0.184)  | (5.234)  |
| 0=London 1=East of England                                        | -0.016  | 1.730*** | -25.29   |
|                                                                   | (0.370) | (0.255)  | (5.332)  |
| 0=London 1=South East                                             | -0.007  | 1.537**  | -17.03   |
|                                                                   | (0.338) | (0.210)  | (4.919)  |
| 0=London 1=South West                                             | -0.005  | 1.257    | -20.99   |
|                                                                   | (0.411) | (0.207)  | (5.837)  |
| <b>Urban / Rural Indicator (W1)</b>                               |         |          |          |
| 0=Urban 1=Town & Fringe                                           | -0.013  | 0.900    | 4.630    |
|                                                                   | (0.270) | (0.099)  | (3.845)  |
| 0=Urban 1=Village                                                 | -0.003  | 0.862    | 4.254    |
|                                                                   | (0.288) | (0.116)  | (3.892)  |
| 0=Urban 1=Hamlet & Isolated Dwelling                              | -0.011  | 0.774    | -4.243   |
|                                                                   | (0.377) | (0.137)  | (5.281)  |
|                                                                   | 0.010   | 0.992    | -0.148   |
| <b>Proportion of households in LA receiving JSA (W3)</b>          |         |          |          |
|                                                                   | (0.032) | (0.013)  | (0.470)  |
|                                                                   | -0.009  | 0.982    | 1.830*** |
|                                                                   | (0.025) | (0.010)  | (0.371)  |
| <b>Proportion of households in LA with no qualifications (W3)</b> |         |          |          |
| <b>YPs characteristics</b>                                        |         |          |          |
| <b>YP Birth Order (W3)</b>                                        |         |          |          |
| 0=Third or more born 1=Second born                                | 0.005   | 0.798*   | 14.851** |
|                                                                   | (0.326) | (0.087)  | (4.614)  |

|                                                               |                    |                     |                      |
|---------------------------------------------------------------|--------------------|---------------------|----------------------|
| 0=Third or more born 1=First born                             | -0.030<br>(0.338)  | 0.520***<br>(0.062) | 32.536***<br>(4.888) |
| <b>YP Gender (W1)</b>                                         |                    |                     |                      |
| 0=Male 1=Female                                               | -0.013<br>(0.154)  | 1.000<br>(0.063)    | 1.701<br>(2.334)     |
| <b>YP Ethnic Group (W1)</b>                                   |                    |                     |                      |
| 0=White 1=Mixed                                               | -0.001<br>(0.422)  | 0.976<br>(0.154)    | 8.085<br>(5.929)     |
| 0=White 1=Indian                                              | -0.013<br>(0.324)  | 1.024<br>(0.159)    | 2.253<br>(6.542)     |
| 0=White 1=Pakistani                                           | -0.008<br>(0.424)  | 1.159<br>(0.184)    | -16.86<br>(7.074)    |
| 0=White 1=Bangladeshi                                         | -0.010<br>(0.520)  | 0.510***<br>(0.100) | 21.454*<br>(10.23)   |
| 0=White 1=Black Caribbean                                     | 0.012*<br>(0.462)  | 1.694**<br>(0.336)  | -24.55<br>(7.705)    |
| 0=White 1=Black African                                       | -0.020*<br>(0.482) | 1.400<br>(0.254)    | -16.22<br>(8.756)    |
| 0=White 1=Other                                               | -0.020<br>(0.486)  | 0.854<br>(0.185)    | 23.545*<br>(10.83)   |
| <b>YP Statement of SEN (W1-3)</b>                             |                    |                     |                      |
| 0=SEN 1=no SEN                                                | 0.027*<br>(0.307)  | 0.252***<br>(0.026) | 69.742***<br>(4.020) |
| <b>YP disability/illness or long term health problem (W2)</b> |                    |                     |                      |
| 0=Yes and schooling affected 1=Yes but schooling not affected | 0.006<br>(0.455)   | 0.711*<br>(0.115)   | 25.645***<br>(6.431) |
| 0=Yes and schooling affected 1=No                             | 0.018<br>(0.398)   | 0.630***<br>(0.082) | 25.399***<br>(5.345) |

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**YP feeling unhappy & depressed recently (W2)**

|                                                 |                       |                    |         |
|-------------------------------------------------|-----------------------|--------------------|---------|
| 0=Much more than usual 1=Rather more than usual | -0.046 <sup>**</sup>  | 0.945              | 4.393   |
|                                                 | (0.348)               | (0.117)            | (4.927) |
| 0=Much more than usual 1=No more than usual     | -0.106 <sup>***</sup> | 0.970              | 2.064   |
|                                                 | (0.320)               | (0.110)            | (4.479) |
| 0=Much more than usual 1=Not at all             | -0.177 <sup>***</sup> | 1.323 <sup>*</sup> | -15.45  |
|                                                 | (0.318)               | (0.150)            | (4.478) |

**School experiences**

**YP Moved School (W1-3)**

|                                             |         |                      |                       |
|---------------------------------------------|---------|----------------------|-----------------------|
| 0=Moved School 1=Did not move school        | 0.002   | 0.532 <sup>***</sup> | 58.985 <sup>***</sup> |
|                                             | (0.494) | (0.093)              | (6.870)               |
| <b>YP Attitude to school - (Range 0-48)</b> |         | 0.952 <sup>***</sup> | 2.974 <sup>***</sup>  |
|                                             |         | (0.005)              | (0.184)               |

**YP Intentions after Year 11 (W2)**

|                                                            |                       |                     |                       |
|------------------------------------------------------------|-----------------------|---------------------|-----------------------|
| 0=Leave FT education 1=Don't know                          | -0.025 <sup>*</sup>   | 1.001               | 6.882                 |
|                                                            | (0.455)               | (0.161)             | (6.203)               |
| 0=Leave FT education 1=Leave FT education but return later | -0.009                | 0.882               | -20.74                |
|                                                            | (1.073)               | (0.286)             | (13.02)               |
| 0=Leave FT education 1=Stay in FT education                | -0.099 <sup>***</sup> | 0.713 <sup>**</sup> | 21.641 <sup>***</sup> |
|                                                            | (0.323)               | (0.078)             | (4.099)               |

**YP played truant in last 12 months (W3)**

|            |                       |                      |                       |
|------------|-----------------------|----------------------|-----------------------|
| 0=Yes 1=No | -0.173 <sup>***</sup> | 0.699 <sup>***</sup> | 25.590 <sup>***</sup> |
|            | (0.207)               | (0.051)              | (2.887)               |

**YP been bullied in last 12 months (W3)**

|                                                                                 |                                  |                                 |                                  |
|---------------------------------------------------------------------------------|----------------------------------|---------------------------------|----------------------------------|
| 0=Yes 1=No                                                                      | -0.067 <sup>***</sup><br>(0.183) | 0.891<br>(0.062)                | 6.293*<br>(2.567)                |
| <b>YP taken part in 2+ criminal activities (w3)</b>                             |                                  |                                 |                                  |
| 0=Yes 1=No                                                                      | -0.096 <sup>***</sup><br>(0.370) | 0.862<br>(0.102)                | -0.783<br>(4.884)                |
| <b>YP likelihood of applying for university (W3)</b>                            |                                  |                                 |                                  |
| 0= Not at all likely 1=Fairly / Not very likely                                 | -0.147 <sup>***</sup><br>(0.265) | 0.273 <sup>***</sup><br>(0.024) | 58.398 <sup>***</sup><br>(3.513) |
| <b>Family cohesion &amp; parenting</b>                                          |                                  |                                 |                                  |
| <b>How often family know where YP is when going out in the evening (W1)</b>     |                                  |                                 |                                  |
| 0=Sometimes/usually/hardly ever/never 1=Usually                                 | -0.002<br>(0.562)                | 0.761<br>(0.133)                | 7.298<br>(7.343)                 |
| 0=Sometimes/usually/hardly ever/never 1=Always                                  | -0.004<br>(0.520)                | 0.659 <sup>**</sup><br>(0.106)  | 19.505 <sup>**</sup><br>(6.867)  |
| 0=Sometimes/usually/hardly ever/never 1=Does not go out in evening              | -0.011<br>(0.561)                | 0.612 <sup>**</sup><br>(0.109)  | 17.115*<br>(7.638)               |
| <b>How well YP gets on with mother (or father if single-father family) (W1)</b> |                                  |                                 |                                  |
| 0=Fairly or very badly/don't see her/him 1=Fairly well                          | -0.069*<br>(0.592)               | 0.971<br>(0.197)                | -3.307<br>(8.518)                |
| 0=Fairly or very badly/don't see her/him 1=Very well                            | -0.144 <sup>***</sup><br>(0.587) | 0.963<br>(0.194)                | -1.741<br>(8.424)                |
| <b>How often had a family meal in last 7 days (W1)</b>                          |                                  |                                 |                                  |

0=Less often 1=once a week or more

-0.025<sup>\*\*</sup>  
(0.181)

0.921  
(0.065)

6.270\*  
(2.563)

**How often spend evening together at home as a family (W1)**

0=Less often 1=once a week or more

-0.009  
(0.257)

1.151  
(0.106)

-2.794  
(3.422)

**Parental aspirations**

**What MP would like YP to do when they leave school (W3)**

0=Training place/apprenticeship /work/other 1=Continue in FTE education/apprenticeship/work/other 1=Continue in FT education

-0.048<sup>\*\*\*</sup>  
(0.268)

0.495<sup>\*\*\*</sup>  
(0.045)

29.645<sup>\*\*\*</sup>  
(3.604)

**Whether want YP to have a better education than MP had (W1)**

0=Disagree strongly 1=Disagree a little

0.003  
(0.557)

1.174  
(0.284)

0.012  
(7.833)

0=Disagree strongly 1=Agree a little

0.017  
(0.511)

1.135  
(0.243)

-2.583  
(7.159)

0=Disagree strongly 1=Agree strongly

0.001  
(0.490)

1.272  
(0.261)

-3.025  
(6.955)

**Parents engagement with the school**

**MP efficacy of relationship with school : high score better (range 0-12) (W1)**

-0.108<sup>\*\*\*</sup>  
(0.033)

0.944<sup>\*\*\*</sup>  
(0.011)

2.815<sup>\*\*\*</sup>  
(0.439)

**Whether anyone at home makes sure YP does their homework (W2)**

0=Never 1=Occasionally

-0.019  
(0.287)

0.853  
(0.102)

-0.766  
(4.026)

0=Never 1=Sometimes

-0.040  
(0.241)

1.095  
(0.106)

-9.888  
(3.385)

0=Never 1=Every time

-0.079<sup>\*\*\*</sup>  
(0.241)

1.552<sup>\*\*\*</sup>  
(0.106)

-20.17  
(3.385)

|                                                                                              |                               |                                 |                              |
|----------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|------------------------------|
| 0=Never 1=Other (depends / never set homework)                                               | (0.243)<br>0.011<br>(0.669)   | (0.152)<br>2.855***<br>(0.708)  | (3.457)<br>-70.38<br>(7.789) |
| <b>How often MP speaks to YP's teachers about schooling (W3)</b>                             |                               |                                 |                              |
| 0=Never 1=Less often than once a term                                                        | 0.022*<br>(0.182)             | 1.153<br>(0.091)                | -6.816<br>(2.726)            |
| 0=Never 1=At least once a term                                                               | 0.025*<br>(0.193)<br>0.061*** | 1.597***<br>(0.128)<br>1.859*** | -26.64<br>(2.934)<br>-45.12  |
| 0=Never 1=Every 2/3 weeks or more frequently                                                 | (0.391)                       | (0.233)                         | (5.065)                      |
| <b>Whether MP or partner have been to any parent's evenings or similar events (W3)</b>       |                               |                                 |                              |
| 0=No 1=Yes                                                                                   | -0.073***<br>(0.270)          | 0.494***<br>(0.043)             | 40.396***<br>(3.688)         |
| <b>Peers</b>                                                                                 |                               |                                 |                              |
| <b>What most of YP's friends will do after year 11 (W2)</b>                                  |                               |                                 |                              |
| 0=Leave FTE 1=Stay in FTE                                                                    | -0.019<br>(0.237)             | 0.584***<br>(0.048)             | 31.657***<br>(3.261)         |
| 0=Leave FTE 1=Something else                                                                 | 0.028**<br>(0.629)            | 0.721<br>(0.174)                | 14.528<br>(8.514)            |
| 0=Leave FTE 1=Don't know                                                                     | 0.003<br>(0.387)              | 1.078<br>(0.145)                | -6.640<br>(5.240)            |
| <b><u>YPs relations with Teachers</u></b>                                                    |                               |                                 |                              |
| <b>How often YP talks about plans for future study with teachers as part of lessons (W3)</b> |                               |                                 |                              |
| 0=Not at all 1=Not very often                                                                | -0.038**                      | 0.879                           | 5.949                        |



0=Not at all 1=A little  
 (0.246)<sup>\*\*\*</sup> (0.082) (3.367)  
 -0.063 (1.085) -3.874  
 (0.254) (0.103) (3.524)  
 -0.064<sup>\*\*\*</sup> 1.110 -7.254  
 (0.302) (0.124) (4.156)

**How often YP talks about plans for future study with teachers outside lessons (W3)**

0=Not at all 1=Not very often  
 -0.055<sup>\*\*\*</sup> 1.054 2.280  
 (0.182) (0.078) (2.567)  
 -0.063<sup>\*\*\*</sup> 1.114 -2.481  
 (0.219) (0.098) (3.346)  
 -0.034<sup>\*\*\*</sup> 1.140 -4.025  
 (0.352) (0.150) (5.106)

**Use of services**

**Whether YP has ever talked to a Connexions personal advisor (W3)**

0=No 1=Yes  
 0.020<sup>\*</sup> 0.850<sup>\*</sup> 4.281  
 (0.161) (0.055) (2.345)

**Whether in the last 12 months MP has paid for private classes in subjects taught at YP's school (W3)**

0=No 1=Yes had private lessons  
 -0.007 (0.198) -2.545  
 (0.198) (0.089) (2.852)

**How often YP talks about plans for future study with careers advisory service (W3)**

0=Not at all 1=Not very often  
 -0.008 1.056 -2.223  
 (0.177) (0.078) (2.623)  
 -0.013 1.448<sup>\*\*\*</sup> -14.60  
 (0.252) (0.134) (3.557)

0=Not at all 1=Quite a lot / a lot

**School Information**

**% pupils receiving Free School Meals (W3)**

**% pupils with a statement of SEN (W3)**

**Achieved Level 2 (W3)**

0=No 1=Yes

|                                 |                      |                     |                   |
|---------------------------------|----------------------|---------------------|-------------------|
|                                 | -0.017<br>(0.368)    | 1.362*<br>(0.185)   | -26.31<br>(4.963) |
|                                 | 0.022                | 1.017***            | -0.786            |
|                                 | (0.009)              | (0.003)             | (0.128)           |
|                                 | -0.032<br>(0.013)    | 1.091***<br>(0.023) | -1.341<br>(0.168) |
|                                 | -0.143***<br>(0.191) | N/A                 | N/A               |
|                                 | N/A                  | N/A                 | N/A               |
| F Statistic                     | N/A                  | 18.153              | N/A               |
| Degrees of freedom (respondent) | N/A                  | 11077               | N/A               |
| R2                              | 0.405                | N/A                 | 0.611             |
| Observations                    | 10104                | 11078               | 10857             |

Standardised beta coefficients / Odds ratios: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
+ Unstandardised beta coefficients are displayed for this model to aid interpretation.

Only respondents with valid worklessness responses were included in the models.

Missing value categories were included for all predictors where the missingness was greater than 10 cases, where the odds ratios are not displayed the variable was highly correlated with another missing data category. The following missing value categories were significant ( $p < 0.05$ ): age of mother at birth (GCSE A\*-C), highest qualification (attitude to school), marital transition (GCSE point score), income (attitude to school, GCSE A\*-C, apply to uni), long term limiting illness (apply to uni), g score) birth order, SEN (apply to uni), depression (attitude to school, GCSE A\*-C, GCSE point score), moved school (GCSE A\*-C, GCSE point score), attitude to sc to uni), YP intentions after year 11, YP bullied (attitude to school), how often parents know where YP is in the evenings (GCSE A\*-C, GCSE point score, apply to uni leaving school, how often parents speak to the school (apply to uni), efficacy of parents relationship with the school (attitude to school, GCSE A\*-C, GCSE point score complete (attitude to school), what YPs friends plan to do after leaving school (GCSE A\*-C, GCSE point score), spoken to a teacher about plans for the future (GCS (apply to uni), spoken to careers advisory service (GCSE point score), % pupils receiving free school meals/SEN (GCSE A\*-C, GCSE point score).

## Worklessness coefficients at each modelling step – Education outcomes

Model 1: Worklessness

Model 2: Worklessness + Interlinked problems

Model 3: Worklessness + Interlinked problems + Young person's characteristics

- YP birth order (W3)
- YP gender (W1)
- YP ethnic group (W1)
- YP statement of SEN (W1-3)
- YP disability / long term health problem (W2)
- YP feeling unhappy & depressed recently (W2)

Model 4: Worklessness + Interlinked problems + Young persons school experiences

- YP moved school (W1-3)
- YP attitude to school – range 0-48 (W3)
- YP intentions after Year 11 (W2)
- YP played truant in last 12 months (W3)
- YP been bullied in last 12 months (W3)
- YP taken part in 2+ criminal activities (W3)
- YP likelihood of applying to university (W3)

Model 5: Worklessness + Interlinked problems + Parenting/Family cohesion

- How often family know where YP is when going out in the evening (W1)
- How well YP gets on with mother (or father if single-father family) (W1)
- How often had a family meal in the last 7 days (W1)
- How often spend evening together at home as a family (W1)

Model 6: Worklessness + Interlinked problems + Parental aspirations

- What MP would like YP to do when they leave school (W3)
- Whether want YP to have a better education than MP had (W1)

Model 7 Worklessness + Interlinked problems + Parental engagement

- MP efficacy of relationship with school: high score indicates better relationship – range 0-12 (W1)
- Whether anyone at home makes sure YP does their homework (W2)
- How often MP speaks to YP's teachers about schooling (W3)
- Whether MP or partner have been to any parent's evenings or similar events (W3)

Model 8: Worklessness + Interlinked problems + Peers

- What most of YP's friends will do after Year 11 (W2)

Model 9: Worklessness + Interlinked problems + Young person's relationship with teachers

- How often YP talks about plans for future study with teachers as part of lessons (W3)
- How often YP talks about plans for future study with teachers outside lessons (W3)

Model 10: Worklessness + Interlinked problems + Use of services

- Whether YP has ever talked to a Connexions personal advisor (W3)
- Whether in the last 12 months MP has paid for private classes in subjects taught at YP's school (W3)
- How often YP talks about plans for future study with careers advisory service (W3)

Model 11: Worklessness + Interlinked problems + School Characteristics

- % pupils receiving FSM within school (W3)
- % pupils with a statement of SEN within school (W3)

Model 12: Worklessness + Interlinked problems + All measures

**Table F.6: Logistic Regression on YP not achieved 5 A\*-C GCSEs (W3)**

|                                   | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                   |         | Odds    | Odds    | Odds    | Odds    | Odds    | Odds    | Odds    |
|                                   |         | (SE)    | (SE)    | (SE)    | (SE)    | (SE)    | (SE)    | (SE)    |
| <b>No. times workless (W1-W3)</b> |         | ***     | ***     | ***     | ***     | ***     | *       | ***     |
| 1 workless                        | 2.841*  | 1.963*  | 1.331*  | 1.358*  | 1.327*  | 1.332*  | 1.286   | 1.290   |
|                                   | (0.335) | (0.180) | (0.183) | (0.186) | (0.175) | (0.180) | (0.173) | (0.171) |
| 2 workless                        | 5.131*  | 1.956   | 1.874*  | 1.654*  | 1.946*  | 1.891*  | 1.573*  | 1.822   |
|                                   | (0.706) | (0.311) | (0.301) | (0.308) | (0.312) | (0.315) | (0.261) | (0.297) |
| <b>Persistently workless</b>      | 4.575*  | 1.341*  | 1.159   | 1.206   | 1.340*  | 1.333*  | 1.185   | 1.257   |
|                                   | (0.321) | (0.132) | (0.122) | (0.131) | (0.134) | (0.134) | (0.122) | (0.128) |
| F                                 | 209.3   | 28.55   | 25.25   | 31.18   | 26.09   | 31.46   | 28.54   | 32.4    |
| DF (respondents)                  | 11106   | 11100   | 11077   | 11100   | 11100   | 11100   | 11100   | 11100   |
| Observations                      | 11107   | 11101   | 11078   | 11101   | 11101   | 11101   | 11101   | 11101   |

**Table F.7: Linear Regression on YP GCSE point score**

|                                   | Model 1     | Model 2    | Model 3    | Model 4    | Model 5    | Model 6    | Model 7    | Model 8 |
|-----------------------------------|-------------|------------|------------|------------|------------|------------|------------|---------|
|                                   |             | $\beta$    | $\beta$    | $\beta$    | $\beta$    | $\beta$    | $\beta$    | $\beta$ |
|                                   |             | (SE)       | (SE)       | (SE)       | (SE)       | (SE)       | (SE)       | (SE)    |
| <b>No. times workless (W1-W3)</b> |             | ***        | ***        | ***        | ***        | ***        | ***        | ***     |
| 1 workless                        | -92.432***  | -27.725**  | -21.134*   | -21.081**  | -24.965**  | -23.815**  | -18.822*   | -22.11  |
|                                   | (10.091)    | (9.465)    | (8.448)    | (7.958)    | (9.138)    | (8.907)    | (8.435)    | (8.767) |
| 2 workless                        | -150.730*** | -63.642*** | -53.230*** | -38.807*** | -62.097*** | -60.282*** | -37.135*** | -55.828 |
|                                   | (11.562)    | (11.169)   | (10.043)   | (9.282)    | (10.584)   | (10.601)   | (9.492)    | (10.25) |
| <b>Persistently workless</b>      | -149.143*** | -47.701*** | -28.755*** | -34.186*** | -47.832*** | -46.767*** | -32.193*** | -40.212 |
|                                   | (6.147)     | (7.296)    | (6.390)    | (6.074)    | (7.130)    | (6.924)    | (6.415)    | (6.959) |
| <b>Constant</b>                   | 388.482***  | 519.328*** | 242.908*** | 117.994*** | 359.309*** | 387.693*** | 419.586*** | 422.357 |
| $R^2$                             | 0.110       | 0.280      | 0.407      | 0.495      | 0.311      | 0.353      | 0.406      | 0.352   |
| Observations                      | 10991       | 10985      | 10962      | 10985      | 10985      | 10985      | 10985      | 10985   |

**Table F.8: Logistic Regression on likelihood of YP not at all likely to apply to uni**

|                                   | Model 1                               | Model 2                              | Model 3                        | Model 4                 | Model 5                              | Model 6                              | Model 7                 | Model 8                |
|-----------------------------------|---------------------------------------|--------------------------------------|--------------------------------|-------------------------|--------------------------------------|--------------------------------------|-------------------------|------------------------|
| <b>No. times workless (W1-W3)</b> |                                       |                                      |                                |                         |                                      |                                      |                         |                        |
| 1 workless                        | 1.493 <sup>***</sup><br>(0.207)       | 1.062<br>(0.160)                     | 0.982<br>(0.155)               | 0.944<br>(0.162)        | 1.029<br>(0.158)                     | 0.949<br>(0.163)                     | 1.021<br>(0.157)        | 1.00<br>(0.154)        |
| 2 workless                        | 2.541 <sup>***</sup><br>(0.370)       | 1.681 <sup>**</sup><br>(0.282)       | 1.630 <sup>**</sup><br>(0.301) | 1.303<br>(0.257)        | 1.673 <sup>**</sup><br>(0.284)       | 1.706 <sup>**</sup><br>(0.301)       | 1.350<br>(0.258)        | 1.52<br>(0.274)        |
| <b>Persistently workless</b>      | <b>2.227<sup>***</sup></b><br>(0.177) | <b>1.431<sup>**</sup></b><br>(0.166) | <b>1.215</b><br>(0.153)        | <b>1.303</b><br>(0.179) | <b>1.435<sup>**</sup></b><br>(0.169) | <b>1.497<sup>**</sup></b><br>(0.195) | <b>1.258</b><br>(0.156) | <b>1.30</b><br>(0.156) |
| F                                 | 38.36                                 | 22.74                                | 22.18                          | 25.67                   | 20.25                                | 27.32                                | 20.20                   | 26.9                   |
| DF (respondents)                  | 11106                                 | 11100                                | 11077                          | 11100                   | 11100                                | 11100                                | 11100                   | 1110                   |
| Observations                      | 11107                                 | 11101                                | 11078                          | 11101                   | 11101                                | 11101                                | 11101                   | 1110                   |

**Table F.9: Linear Regression on YP attitude to school**

|                                   | Model 1                             | Model 2                        | Model 3                        | Model 4                       | Model 5                        | Model 6                        | Model 7                       | Model 8                 |
|-----------------------------------|-------------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------|
| <b>No. times workless (W1-W3)</b> |                                     |                                |                                |                               |                                |                                |                               |                         |
| 1 workless                        | 0.045 <sup>*</sup><br>(0.551)       | 0.007<br>(0.563)               | 0.006<br>(0.557)               | 0.006<br>(0.489)              | 0.003<br>(0.562)               | 0.004<br>(0.531)               | 0.003<br>(0.524)              | 0.00<br>(0.544)         |
| 2 workless                        | 0.100 <sup>*</sup><br>(0.722)       | 0.052 <sup>**</sup><br>(0.703) | 0.044 <sup>**</sup><br>(0.675) | 0.026 <sup>*</sup><br>(0.563) | 0.054 <sup>**</sup><br>(0.687) | 0.050 <sup>**</sup><br>(0.652) | 0.031 <sup>*</sup><br>(0.615) | 0.04<br>(0.682)         |
| <b>Persistently workless</b>      | <b>0.088<sup>*</sup></b><br>(0.366) | <b>-0.003</b><br>(0.442)       | <b>-0.012</b><br>(0.433)       | <b>-0.013</b><br>(0.375)      | <b>0.000</b><br>(0.428)        | <b>-0.002</b><br>(0.428)       | <b>-0.016</b><br>(0.408)      | <b>-0.01</b><br>(0.435) |
| R <sup>2</sup>                    | 0.018                               | 0.081                          | 0.140                          | 0.315                         | 0.128                          | 0.139                          | 0.185                         | 0.12                    |
| Observations                      | 10119                               | 10113                          | 10104                          | 10113                         | 10113                          | 10113                          | 10113                         | 10113                   |

**Table F.10: Regressions on psycho-social outcomes (final models)**

|                                           | Been bullied (age 15) | Criminal activities (age 15) | Lack of control (age 15) | Mental health problems (age 16) | Drinks alcohol on most days (age 16) |
|-------------------------------------------|-----------------------|------------------------------|--------------------------|---------------------------------|--------------------------------------|
|                                           | Odds ratio (SE)       | Odds ratio (SE)              | Odds ratio (SE)          | Odds ratio (SE)                 | Odds ratio (SE)                      |
| <b>No. times workless (W1-W3)</b>         |                       |                              |                          |                                 |                                      |
| 0=Never workless 1= workless in 1 wave    | 0.926<br>(0.137)      | 1.024<br>(0.251)             | 0.788<br>(0.171)         | 1.134<br>(0.201)                | 0.889<br>(0.395)                     |
| 0=Never workless 1 = workless in 2 waves  | 0.759<br>(0.141)      | 1.133<br>(0.317)             | 1.178<br>(0.256)         | 0.694<br>(0.157)                | 1.772<br>(0.597)                     |
| 0=Never workless 1= Persistently workless | 0.902<br>(0.106)      | 0.997<br>(0.202)             | 0.808<br>(0.135)         | 1.426**<br>(0.189)              | 1.141<br>(0.322)                     |
| <b><u>Associated Risks</u></b>            |                       |                              |                          |                                 |                                      |
| <b>Age group of mother at birth (W1)</b>  |                       |                              |                          |                                 |                                      |
| 0=under 20 1=20-24                        | 1.294*<br>(0.161)     | 0.810<br>(0.174)             | 0.878<br>(0.153)         | 0.989<br>(0.148)                | 0.987<br>(0.264)                     |
| 0=under 20 1=25-29                        | 1.148<br>(0.145)      | 1.044<br>(0.221)             | 0.921<br>(0.167)         | 0.965<br>(0.145)                | 0.741<br>(0.205)                     |
| 0=under 20 1=30-34                        | 1.193<br>(0.162)      | 0.694<br>(0.164)             | 0.943<br>(0.188)         | 0.943<br>(0.149)                | 0.821<br>(0.241)                     |
| 0=under 20 1=35 and over                  | 1.328<br>(0.207)      | 0.798<br>(0.225)             | 1.023<br>(0.241)         | 1.129<br>(0.199)                | 0.841<br>(0.286)                     |
| <b>Main parent Language (W1)</b>          |                       |                              |                          |                                 |                                      |
| 0=English, 1=Other                        | 1.204<br>(0.190)      | 0.864<br>(0.238)             | 1.170<br>(0.228)         | 0.992<br>(0.150)                | 0.927<br>(0.419)                     |
| <b>Housing Tenure (W1)</b>                |                       |                              |                          |                                 |                                      |

|                                                       |                    |                   |                    |                   |                   |
|-------------------------------------------------------|--------------------|-------------------|--------------------|-------------------|-------------------|
| 0=Owner Occupied 1=Rented (Social)                    | 1.142<br>(0.099)   | 0.957<br>(0.141)  | 1.056<br>(0.137)   | 0.935<br>(0.097)  | 1.259<br>(0.239)  |
| 0=Owner Occupied 1=Rented (Private)                   | 1.234<br>(0.164)   | 0.948<br>(0.215)  | 1.074<br>(0.221)   | 0.815<br>(0.143)  | 0.634<br>(0.211)  |
| 0=Owner Occupied 1=Other                              | 1.052<br>(0.242)   | 0.867<br>(0.386)  | 1.086<br>(0.411)   | 0.745<br>(0.181)  | 1.300<br>(0.584)  |
| <b>Highest Qualification (Household) (W1)</b>         |                    |                   |                    |                   |                   |
| 0=Degree 1=Higher                                     | 0.855<br>(0.079)   | 1.038<br>(0.185)  | 1.008<br>(0.187)   | 0.900<br>(0.089)  | 0.926<br>(0.198)  |
| 0=Degree 1=A Level                                    | 0.896<br>(0.085)   | 1.117<br>(0.195)  | 1.026<br>(0.187)   | 0.857<br>(0.088)  | 1.029<br>(0.210)  |
| 0=Degree 1=GCSE A*-C                                  | 0.790**<br>(0.072) | 1.016<br>(0.176)  | 1.218<br>(0.210)   | 0.762*<br>(0.077) | 0.940<br>(0.199)  |
| 0=Degree 1=Level 1                                    | 0.844<br>(0.114)   | 0.970<br>(0.229)  | 1.374<br>(0.296)   | 0.699<br>(0.113)  | 1.050<br>(0.306)  |
| 0=Degree 1=Other                                      | 0.784<br>(0.207)   | 0.241*<br>(0.145) | 2.369**<br>(0.754) | 0.971<br>(0.269)  | 0.605<br>(0.371)  |
| 0=Degree 1=No Qualifications                          | 0.769*<br>(0.092)  | 0.741<br>(0.167)  | 1.021<br>(0.212)   | 0.648*<br>(0.090) | 0.716<br>(0.192)  |
| <b>Gained Higher Qualification (Household) (W1-3)</b> |                    |                   |                    |                   |                   |
| 0=Yes 1=No                                            | 1.292<br>(0.174)   | 0.842<br>(0.194)  | 1.645*<br>(0.376)  | 0.899<br>(0.135)  | 0.567*<br>(0.145) |
| <b>Gross HH Income Bands (W1)</b>                     |                    |                   |                    |                   |                   |
| 0=£36,400+ 1=£10,400                                  | 0.980<br>(0.112)   | 0.968<br>(0.198)  | 1.728**<br>(0.333) | 1.071<br>(0.138)  | 0.832<br>(0.220)  |

|                                             |                   |                  |                  |                   |                  |
|---------------------------------------------|-------------------|------------------|------------------|-------------------|------------------|
| 0=£36,400+ 1=£10,400-£15,600                | 0.915<br>(0.101)  | 0.882<br>(0.175) | 1.355<br>(0.262) | 1.050<br>(0.129)  | 1.182<br>(0.312) |
| 0=£36,400+ 1=£15,600-£26,000                | 1.107<br>(0.101)  | 0.865<br>(0.144) | 1.090<br>(0.189) | 0.946<br>(0.098)  | 1.009<br>(0.197) |
| 0=£36,400+ 1=£26,000-£36,400                | 1.133<br>(0.104)  | 0.764<br>(0.129) | 1.166<br>(0.206) | 1.121<br>(0.112)  | 0.904<br>(0.186) |
| <b>Marital Status (W1)</b>                  |                   |                  |                  |                   |                  |
| 0=Married 1=Cohabiting                      | 0.920<br>(0.103)  | 1.113<br>(0.214) | 1.012<br>(0.162) | 1.033<br>(0.132)  | 0.646<br>(0.168) |
| 0=Married 1=Single                          | 1.048<br>(0.084)  | 1.192<br>(0.175) | 0.908<br>(0.116) | 1.006<br>(0.092)  | 0.709<br>(0.139) |
| <b>Number of marital transitions (W1-3)</b> |                   |                  |                  |                   |                  |
| 0=No family transitions 1=1 or more         | 1.872*<br>(0.522) | 0.501<br>(0.293) | 0.950<br>(0.380) | 0.949<br>(0.328)  | 0.316<br>(0.288) |
| <b>Long-term limiting illness (W1-3)</b>    |                   |                  |                  |                   |                  |
| 0=No LT illness 1=At W1 or W3               | 1.042<br>(0.082)  | 1.166<br>(0.158) | 1.176<br>(0.139) | 1.098<br>(0.099)  | 0.985<br>(0.173) |
| 0=No LT illness 1=At W1 & W3                | 1.103<br>(0.119)  | 0.840<br>(0.188) | 1.087<br>(0.173) | 1.036<br>(0.128)  | 0.747<br>(0.205) |
| <b>Main parents general health (W1)</b>     |                   |                  |                  |                   |                  |
| 0=Very good 1=Fairly good                   | 1.051<br>(0.063)  | 1.008<br>(0.106) | 1.101<br>(0.106) | 1.059<br>(0.071)  | 1.030<br>(0.136) |
| 0=Very good 1=Not very good                 | 1.035<br>(0.105)  | 1.185<br>(0.216) | 0.909<br>(0.142) | 1.353*<br>(0.157) | 0.862<br>(0.218) |
| 0=Very good 1=Not good at all               | 1.308             | 1.854*           | 1.020            | 1.217             | 1.471            |



|                                                              |         |         |         |         |         |
|--------------------------------------------------------------|---------|---------|---------|---------|---------|
| <b>Number of children in the household (W1) (range 1-12)</b> | (0.209) | (0.490) | (0.227) | (0.238) | (0.476) |
|                                                              | 0.997   | 0.976   | 1.133** | 1.018   | 0.907   |
| <b>IMD deprivation employment deciles (employment) (W1)</b>  | (0.028) | (0.046) | (0.046) | (0.032) | (0.061) |
| (low score – high score)                                     | 0.999   | 1.015   | 1.023   | 1.007   | 1.013   |
| <b>GOR (W1)</b>                                              | (0.013) | (0.025) | (0.023) | (0.015) | (0.029) |
| 0=London 1=North East                                        | 1.177   | 1.066   | 1.167   | 0.945   | 0.905   |
|                                                              | (0.189) | (0.289) | (0.307) | (0.164) | (0.342) |
| 0=London 1=North West                                        | 1.013   | 0.834   | 1.230   | 0.754   | 0.572   |
|                                                              | (0.146) | (0.212) | (0.266) | (0.120) | (0.197) |
| 0=London 1=Yorkshire & Humber                                | 1.356*  | 0.616*  | 1.287   | 0.845   | 1.014   |
|                                                              | (0.185) | (0.148) | (0.259) | (0.121) | (0.331) |
| 0=London 1=East Midlands                                     | 1.386*  | 0.707   | 1.455   | 0.770   | 1.049   |
|                                                              | (0.189) | (0.168) | (0.301) | (0.118) | (0.324) |
| 0=London 1=West Midlands                                     | 1.235   | 0.881   | 1.386   | 0.729*  | 1.137   |
|                                                              | (0.157) | (0.203) | (0.269) | (0.103) | (0.341) |
| 0=London 1=East of England                                   | 1.477** | 0.859   | 1.245   | 0.960   | 0.496   |
|                                                              | (0.200) | (0.205) | (0.266) | (0.141) | (0.160) |
| 0=London 1=South East                                        | 1.254   | 1.001   | 1.672** | 1.113   | 0.843   |
|                                                              | (0.155) | (0.218) | (0.309) | (0.142) | (0.237) |
| 0=London 1=South West                                        | 1.301   | 1.133   | 1.347   | 1.088   | 0.920   |
|                                                              | (0.192) | (0.286) | (0.317) | (0.171) | (0.302) |
| <b>Urban / Rural Indicator (W1)</b>                          |         |         |         |         |         |
| 0=Urban 1=Town & Fringe                                      | 0.862   | 0.875   | 0.903   | 0.951   | 1.206   |
|                                                              | (0.081) | (0.172) | (0.163) | (0.107) | (0.237) |
| 0=Urban 1=Village                                            | 0.947   | 1.279   | 1.169   | 1.069   | 1.556   |
|                                                              | (0.101) | (0.265) | (0.229) | (0.123) | (0.317) |

|                                                                   |                   |                     |                   |                     |                     |
|-------------------------------------------------------------------|-------------------|---------------------|-------------------|---------------------|---------------------|
| 0=Urban 1=Hamlet & Isolated Dwelling                              | 1.018<br>(0.149)  | 0.807<br>(0.240)    | 0.513*<br>(0.170) | 1.090<br>(0.181)    | 1.929*<br>(0.502)   |
| <b>Proportion of households in LA receiving JSA (W3)</b>          | 0.991<br>(0.011)  | 1.022<br>(0.021)    | 1.001<br>(0.018)  | 0.990<br>(0.013)    | 0.965<br>(0.026)    |
| <b>Proportion of households in LA with no qualifications (W3)</b> | 1.008<br>(0.009)  | 0.985<br>(0.017)    | 0.995<br>(0.014)  | 1.005<br>(0.011)    | 1.028<br>(0.022)    |
| <b><u>YPs characteristics</u></b>                                 |                   |                     |                   |                     |                     |
| <b>YP Birth Order (W3)</b>                                        |                   |                     |                   |                     |                     |
| 0=Third or more born 1=Second born                                | 0.967<br>(0.101)  | 0.994<br>(0.173)    | 0.738*<br>(0.105) | 0.996<br>(0.120)    | 0.885<br>(0.192)    |
| 0=Third or more born 1=First born                                 | 1.163<br>(0.130)  | 0.965<br>(0.177)    | 0.715*<br>(0.115) | 1.010<br>(0.128)    | 0.942<br>(0.217)    |
| <b>YP Gender (W1)</b>                                             |                   |                     |                   |                     |                     |
| 0=Male 1=Female                                                   | 0.877*<br>(0.050) | 0.332***<br>(0.036) | 0.918<br>(0.086)  | 1.678***<br>(0.107) | 0.588***<br>(0.078) |
| <b>YP Ethnic Group (W1)<sup>20</sup></b>                          |                   |                     |                   |                     |                     |
| 0=White 1=Mixed (Other)                                           | 0.919<br>(0.143)  | 1.552*<br>(0.301)   | 0.681<br>(0.142)  | 1.400*<br>(0.229)   | 0.632<br>(0.214)    |
| 0=White 1=Indian (Pakistani, Bangladeshi)                         | 0.736<br>(0.119)  | 0.822<br>(0.260)    | 1.335<br>(0.286)  | 1.258<br>(0.188)    | 0.301**<br>(0.131)  |
| 0=White 1=Pakistani                                               | 0.711<br>(0.141)  | 1.300<br>(0.436)    | 1.413<br>(0.325)  | 1.346<br>(0.238)    | 0.165**<br>(0.109)  |
| 0=White 1=Bangladeshi                                             | 0.657             | 0.985               | 1.718*            | 1.350               | 0.322               |

<sup>20</sup> Groups combined for the teenage parent model because of small cell counts. Ethnic groups in brackets in the value label are those that have been c

|                                                               |                     |                  |                     |                     |                    |
|---------------------------------------------------------------|---------------------|------------------|---------------------|---------------------|--------------------|
| 0=White 1=Black Caribbean (Black African)                     | (0.143)<br>0.937    | (0.355)<br>0.847 | (0.458)<br>1.673*   | (0.301)<br>0.958    | (0.235)<br>0.278*  |
| 0=White 1=Black African                                       | (0.158)<br>0.676*   | (0.327)<br>0.908 | (0.407)<br>1.757    | (0.185)<br>1.130    | (0.162)<br>0.067** |
| 0=White 1=Other                                               | (0.135)<br>0.664    | (0.296)<br>0.568 | (0.507)<br>1.400    | (0.248)<br>1.458    | (0.070)<br>0.958   |
| <b>YP Statement of SEN (W1-3)</b>                             |                     |                  |                     |                     |                    |
| 0=SEN 1=no SEN                                                | 0.691***<br>(0.064) | 1.364<br>(0.222) | 0.615***<br>(0.075) | 0.979<br>(0.121)    | 1.222<br>(0.255)   |
| <b>YP disability/illness or long term health problem (W2)</b> |                     |                  |                     |                     |                    |
| 0=Yes and schooling affected 1=Yes but schooling not affected | 1.058               | 1.336            | 1.085               | 1.438*              | 0.947              |
| 0=Yes and schooling affected 1=No                             | (0.152)<br>0.924    | (0.347)<br>1.234 | (0.230)<br>0.981    | (0.248)<br>1.139    | (0.305)<br>1.189   |
| <b>YP feeling unhappy &amp; depressed recently (W2)</b>       |                     |                  |                     |                     |                    |
| 0=Much more than usual 1=Rather more than usual               | 0.666***<br>(0.068) | 1.130<br>(0.212) | 0.655**<br>(0.101)  | 0.649***<br>(0.071) | 0.823<br>(0.187)   |
| 0=Much more than usual 1=No more than usual                   | 0.353***<br>(0.034) | 1.068<br>(0.189) | 0.435***<br>(0.061) | 0.356***<br>(0.037) | 0.714<br>(0.152)   |
| 0=Much more than usual 1=Not at all                           | 0.235***<br>(0.023) | 1.184<br>(0.213) | 0.396***<br>(0.056) | 0.204***<br>(0.022) | 0.693<br>(0.150)   |
| <b><u>School experiences</u></b>                              |                     |                  |                     |                     |                    |

**YP Moved School (W1-3)**

0=Moved School 1=Did not move school

|         |          |          |         |         |
|---------|----------|----------|---------|---------|
| 0.889   | 0.511*** | 0.942    | 0.746   | 0.987   |
| (0.127) | (0.101)  | (0.172)  | (0.125) | (0.281) |
| 0.991*  | 0.958*** | 0.936*** | 0.985** | 0.972** |
| (0.004) | (0.007)  | (0.006)  | (0.005) | (0.009) |

**YP Attitude to school - (Range 0-48)****YP Intentions after Year 11 (W2)**

0=Leave FT education 1=Don't know

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 1.041   | 1.148   | 1.008   | 1.217   | 0.638   |
| (0.150) | (0.262) | (0.205) | (0.231) | (0.201) |
| 1.604   | 0.431   | 0.873   | 0.979   | 1.693   |

0=Leave FT education 1=Leave FT education but return later

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| (0.493) | (0.233) | (0.408) | (0.409) | (0.809) |
| 1.028   | 0.901   | 0.965   | 1.447** | 0.965   |
| (0.099) | (0.139) | (0.133) | (0.191) | (0.181) |

0=Leave FT education 1=Stay in FT education

**YP played truant in last 12 months (W3)**

0=Yes 1=No

|          |          |         |          |          |
|----------|----------|---------|----------|----------|
| 0.628*** | 0.140*** | 0.897   | 0.726*** | 0.480*** |
| (0.041)  | (0.015)  | (0.090) | (0.056)  | (0.063)  |

**YP been bullied in last 12 months (W3)**

0=Yes 1=No

|          |          |         |          |         |
|----------|----------|---------|----------|---------|
| 0.541*** | 0.602*** | 0.829*  | 0.602*** | 0.920   |
| (0.058)  | (0.079)  | (0.079) | (0.041)  | (0.121) |

**YP taken part in 2+ criminal activities (w3)**

0=Yes 1=No

|          |         |         |         |          |
|----------|---------|---------|---------|----------|
| 0.550*** | 0.700** | 0.812   | 0.812   | 0.390*** |
| (0.057)  | (0.093) | (0.098) | (0.098) | (0.061)  |

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**YP likelihood of applying for university (W3)**

0= Not at all likely 1=Fairly / Not very likely

1.043 1.027 1.121 1.257\* 0.838  
(0.085) (0.136) (0.133) (0.131) (0.138)

**Family cohesion & parenting**

**How often family know where YP is when going out in the evening (W1)**

0=Sometimes/usually/hardly ever/never  
1=Usually

0.852 1.055 0.680 0.823 0.607  
(0.138) (0.245) (0.152) (0.182) (0.185)

0=Sometimes/usually/hardly ever/never  
1=Always

0.942 0.744 0.725 0.855 0.725  
(0.141) (0.162) (0.148) (0.177) (0.201)

0=Sometimes/usually/hardly ever/never  
1=Does not go out in evening

1.104 0.591 0.918 0.904 0.603  
(0.186) (0.164) (0.210) (0.201) (0.206)

**How well YP gets on with mother (or father if single-father family) (W1)**

0=Fairly or very badly/don't see her/him  
1=Fairly well

0.880 0.683 1.129 0.858 0.743  
(0.157) (0.157) (0.268) (0.166) (0.204)

0=Fairly or very badly/don't see her/him  
1=Very well

0.758 0.502\*\* 1.074 0.751 0.630  
(0.134) (0.115) (0.251) (0.145) (0.171)

**How often had a family meal in last 7 days (W1)**

0=Less often 1=once a week or more

1.059 1.169 1.066 0.887 0.916  
(0.067) (0.132) (0.112) (0.065) (0.124)

**How often spend evening together at home as a family (W1)**

0=Less often 1=once a week or more

1.192\*  
(0.105)      0.901  
(0.129)      1.150  
(0.159)      0.986  
(0.096)      1.285  
(0.246)

**Parental aspirations**

**What MP would like YP to do when they leave school (W3)**

0=Training place/apprenticeship /work/other 1=Continue in FTE education place/apprenticeship/work/other 1=Continue in FT education

1.069  
(0.090)      0.880  
(0.118)      0.796  
(0.094)      1.216  
(0.132)      0.840  
(0.138)

**Whether want YP to have a better education than MP had (W1)**

0=Disagree strongly 1=Disagree a little

1.151  
(0.228)      0.683  
(0.256)      1.010  
(0.327)      1.217  
(0.272)      0.302\*\*  
(0.134)

0=Disagree strongly 1=Agree a little

1.098  
(0.197)      1.027  
(0.336)      0.787  
(0.232)      1.281  
(0.259)      0.759  
(0.259)

0=Disagree strongly 1=Agree strongly

1.137  
(0.196)      1.077  
(0.340)      0.923  
(0.257)      1.305  
(0.254)      0.704  
(0.227)

**Parents engagement with the school**

**MP efficacy of relationship with school : high score better (range 0-12) (W1)**

0.987  
(0.010)      1.022  
(0.017)      0.986  
(0.016)      0.993  
(0.012)      0.986  
(0.021)

**Whether anyone at home makes sure YP does their homework (W2)**

0=Never 1=Occasionally  
 1.076 (0.104) 0.980 (0.177) 1.003 (0.159) 0.964 (0.105) 0.928 (0.192)

0=Never 1=Sometimes  
 0.912 (0.074) 1.145 (0.166) 0.885 (0.117) 0.982 (0.091) 0.953 (0.166)

0=Never 1=Every time  
 0.899 (0.075) 1.026 (0.160) 1.183 (0.155) 0.984 (0.095) 0.898 (0.166)

0=Never 1=Other (depends / never set homework)  
 1.242 (0.219) 1.618 (0.404) 1.348 (0.283) 1.099 (0.247) 1.657 (0.530)

**How often MP speaks to YP's teachers about schooling (W3)**

0=Never 1=Less often than once a term  
 1.201\*\* (0.083) 0.876 (0.120) 1.084 (0.125) 0.955 (0.073) 1.105 (0.179)

0=Never 1=At least once a term  
 1.179\* (0.086) 1.075 (0.147) 0.993 (0.120) 0.987 (0.080) 1.049 (0.186)

0=Never 1=Every 2/3 weeks or more frequently  
 1.441\*\* (0.160) 1.367 (0.250) 1.227 (0.198) 1.029 (0.138) 1.485 (0.345)

**Whether MP or partner have been to any parent's evenings or similar events (W3)**

0=No 1=Yes  
 0.834\* (0.067) 0.912 (0.119) 0.814 (0.093) 0.962 (0.098) 0.952 (0.161)

Peers

**What most of YP's friends will do after year 11 (W2)**

0=Leave FTE 1=Stay in FTE  
 0.887 (0.069) 0.816 (0.104) 0.993 (0.118) 1.052 (0.100) 1.070 (0.171)

0=Leave FTE 1=Something else  
 0.930 (0.181) 1.039 (0.306) 1.329 (0.332) 1.438 (0.318) 1.099 (0.371)

0=Leave FTE 1=Don't know

0.870  
(0.103)

0.650\*  
(0.128)

1.151  
(0.196)

1.222  
(0.193)

0.905  
(0.250)

### YPs relations with Teachers

**How often YP talks about plans for future study with teachers as part of lessons (W3)**

0=Not at all 1=Not very often

0.953  
(0.079)

1.060  
(0.149)

0.742\*  
(0.097)

0.991  
(0.096)

0.955  
(0.174)

0.999  
(0.085)

1.167  
(0.169)

0.942  
(0.122)

1.053  
(0.105)

1.169  
(0.219)

1.004  
(0.102)

0.918  
(0.164)

1.018  
(0.153)

0.969  
(0.115)

1.418  
(0.311)

0=Not at all 1=A little

0=Not at all 1=Quite a lot/ a lot

**How often YP talks about plans for future study with teachers outside lessons (W3)**

0=Not at all 1=Not very often

1.087  
(0.072)

1.008  
(0.119)

1.164  
(0.127)

0.999  
(0.075)

0.955  
(0.142)

1.212\*  
(0.097)

1.241  
(0.178)

1.243  
(0.154)

1.244  
(0.114)

1.175  
(0.203)

1.240  
(0.148)

1.615\*  
(0.348)

1.018  
(0.200)

1.455\*  
(0.192)

1.778  
(0.414)

0=Not at all 1=A little

0=Not at all 1=Quite a lot/ a lot

### Use of services

**Whether YP has ever talked to a Connexions personal advisor (W3)**

0=No 1=Yes

0.911  
(0.054)

1.032  
(0.111)

0.912  
(0.089)

0.986  
(0.065)

1.053  
(0.135)

**Whether in the last 12 months MP has paid for private classes in subjects taught at YP's school (W3)**



|                                                                                           |                     |                  |                     |                     |                   |
|-------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|---------------------|-------------------|
| 0=No 1=Yes had private lessons                                                            | 1.132<br>(0.087)    | 1.031<br>(0.158) | 0.935<br>(0.133)    | 1.140<br>(0.095)    | 1.416*<br>(0.238) |
| <b>How often YP talks about plans for future study with careers advisory service (W3)</b> |                     |                  |                     |                     |                   |
| 0=Not at all 1=Not very often                                                             | 0.979<br>(0.067)    | 1.084<br>(0.134) | 0.861<br>(0.097)    | 0.979<br>(0.074)    | 0.833<br>(0.129)  |
| 0=Not at all 1=A little                                                                   | 0.980<br>(0.088)    | 1.110<br>(0.174) | 1.117<br>(0.147)    | 0.899<br>(0.095)    | 1.022<br>(0.201)  |
| 0=Not at all 1=Quite a lot / a lot                                                        | 1.070<br>(0.134)    | 1.176<br>(0.263) | 1.018<br>(0.195)    | 0.935<br>(0.137)    | 1.030<br>(0.270)  |
| <b>School Information</b>                                                                 |                     |                  |                     |                     |                   |
| <b>% pupils receiving Free School Meals (W3)</b>                                          | 0.998<br>(0.003)    | 0.997<br>(0.005) | 1.007<br>(0.004)    | 0.998<br>(0.003)    | 0.983*<br>(0.008) |
| <b>% pupils with a statement of SEN (W3)</b>                                              | 1.012***<br>(0.003) | 0.996<br>(0.008) | 1.001<br>(0.005)    | 1.002<br>(0.005)    | 0.996<br>(0.009)  |
| <b>Achieved Level 2 (W3)</b>                                                              |                     |                  |                     |                     |                   |
| 0=No 1=Yes                                                                                | 0.911<br>(0.063)    | 0.802<br>(0.101) | 0.524***<br>(0.057) | 1.448***<br>(0.120) | 0.902<br>(0.136)  |
| F Statistic                                                                               | 5.997               | 8.224            | 6.171               | 6.569               | 3.445             |
| Degrees of freedom (respondent)                                                           | 10529               | 10862            | 10756               | 9576                | 9748              |
| Observations                                                                              | 10530               | 10863            | 10757               | 9577                | 9749              |

Odds ratios; Standard errors in parentheses. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001  
Only respondents with valid worklessness responses were included in the models.  
Missing value categories were included for all predictors where the missingness was greater than 10 cases, where the odds ratios are not displayed the variable was d highly correlated with another missing data category. The following missing value categories were significant (p<0.05):  
Been bullied - Been bullied in last 12 months (age 15) – mother's age at birth, YP depressed, attitude to school, what main parent would like YP to do when they leave school, YP spoken to connexions advisor.  
Criminal activities - Taken part in 2+ Criminal activities (age 15) – Mother's age at birth, marital transitions, general health of parents, moved school, attitude to school, whether anyone makes sure homework is complete, spoken to teachers outside lessons about future plans.  
Lack of control – 'People like me don't have much of a chance in life' (age 15) – YP depressed, spoken to teachers about future plans, % pupils receiving free scho  
Mental health - GHQ score >4 (age 16) – parents have a limiting long term illness, whether anybody ensure homework is complete, YP had private tuition, YP achieve  
Drinks alcohol on most days (age 16) – parents have a limiting long term illness, whether anybody ensures homework is complete, YP's friends plans after year 11.

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*Used drugs regularly - Used drugs 3+ times in last 4 wks (age 18) – birth order, whether sit down and have a family meal together.  
Teenage parent and has own child/children living with them (age 18) – number of children in the household, ,birth order, whether parents know where YP is in the e  
meal together, main parents aspirations for YP after year 11, whether achieved level 2.*

## Worklessness coefficients at each modelling step – Psycho-social outcomes

Model 1: Worklessness

Model 2: Worklessness + Interlinked problems

Model 3: Worklessness + Interlinked problems + Young person's characteristics

- YP birth order (W3)
- YP gender (W1)
- YP ethnic group (W1)
- YP statement of SEN (W1-3)
- YP disability / long term health problem (W2)
- YP feeling unhappy & depressed recently (W2)

Model 4: Worklessness + Interlinked problems + Young persons school experiences

- YP moved school (W1-3)
- YP attitude to school – range 0-48 (W3)
- YP intentions after Year 11 (W2)
- YP played truant in last 12 months (W3)
- YP been bullied in last 12 months (W3)
- YP taken part in 2+ criminal activities (W3)
- YP likelihood of applying to university (W3)

Model 5: Worklessness + Interlinked problems + Parenting/Family cohesion

- How often family know where YP is when going out in the evening (W1)
- How well YP gets on with mother (or father if single-father family) (W1)
- How often had a family meal in the last 7 days (W1)
- How often spend evening together at home as a family (W1)

Model 6: Worklessness + Interlinked problems + Parental aspirations

- What MP would like YP to do when they leave school (W3)
- Whether want YP to have a better education than MP had (W1)

Model 7 Worklessness + Interlinked problems + Parental engagement

- MP efficacy of relationship with school: high score indicates better relationship – range 0-12 (W1)
- Whether anyone at home makes sure YP does their homework (W2)
- How often MP speaks to YP's teachers about schooling (W3)
- Whether MP or partner have been to any parent's evenings or similar events (W3)

Model 8: Worklessness + Interlinked problems + Peers

- What most of YP's friends will do after Year 11 (W2)

Model 9: Worklessness + Interlinked problems + Young person's relationship with teachers

- How often YP talks about plans for future study with teachers as part of lessons (W3)
- How often YP talks about plans for future study with teachers outside lessons (W3)

Model 10: Worklessness + Interlinked problems + Use of services

- Whether YP has ever talked to a Connexions personal advisor (W3)
- Whether in the last 12 months MP has paid for private classes in subjects taught at YP's school (W3)
- How often YP talks about plans for future study with careers advisory service (W3)

Model 11: Worklessness + Interlinked problems + School Characteristics

- % pupils receiving FSM within school (W3)
- % pupils with a statement of SEN within school (W3)

Model 12: Worklessness + Interlinked problems + All measures

**Table F.11: Logistic Regression on whether YP bullied in last 12 months (W3)**

|                                   | Model 1                  | Model 2                 | Model 3                 | Model 4                 | Model 5                 | Model 6                 | Model 7                 | Model 8                 |
|-----------------------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                                   | 1                        |                         |                         |                         |                         |                         |                         |                         |
| <b>No. times workless (W1-W3)</b> |                          |                         |                         |                         |                         |                         |                         |                         |
| 1 workless                        | 1.115<br>(0.150)         | 0.947<br>(0.136)        | 0.915<br>(0.131)        | 0.969<br>(0.141)        | 0.912<br>(0.131)        | 0.942<br>(0.135)        | 0.927<br>(0.133)        | 0.935<br>(0.134)        |
| 2 workless                        | 1.240<br>(0.193)         | 0.998<br>(0.168)        | 0.897<br>(0.159)        | 0.880<br>(0.155)        | 0.971<br>(0.167)        | 0.994<br>(0.167)        | 0.894<br>(0.154)        | 0.974<br>(0.164)        |
| <b>Persistently workless</b>      | <b>1.198*</b><br>(0.097) | <b>0.999</b><br>(0.110) | <b>0.930</b><br>(0.105) | <b>1.027</b><br>(0.116) | <b>0.986</b><br>(0.109) | <b>0.998</b><br>(0.110) | <b>0.969</b><br>(0.108) | <b>0.986</b><br>(0.109) |
| F                                 | 2.332                    | 2.570                   | 8.042                   | 6.222                   | 3.260                   | 2.375                   | 3.977                   | 2.826                   |
| DF (respondents)                  | 10548                    | 10542                   | 10532                   | 10539                   | 10542                   | 10542                   | 10542                   | 10542                   |
| Observations                      | 10549                    | 10543                   | 10533                   | 10540                   | 10543                   | 10543                   | 10543                   | 10543                   |

**Table F.12: Logistic Regression on YP taken part in 2+ Criminal activities (W3)**

|                                   | Model 1                    | Model 2                 | Model 3                 | Model 4                 | Model 5                 | Model 6                 | Model 7                 | Model 8                 |
|-----------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                                   | 1                          |                         |                         |                         |                         |                         |                         |                         |
| <b>No. times workless (W1-W3)</b> |                            |                         |                         |                         |                         |                         |                         |                         |
| 1 workless                        | 1.486<br>(0.301)           | 1.015<br>(0.221)        | 1.011<br>(0.219)        | 1.154<br>(0.279)        | 0.945<br>(0.216)        | 0.984<br>(0.217)        | 0.952<br>(0.214)        | 0.985<br>(0.216)        |
| 2 workless                        | 2.470***<br>(0.492)        | 1.568*<br>(0.351)       | 1.534<br>(0.357)        | 1.127<br>(0.305)        | 1.574*<br>(0.355)       | 1.547*<br>(0.342)       | 1.279<br>(0.303)        | 1.471<br>(0.333)        |
| <b>Persistently workless</b>      | <b>1.639***</b><br>(0.208) | <b>1.030</b><br>(0.177) | <b>0.954</b><br>(0.169) | <b>1.037</b><br>(0.202) | <b>1.013</b><br>(0.178) | <b>1.040</b><br>(0.178) | <b>0.930</b><br>(0.163) | <b>0.993</b><br>(0.174) |
| F                                 | 17.068                     | 3.534                   | 4.919                   | 4.919                   | 5.216                   | 4.566                   | 4.566                   | 4.656                   |
| DF (respondents)                  | 11106                      | 11100                   | 10195                   | 10195                   | 10580                   | 10656                   | 10656                   | 10981                   |
| Observations                      | 11107                      | 11101                   | 10196                   | 10196                   | 10581                   | 10657                   | 10657                   | 10982                   |

**Table F.13: Logistic Regression on YP GHQ score >4 (W4)**

|                                   | Model 1      | Model 2      | Model 3       | Model 4       | Model 5       | Model 6      | Model 7       | Model 8       |
|-----------------------------------|--------------|--------------|---------------|---------------|---------------|--------------|---------------|---------------|
|                                   | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE)  | Odds<br>(SE)  | Odds<br>(SE)  | Odds<br>(SE) | Odds<br>(SE)  | Odds<br>(SE)  |
| <b>No. times workless (W1-W3)</b> |              |              | **            | *             | *             | *            | *             | *             |
| 1 workless                        | 1.139        | 1.149        | 1.187         | 1.152         | 1.121         | 1.161        | 1.158         | 1.152         |
|                                   | -0.173       | -0.188       | (0.195)       | -0.19         | -0.188        | -0.194       | -0.19         | -0.189        |
| 2 workless                        | 0.769        | 0.768        | 0.780         | 0.765         | 0.771         | 0.757        | 0.77          | 0.778         |
|                                   | -0.15        | -0.155       | (0.165)       | -0.161        | -0.155        | -0.154       | -0.155        | -0.157        |
| <b>Persistently workless</b>      | <b>1.188</b> | <b>1.265</b> | <b>1.365*</b> | <b>1.342*</b> | <b>1.278*</b> | <b>1.267</b> | <b>1.283*</b> | <b>1.285*</b> |
|                                   | -0.108       | -0.156       | (0.171)       | -0.168        | -0.159        | -0.156       | -0.157        | -0.158        |
| F                                 | 2.104        | 2.483        | 6.295         | 6.045         | 2.954         | 2.866        | 2.269         | 2.502         |
| DF (respondents)                  | 9591         | 9586         | 9586          | 9586          | 9586          | 9586         | 9586          | 9586          |
| Observations                      | 9592         | 9587         | 9587          | 9587          | 9587          | 9587         | 9587          | 9587          |

**Table F.14: Logistic Regression on YP Drinks on most days (W4)**

|                                   | Model 1      | Model 2      | Model 3      | Model 4      | Model 5      | Model 6      | Model 7      | Model 8      |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                   | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) |
| <b>No. times workless (W1-W3)</b> |              |              | *            | *            | *            | *            | *            | *            |
| 1 workless                        | 0.904        | 0.919        | 0.968        | 0.97         | 0.862        | 0.897        | 0.859        | 0.918        |
|                                   | -0.331       | -0.371       | (0.412)      | -0.412       | -0.363       | -0.364       | -0.355       | -0.373       |
| 2 workless                        | 2.456***     | 2.529**      | 1.875*       | 1.899*       | 2.529**      | 2.417**      | 2.074*       | 2.469**      |
|                                   | -0.632       | -0.759       | (0.595)      | -0.603       | -0.76        | -0.719       | -0.655       | -0.753       |
| <b>Persistently workless</b>      | <b>0.95</b>  | <b>1.157</b> | <b>1.163</b> | <b>1.163</b> | <b>1.19</b>  | <b>1.141</b> | <b>1.101</b> | <b>1.136</b> |
|                                   | -0.19        | -0.305       | (0.318)      | -0.319       | -0.315       | -0.302       | -0.293       | -0.301       |
| F                                 | 4.189        | 2.019        | 5.131        | 5.269        | 2.241        | 2.704        | 2.400        | 2.381        |
| DF (respondents)                  | 9787         | 9776         | 9756         | 9756         | 9776         | 9776         | 9776         | 9776         |
| Observations                      | 9788         | 9777         | 9757         | 9757         | 9777         | 9777         | 9777         | 9777         |

**Table F.15: Logistic Regression on YP used drugs 3+ times in last 4 wks (W6)**

|                                   | Model 1       | Model 2        | Model 3        | Model 4        | Model 5        | Model 6        | Model 7        | Model 8        |
|-----------------------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                   | 1             |                |                |                |                |                |                |                |
|                                   | Odds<br>(SE)  | Odds<br>(SE)   | Odds<br>(SE)   | Odds<br>(SE)   | Odds<br>(SE)   | Odds<br>(SE)   | Odds<br>(SE)   | Odds<br>(SE)   |
| <b>No. times workless (W1-W3)</b> |               |                |                |                |                |                |                |                |
| 1 workless                        | 1.327         | 1.033          | 1.119          | 1.149          | 0.959          | 1.007          | 1.032          | 1.01           |
|                                   | -0.358        | -0.321         | (0.355)        | -0.362         | -0.3           | -0.306         | -0.303         | -0.317         |
| 2 workless                        | 1.457         | 0.941          | 0.746          | 0.714          | 1.045          | 0.958          | 0.795          | 0.845          |
|                                   | -0.447        | -0.337         | (0.289)        | -0.281         | -0.37          | -0.333         | -0.285         | -0.314         |
| <b>Persistently workless</b>      | <b>0.659*</b> | <b>0.468**</b> | <b>0.436**</b> | <b>0.448**</b> | <b>0.480**</b> | <b>0.449**</b> | <b>0.449**</b> | <b>0.455**</b> |
|                                   | -0.135        | -0.125         | (0.125)        | -0.128         | -0.129         | -0.119         | -0.122         | -0.121         |
| F                                 | 2.384         | 1.952          | 5.598          | 5.684          | 3.055          | 2.555          | 2.709          | 2.833          |
| DF (respondents)                  | 8586          | 8582           | 8582           | 8582           | 8582           | 8582           | 8582           | 8582           |
| Observations                      | 8587          | 8583           | 8583           | 8583           | 8583           | 8583           | 8583           | 8583           |

**Table F.16: Logistic Regression on whether YP has own child/children living with them**

|                                   | Model 1         | Model 2      | Model 3      | Model 4       | Model 5      | Model 6      | Model 7      | Model 8      |
|-----------------------------------|-----------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|
|                                   | 1               |              |              |               |              |              |              |              |
|                                   | Odds<br>(SE)    | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE)  | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) | Odds<br>(SE) |
| <b>No. times workless (W1-W3)</b> |                 |              |              |               |              |              |              |              |
| 1 workless                        | 3.932***        | 1.21         | 1.154        | 1.214         | 1.135        | 1.213        | 1.267        | 1.174        |
|                                   | -1.27           | 0.439        | 0.414        | 0.47          | 0.412        | 0.441        | 0.485        | 0.428        |
| 2 workless                        | 5.381***        | 1.598        | 1.349        | 1.164         | 1.724        | 1.584        | 1.459        | 1.549        |
|                                   | -1.854          | 0.594        | 0.521        | 0.483         | 0.645        | 0.576        | 0.549        | 0.582        |
| <b>Persistently workless</b>      | <b>5.012***</b> | <b>1.54</b>  | <b>1.491</b> | <b>1.754*</b> | <b>1.608</b> | <b>1.546</b> | <b>1.532</b> | <b>1.528</b> |
|                                   | -0.911          | 0.407        | 0.428        | 0.459         | 0.428        | 0.421        | 0.41         | 0.404        |
| F                                 | 31.902          | 5.795        | 5.466        | 5.634         | 5.163        | 5.381        | 5.394        | 5.824        |
| DF (respondents)                  | 8540            | 8530         | 8520         | 8530          | 8530         | 8530         | 8530         | 8530         |
| Observations                      | 8541            | 8531         | 8521         | 8531          | 8531         | 8531         | 8531         | 8531         |

**Table F.17: Logistic Regression on whether YP lack of control – people like me don't life (W3)**

|                                   | Model 1                    | Model 2                 | Model 3                 | Model 4                 | Model 5                 | Model 6                 | Model 7                 | Model 8                 |
|-----------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                                   |                            | Odds                    | Odds                    | Odds                    | Odds                    | Odds                    | Odds                    | Odds                    |
|                                   | (SE)                       | (SE)                    | (SE)                    | (SE)                    | (SE)                    | (SE)                    | (SE)                    | (SE)                    |
| <b>No. times workless (W1-W3)</b> | ***                        | **                      | **                      | **                      | **                      | **                      | **                      | **                      |
| 1 workless                        | 1.538*<br>(0.294)          | 0.858<br>(0.178)        | 0.797<br>(0.174)        | 0.840<br>(0.183)        | 0.822<br>(0.169)        | 0.830<br>(0.172)        | 0.826<br>(0.168)        | 0.832<br>(0.171)        |
| 2 workless                        | 3.611***<br>(0.619)        | 1.698**<br>(0.343)      | 1.533*<br>(0.309)       | 1.327<br>(0.288)        | 1.638*<br>(0.332)       | 1.711**<br>(0.344)      | 1.392<br>(0.290)        | 1.620*<br>(0.329)       |
| <b>Persistently workless</b>      | <b>2.263***</b><br>(0.234) | <b>0.934</b><br>(0.139) | <b>0.810</b><br>(0.126) | <b>0.893</b><br>(0.143) | <b>0.905</b><br>(0.137) | <b>0.936</b><br>(0.141) | <b>0.855</b><br>(0.133) | <b>0.909</b><br>(0.137) |
| F                                 | 35.599                     | 5.509                   | 7.509                   | 10.105                  | 5.199                   | 6.064                   | 6.108                   | 6.436                   |
| DF (respondents)                  | 10770                      | 10765                   | 10765                   | 10765                   | 10765                   | 10765                   | 10765                   | 10765                   |
| Observations                      | 10771                      | 10766                   | 10757                   | 10766                   | 10766                   | 10766                   | 10766                   | 10766                   |

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