Understanding vulnerable young people: Analysis from the Longitudinal Study of Young People in England

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Introduction

The Department for Education (DfE) wants to improve the aspirations and achievement of vulnerable young people. Of interest are young people who experience substance misuse, emotional health concerns, teenage parenthood, low attainment, those who are NEET and those involved in crime. The Department has a wealth of evidence on each of these issues and the ways in which young people are disadvantaged. However, there is less evidence on how these disadvantages overlap for some young people and the outcomes for those affected by multiple disadvantage.

Investigating multiple disadvantage is important in understanding the experiences of vulnerable young people. Whilst the experience of a single disadvantage can create difficulties for young people, multiple disadvantages can interact and exacerbate one another, leading to more harmful and costly outcomes for both the young person and society as a whole.

Aims of the study

A significant evidence gap exists in understanding the extent to which problems faced by young people overlap. This information is needed to be able to estimate the potential numbers of vulnerable young people who are the most in need of targeted, supportive interventions and on what areas these interventions should focus. This research, using data from the Longitudinal Study of Young People in England (LSYPE), helps fill this evidence gap by addressing the following research questions:

- How many young people face multiple disadvantages at age 16/17?
- What types of disadvantages do young people experience?
- What level of contact do vulnerable young people have with services?
- What school-age factors increase the risk that young people end up disadvantaged?
- What are vulnerable young people's 'outcomes' at age 18/19?

Dataset and methods

The data for this study comes from the Longitudinal Study of Young People in England (LSYPE), a large, nationally representative survey designed to follow a single cohort of young people from the age of 14 to early adulthood. The study has now completed its seventh wave of interviews, when the respondents were aged 19/20 and an achieved sample size of approximately 8,700. LSYPE collects a range of information on young people's characteristics, attitudes and behaviours; their family background; and the circumstances and views of their parents. LSYPE has also been linked to pupil attainment records, school characteristics and geographical indicators.

The focus of the report is on understanding young people who experience a number of disadvantages at the same time. Counting the number of disadvantages that young people experience can only take us so far, as it is extremely unlikely that multiply-disadvantaged young people are a homogenous group. In other words, among multiply-disadvantaged young people there are likely to be those that face different numbers of, and different types of, disadvantages. We use Latent Class Analysis (LCA) to identify different groups of multiply-disadvantaged young people; their commonality being the type of disadvantages they face. We focus on illustrating the types of disadvantage common to each group and what happens to young people in each group at the end of their teenage years, two years after we categorised them according to their disadvantages. We also looked back to when they were at school to see if there were any clues as to how they ended up where they were.

Key findings

We identified six forms of disadvantage among young people aged 16/17 years from the LSYPE dataset:

- Low attainment (19 per cent of young people)
    Definition: Young person did not gain any GCSEs, GNVQs or equivalent qualifications at grades A*-C
- Being Not in Employment Education or Training (8 per cent)
    Definition: Young person was not in education, employment or training (NEET) for at least 6 of the previous 12 months
- Teenage parenthood (1 per cent)[1]
    Definition: Young person was a parent and had at least one of their child/ren living with them
- Emotional health concerns (22 per cent)
    Definition: Young person had a score of 4 or more on the General Health Questionnaire (GHQ-12)
- Criminal activity (9 per cent)
    Definition: Young person was involved in two or more of acts of vandalism, graffiti, shoplifting, fighting and carrying a knife
- Substance misuse (15 per cent)
    Definition: Young person drank alcohol on most days, or, smoked at least 6 cigarettes per week and had tried cannabis

Almost half (45 per cent) of young people experienced at least one of the six disadvantages described above at age 16/17, and 15 per cent had two or more. This research was most interested in those young people with multiple disadvantages, as they were most likely to be vulnerable to poorer outcomes.

Certain disadvantages tend to occur alone, such as emotional health concerns - whereas others occur together. For example, more than two in five young people NEET had two or more other disadvantages. We also found that certain pairs of disadvantages were more likely to occur together, such as low attainment and NEET, criminal activity and substance misuse, and, low attainment and substance misuse.

However, the crux of our research was to identify groups of young people at age 16/17 who were characterised by the combination of disadvantages they experienced. We identified six distinct groups of young people:

- A group with no disadvantages, the *non-vulnerable group* (55 per cent of young people)

and five groups of disadvantaged young people:

- *Emotional health concerns group* (16 per cent), who only had emotional health concerns
- *Substance misuse group* (8 per cent), who had substance misuse problems and a tendency to have low attainment and emotional health concerns
- *Risky behaviours group* (8 per cent), who took part in criminal activity and had a tendency for substance misuse, low attainment and emotional health concerns
- *Low attainment only group* (8 per cent), who tended to only have low attainment
- *Socially excluded group* (6 per cent), who were NEET and tended to have low attainment, emotional health concerns and substance misuse

Below we illustrate the characteristics of each group - their size, the number and type of disadvantages they faced, risk factors at age 14/15 and outcomes at age 18/19[2].

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[1] Given the small number of teenage parents in the LSYPE dataset, findings that specifically relate to teenage parents have to be treated with caution.

Non-vulnerable group **Size:** 55 per cent of young people **Average number of disadvantages:** Zero **Main disadvantages:** None **Contact with services:** Very little **Most likely to be in group when age 14:** - Positive attitude to school - Few difficulties at school - Advantaged socio-economic background **Outcomes at age 18:** - 55% in full-time education - 30% in full-time work - 9% taken drugs in last four weeks - 8% receiving benefits	***Emotional health concerns group*** **Size:** 16 per cent of young people **Average number of disadvantages:** 1.1 **Main disadvantages:** Emotional health concerns only **Contact with services:** Very little **Risks factors at age 14:** - Girls - Bullied - First sexual contact under 16 **Outcomes at age 18:** - 58% in full-time education - 27% in full-time work - 14% taken drugs in last four weeks - 12% receiving benefits
Substance misuse group **Size:** 8 per cent of young people **Average number of disadvantages:** 1.5 **Main disadvantages:** Substance misuse. Some risk of low attainment, emotional health concerns **Contact with services:** Some but low **Risks factors at age 14:** - Girls - Disengaged at school **Outcomes at age 18:** - 28% in full-time education - 15% NEET - 27% taken drugs in last four weeks - 22% receiving benefits	***Risky behaviours group*** **Size:** 8 per cent of young people **Average number of disadvantages:** 2.2 **Main disadvantages:** Criminal activity. 50/50 risk of substance misuse. Some risk of low attainment, emotional health concerns **Contact with services:** 25% with police **Risks factors at age 14:** - Boys - Truancy (including persistent), suspended, bullied **Outcomes at age 18:** - 26% in full-time education - 18% NEET - 38% taken drugs in last four weeks
Low attainment only group **Size:** 8 per cent of young people **Average number of disadvantages:** 1.1 **Main disadvantages:** Low attainment only **Contact with services:** Some but low **Risks factors at age 14:** - Person has Special Educational Need - Disadvantaged family - Persistent truancy - School with high proportion of SEN pupils, deprived area **Outcomes at age 18:** - 30% in full-time education - 21% NEET - 30% receiving benefits	***Socially excluded group*** **Size:** 6 per cent of young people **Average number of disadvantages:** 2.2 **Main disadvantages:** NEET. 50/50 chance of low attainment. Some risk of substance misuse, emotional health concerns **Contact with services:** Welfare services **Risk factors at age 14:** - Single parent family, poor parental health - Aspire to work at 16, truancy **Outcomes at age 18:** - 13% in full-time education - 42% NEET - 21% have a child - 52% receiving benefits

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[2] The table represents highlights from the analyses presented in the report, so, for example, Outcomes at age 18 do not, and should not, sum to 100 per cent.

Risk factors of disadvantage at age 14/15

We used the longitudinal aspect of LSYPE to identify characteristics of young people at age 14/15 that were associated with being in a disadvantaged group at age 16/17. These characteristics are called 'risk factors'.

In terms of the individual characteristics that young people share, gender shows a very clear relationship with disadvantage - with girls significantly more likely to be disadvantaged than boys. However boys were more likely to be in the *risky behaviours group* - one of the most disadvantaged groups.

Being bullied at age 14/15 was associated with three of the groups; *emotional health concerns*, *substance misuse* and *risk behaviours*. Disengagement from education is unambiguously related to young people's disadvantage, and associated with disadvantageous outcomes not necessarily related to education, for example becoming a teenage parent. There is also a very pronounced relationship between truancy and risky behaviours, whereas young people with low aspirations were associated with low attainment and inactivity (the *socially excluded* group).

Two of the disadvantaged groups, *low attainment only group* and *socially excluded group*, were particularly related to a young person's disadvantaged socio-economic background – such as living in a single parent family, having a mother with low education, and a parent with poor health. There is also evidence that early sexual activity (before age 16) was associated with being a member of the *emotional health concerns*, *substance misuse* and *risky behaviours* groups.

Service use at age 15/16

The parents of young people in the disadvantaged groups were more likely to have had contact with services (including social services, education welfare and the police) than the non-vulnerable young people. This is especially so among those in *the socially excluded* group, but also (in order of prevalence) among those in the *risky behaviours, low attainment only and substance misuse* groups. This suggests that those who were multiply disadvantaged were the most likely to have received some kind of intervention. However, the overall incidence remains fairly low, perhaps suggesting that more could be done to ensure this type of support is more widely accessed.

Outcomes at age 18/19

Not all disadvantaged young people at age 16/17 went on to experience disadvantage two years later. However, overall there was a continuity of disadvantage over time, whether in the general prevalence of disadvantage these young people experienced, the broad range of disadvantage, or in the kinds of disadvantages they faced. Young people who were most disadvantaged at 16/17, i.e. both the *risky behaviours* and the *socially excluded* groups, but also to a lesser degree the *substance misuse* group, were the very same groups that were most likely to have experienced disadvantage two years later.

There is also a clear relationship between the nature of the groups as defined when the young people were aged 16/17, and the kinds of disadvantage young people in these groups tend to face later on. Young people with *low attainment only* or combined low attainment and inactivity *(the socially excluded group)* were those most likely to have been in receipt of benefits two years later. Young people in the *risky behaviours* group were those most likely to have taken drugs in the last four weeks, or to have contracted a sexually transmitted infection. Those in the *substance misuse* group were the second most likely group to have taken drugs but also those most likely to have drunk on five days or more a week, again demonstrating a continuity of experienced disadvantage over time.

There is evidence of the number of disadvantages increasing over time among young people who were in the *emotional health concerns* group. For example, 16/17 year olds in this group showed a greater propensity for problematic drinking as they got older, perhaps reflecting the impact that their poor emotional health has on their health-related behaviour. This suggests that disadvantage relating to emotional health can be especially problematic if young people do not get the kind of support they need.

Young people's destinations after compulsory education are of particular interest to policy makers. This research shows that young people who were disadvantaged at age 16/17 were far less likely to be in full-time education or training two years later, and much more likely to be NEET than *non-vulnerable* young people. The exception is the *emotional health concerns* group, who were more likely to be in full-time education or training.

Policy implications

This research has shown the value of this analysis for achieving a more multi-dimensional understanding of disadvantaged young people's circumstances. Below we highlight some of the main messages of the research and translate them into policy implications.

- There are two groups of young people at high risk of multiple disadvantage and both recorded the poorest outcomes at age 18/19

The research identified the *socially excluded group* and the *risky behaviours group* as the most disadvantaged, and hence these groups may warrant particular attention. Early intervention could make significant impacts on these young people's lives and substantial savings to society – for example, 52 per cent of the *socially excluded group* were on benefits at age 18/19.

- There are some key risk factors common to many of the disadvantaged groups

There are some key risk factors common to many of the disadvantaged groups which may point to efficiency savings if targeted appropriately, and early enough to act as prevention rather than cure. These risk factors included being female (although boys were more likely to be in the *risky behaviours group*), being bullied at school and having poor attitudes to school (including playing truant, having low aspirations and having parents who favour their children leave the education system at 16). However it is important to note that this research has not identified risk factors that come into play at an earlier age, nor the timing of the onset of the disadvantages we focus on. Clearly early intervention needs to respond to risks throughout childhood and youth, and there is other research that has focused on risk factors - some of which only materialise later in youth, and are closer in time to the behaviours they predict (Johnson and Kossykh, 2008; Thomas et al, 2008).

- Some disadvantages tend to occur in isolation

Our analysis also shows that some disadvantages tend to occur in isolation. For example, we have seen that young people with emotional health concerns tend to have only this of the six disadvantages and that there was a group of young people who only tended to have low attainment. Young people in the *emotional health concerns group* there did not tend to accumulate multiple disadvantages and consequently many of these recorded good outcomes at age 18/19 (of course there could also be young people who have these disadvantages as part of a set with other disadvantages unmeasured in this research). However having singular disadvantages does not always mean avoiding poor outcomes – the *low attainment only group* are evidence of that as they had the second highest rates of being NEET and of receiving benefits at age 18/19.

- The most vulnerable young people may require a coordinated and tailored policy response

It may be the case that the most vulnerable young people require a coordinated and tailored policy response. The identification of overlapping disadvantages among young people suggests that they may need to access support from different service entry points,

including from their school, the health service, the police or social services. This could be costly if various different service interventions are required. It may also be costly in terms of the time and effort required by the young person and their family to access such interventions, and confusing if they have to juggle various service provisions. Policy makers and service providers may therefore wish to consider how services can best be coordinated to address the full range of needs among young people in the most efficient manner.

- Make more use of cross-cutting longitudinal data on young people

Finally, the research points to the need to make more use of cross-cutting longitudinal data on young people. Too often the issues that affect young people are explored in isolation, using data that focus on just one area of their lives. This research has shown that a multi-dimensional perspective is key to understanding the lives of young people, particularly the most vulnerable to disadvantage. Much more could be made of survey longitudinal datasets that contain a range of information on young people, such as the Longitudinal Study of Young People in England (LSYPE).

Acknowledgements

About the authors

Dr Matt Barnes is a Research Director (Analyst) in the Income & Work Team at NatCen. Matt specialises in the quantitative analysis of disadvantage and much of his research has focused on understanding the causes and consequences of multiple disadvantage. His Ph.D., an investigation of multiple disadvantage in Britain and a comparison with other European Member States, was published as a book in 2005. From 2006-2008 Matt was seconded to the Social Exclusion Task Force, in the Cabinet Office. There Matt was involved with the 'Think Family' project, which has focused on the most at-risk families in society, and he led an in-house team of analysts investigating multiple disadvantage among families with children.

Dr Rosie Green (nėe Head) is a Senior Researcher (Analyst) in the Society & Social Change Team at NatCen. Rosie joined NatCen in 2008, having completed a PhD in Epidemiology at St George's, University of London and subsequently worked there as a Research Fellow in the Faculty of Health and Social Care Sciences. She also holds an MA in Social Research Methods from Goldsmith's College, University of London. Rosie is an experienced researcher and analyst, and has worked on a number of longitudinal analysis projects using LSYPE data, including an exploration of differences in attainment between rural and urban pupils, a study of bullying victims and an investigation of alcohol consumption among young people. She currently manages DfE's framework agreement with NatCen to deliver a number of secondary analysis projects using LSYPE data. Rosie is experienced in a number of advanced analysis techniques, including multilevel models, survival analysis and multiple imputation.

Andy Ross is a Research Director (Analyst) in the Children & Young People Team at NatCen and Deputy Director for the DfE's Centre for the Analysis of Youth Transitions (CAYT). He has many years experience in analysing large and complex longitudinal datasets to answer policy relevant questions. He has a particular interest and a history of working in the area of school to work transitions, education research, overcoming disadvantage, and youth crime. In recent years he has completed a study for the DfE exploring school disengagement among 14-16 year olds using data from the Longitudinal Study of Young People in England (LSYPE) and contributed to two other studies exploring bullying in schools and young people's alcohol consumption. He has had training in a wide range of multivariate analytical techniques, including techniques specific to analysing panel data and latent variable modelling. Before joining NatCen he worked at the Institute of Education on two ESRC funded projects: 'Positive adaptation in the family context', part of an ESRC priority network 'Development and persistence of human capability' in which he sought to explain how some people beat the odds to overcome adverse circumstances; and 'Biographical agency and developmental outcomes', part of an ESRC priority network 'Gender inequality in production and reproduction', in which he examined the antecedents and outcomes of teenage aspirations, with a particular focus on gender.

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Glossary

DCSF – Department for Children, Schools and Families (this was replaced by the Department for Education in May 2010)

DfE – Department for Education

EIG – Early Intervention Grant

EMA – Education Maintenance Allowance

FSM – Free school meals

GHQ-12 – The 12-item General Health Questionnaire

GCSE – General Certificate of Secondary Education

GNVQ – General National Vocational Qualification

IDACI – Income Deprivation Affecting Children Index

IMD – Index of Multiple Deprivation

LCA – Latent Class Analysis

LSYPE – Longitudinal Study of Young People in England

NEET – Not in employment, education or training

NET – Not in education or training

NPD – National Pupil Database

OECD – Organisation for Economic Co-operation and Development

OR – Odds ratio

PLASC – Pupil Level Annual School Census

SEN – Special Educational Needs (with and without statements)

SETF – Social Exclusion Task Force

STI – Sexually transmitted infection

Study level 1 – GCSE graded D-G, BTEC level 1 and equivalent

Study level 2 – GCSE graded A*-C, BTEC level 2 and equivalent

Study level 3 – AS/A levels, BTEC level 3 and equivalent

Study level 4 – Certificates of higher education, BTEC professional level and equivalent

Study level 5 – Higher national diplomas, BTEC professional level and equivalent

Wave 1 – the first data collection phase of LSYPE, conducted in 2004 when the respondents were in Year 9. This corresponds to Key Stage 3 in their education (age 13/14)

Wave 2 – the second data collection phase of LSYPE, conducted in 2005 when the respondents were in Year 10 (age 14/15)

Wave 3 – the third data collection phase of LSYPE, conducted in 2006 when the respondents were in Year 11. This corresponds to Key Stage 4 in their education (age 15/16)

Wave 4 – the fourth data collection phase of LSYPE, conducted in 2007 when the respondents were in Year 12 or had left full-time education (age 16/17)

Wave 5 – the fifth data collection phase of LSYPE, conducted in 2008 when the respondents were in Year 13 or had left full-time education (age 17/18)

Wave 6 – the sixth data collection phase of LSYPE, conducted in 2009 when the respondents were in Year 14 or had left full-time education (age 18/19)

Wave 7 – the seventh data collection phase of LSYPE, conducted in 2010 when the respondents were in Year 15 or had left full-time education (age 19/20)

1 Introduction

1.1 Aims of the project

A significant evidence gap exists in understanding the extent to which problems faced by young people overlap. This information is needed to be able to estimate the potential numbers of vulnerable young people who are the most in need of targeted interventions. This report, using data from the Longitudinal Study of Young People in England (LSYPE), helps fill this evidence gap by addressing the following research questions:

- How many young people face multiple disadvantages at age 16/17?
- What types of disadvantages do young people experience?
- What level of contact do vulnerable young people have with services?
- What school-aged factors increase the risk that young people end up disadvantaged?
- What are vulnerable young people's 'outcomes' at age 18/19?

This has been achieved by identifying disadvantages at age 16/17, exploring groups of multiply-disadvantaged young people, looking at what happens to these groups of children at the end of their teenage years and assessing what the risks factors for each group are – and whether there are risk factors common to a number of groups.

1.2 Background

The Department for Education (DfE) wants to improve the aspirations and achievement of young people through reform of services to support early intervention with those who are at risk of not participating in employment, education or training (NEET), or playing a positive role in society. Of interest to the Department are specific vulnerable groups of young people, such as those affected by truanting, substance misuse, teenage parenthood, those who are NEET and those involved in crime, which can be identified in LSYPE.

Whilst the experience of a single disadvantage can create difficulties for young people, multiple problems often interact and exacerbate one another, leading to more harmful and costly outcomes for the young person, the economy and society as a whole. Internationally, young people in the UK rank below the middle on most dimensions of well-being (OECD, 2009). Young people face significantly higher unemployment rates than the wider working-age population and a higher proportion of young people in the UK are not in work, education or training than in almost any other EU country - the latest data show that the proportion of 16-18 year olds NEET was 9.6 per cent at the end of 2010 and the rate of 16-18 year olds NET (Not in Education or Training) was 17.9 per cent at the end of 2010 (Department for Education, 2011a). Periods of unemployment can have a lasting negative impact on earnings. For example, young people who were not in education, employment or training (NEET) faced a 10–15 percent wage penalty by age 41 (Gregg and Tominey, 2005).

However, the difficulties that certain young people face are not restricted to unemployment, as this list of statistics shows:
- In 2009, the provisional under-18 conception rate for England was 38.2 per 1,000 young women aged 15-17 (Office for National Statistics, 2011)

- One in five (18 per cent) of 11-15 year olds had drunk alcohol in the last week in 2009 and there are 13,000 hospital admissions linked to young people's drinking each year (NHS Information Centre for Health and Social Care, 2010)

- 15 per cent of 11-15 year olds had taken drugs in the last year and 8 per cent in the last month (NHS Information Centre for Health and Social Care, 2010)

- In 2009-10 a total of 57,291 10-17 year olds received their first reprimand, warning or conviction (Ministry of Justice, 2010a)

- A crime is committed by a young person every two minutes (Youth Justice Board, 2010)

- In 2008-2009 there were 307,840 fixed period exclusions from state funded secondary schools (Department for Education, 2010a)

- In 2004 11.5 per cent of 11-16 year olds were identified as having a mental disorder at clinical levels (Green et al, 2004)

Whilst the experience of an individual disadvantage can create difficulties for young people, it is likely that experiencing multiple disadvantages can have a compounding effect. For example, we know that alcohol misuse is also linked to sexual health and teenage pregnancy - one in eight 15- to 16-year-old girls has had unprotected sex after drinking alcohol (Standerwick *et al*, 2007). Investigating these overlapping disadvantages is paramount to understanding the experiences of vulnerable young people and there is some, albeit limited, research in this area (Levitas et al, 2007).

One of the earliest studies of multiple disadvantage was undertaken by Feinstein and Sabates (2006) whose analysis of the 1958 and 1970 Birth Cohort Studies data found that for some vulnerable young people (aged 13-14 years), persistence of 'risk' through childhood leads to a very high probability of poor adult outcomes. For example, those living in families with five or more problems were thirty-six times more likely to be excluded from school than children in families with no problems, and six times more likely to have been in care or to have had contact with the police.

Policy makers' increasing interest in evidence on overlapping disadvantages was demonstrated by a cross-Whitehall review on families with multiple and complex problems led by the Social Exclusion Task Force (SETF), based in the Cabinet Office. An interim analysis report, *Reaching Out: Think Family* (Social Exclusion Task Force, 2007a), provided a rigorous analysis of families at risk of complex and multiple problems. The underlying research for this report suggested that around 2 per cent of families – or 140,000 families across Britain – experienced five or more of a basket of disadvantages including worklessness, poor quality housing, income poverty, poor health and no qualifications (Social Exclusion Task Force, 2007b).

However, families at risk are not a homogeneous group. A further project by SETF, to examine the complexity and multi-dimensional nature of the problems that families experience, resulted in four research papers that explore multiple disadvantage across the life course. Two of the papers looked at families with children (Oroyemi *et al*, 2009) and youth and young adulthood (Cusworth *et al*, 2009); the latter using data from the Family Resources Survey and British Household Panel Survey to explore overlapping disadvantage for 16-24 year olds. The disadvantages used were not as expansive as those contained in the Longitudinal Study of Young People in England (LSYPE) but still covered a wide range of issues such as material resources, economic participation, social resources, and health and well-being. Five groups of multiply-disadvantaged young people were identified and those most at risk of multiple disadvantage were girls, lone parents, those living with a lone parent, social and private renters, and those living in more deprived areas.

More recently, preventing and dealing with people with multiple disadvantage has been a focus of the Government's strategy to get more people into work, particularly so for younger people, who face significantly higher unemployment rates than the wider working-age population. The coalition government's *State of the Nation* report (HM Government, 2010) included a separate chapter on multiple disadvantage and argued that 'the interaction of the problems can lead to entrenched, deep-seated disadvantage that can cut people off from opportunities to participate in the normal activities of society and lead to a lifetime of dependency and wasted potential'.

The next chapter describes the data used to explore vulnerable young people and the analytical approach used – including a summary of the key statistical methods.

2   Data and methods

In this chapter we outline our approach to understanding vulnerable young people and the methods we used to answer the research questions posed above (see 1.1).

2.1   The data: The Longitudinal Study of Young People in England (LSYPE)[3]

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 13/14. The study began in 2004, when over 15,500 young people from all areas of England born between 1st September 1989 and 31st August 1990 were interviewed. These young people are tracked and re-interviewed every year (known as survey 'waves'). In autumn 2010 the study completed its seventh wave of interviews, by then respondents were aged 19/20 and 8,700 young people were interviewed. Table 2.1 illustrates the timings of the survey and ages of the young people studied.

Table 2.1	Survey details of Longitudinal Study of Young People in England (LSYPE)		
Wave of LSYPE	Year	School year	Age of young person
1	2004	9	13/14
2	2005	10	14/15
3	2006	11	15/16
4	2007	12	16/17
5	2008	13	17/18
6	2009	14	18/19
7	2010	15	19/20

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). 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 14

- 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 vulnerable young people for a number of reasons. The study asks about a wide range of disadvantages that young people can experience, including teenage parenthood, substance misuse and low attainment. The study is also longitudinal - it re-interviews the same young people each year, which makes it possible to examine the transitions young people go through to become disadvantaged and how these transitions may relate to changes in other behaviours. LSYPE gathers a great deal of other contextual information on young

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[3] A more detailed description of LSYPE can be found in Appendix A.

people's behaviours and attitudes, as well as those of their parents. The various types of information LSYPE collects includes:

- *Family background* – including household situation, languages spoken in the home, family activities, household responsibilities and resources, parental qualifications, 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, Information and Communication Technologies, 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

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 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.

Describing the LSYPE sample

The LSYPE study was designed to be representative of the population of young people in England as a whole. In Table 2.2 we have summarised some key characteristics of young people at age 14/15 (wave 2, year 10)[4]. Some of these characteristics are associated with risk of particular forms of disadvantage and it is useful for the reader to return to this table to see the relative size of these sub-groups.

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[4] A more detailed breakdown can be found in Appendix C and a description of the variables used in this study can be found in Appendix B.

Table 2.2	Profiling young people **aged 14/15**	

Base: All young people present at Wave 4 of LSYPE

	Weighted %	Unweighted count
Gender		
Male	50	5,045
Female	50	5,022
Special Educational Needs (with and without statements)	10	816
Reported being bullied in the previous 12 months	40	3,583
Single parent family	22	2,104
Aspirations for post compulsory education		
Staying in education	83	8,524
Work based training or part-time education	8	625
Full-time work	4	276
Something else	1	47
Don't know	5	455
What think friends will do after Year 11		
Stay in education	79	7,604
Leave education	19	1,576
Something else	2	168
Parents have been to parents' evenings	83	8,304
Self-reported truancy in previous year		
None	79	7,525
Odd day or lesson	15	1,286
Particular lessons	4	394
Weeks/days at a time	2	175
Ever been suspended (parental report)	8	606
How many times been out with friends in last week		
None	19	2,055
Once or twice	34	3,469
3-5 times	26	2,560
6 or more times	21	1,889

2.2   Analytical approach

Our approach to understanding vulnerable young people is illustrated in Figure 2.1. The crux of the approach focused on understanding the overlaps in disadvantages young people experienced at age 16/17. Here we identified groups of young people according to the disadvantages that they faced, where each group had a set of disadvantages common to young people in that group, but different from young people in other groups.

Having described the different groups, we investigated their contact with welfare services and any contact they had with the police. We then looked forward two years and described what happened to these young people when they were aged 18/19 in terms of labour market status and a range of socio-economic outcomes such as claiming benefits, frequent alcohol consumption and drug misuse.

Finally we explored a range of personal, familial, school and local-area risk factors young people experienced whilst at school (measured when they were aged 14/15). Here we sought to identify key factors that meant these young people were at risk of being in the disadvantaged groups when aged 16/17.

Figure 2.1   Illustrating the analytical model[5]

Age 18/19 (year 14)

Outcomes
- Labour market position
- Educational qualifications
- Future plans, etc.

Age 16/17 (year 12)

Vulnerable groups
- NEET
- Teenage parenthood
- Substance misuse
- Criminal behaviour
- Emotional health concerns
- Low attainment, etc.

Contact with services
- Social, educational and welfare service
- Contact with police

Age 14/15 (year 10)

Risk factors
- Attitudes and aspirations
- Age of first sexual activity
- Bullied
- Expelled from school
- Parental education
- Deprived area, etc.

2.3   Statistical methods

We used a range of techniques to analyse the LSYPE data and these are outlined below. Throughout the report we make comparisons between the various groups of multiply-disadvantaged young people and young people who had none of the disadvantages examined (the *non-vulnerable group*). All of the findings we present (unless indicated otherwise) are statistically significant at the 5 per cent level, meaning there was only a 5 per cent chance that a difference in the sample did not exist in the general population. Below we outline which methods and which parts of the LSYPE data we used at various stages of the research.

Constructing the indicators of disadvantage

We began the research by using data from the fourth wave of LSYPE, when the young people were aged 16/17 (Year 12), to construct the separate indicators of disadvantage.

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[5] This is just a selection of the variables used in the analysis. The full set is provided in Section 2.3.

This involved looking at the LSYPE questionnaire to ascertain the most appropriate data to measure the kind of disadvantages that we are interested in. Once these indicators were set up, we used descriptive statistics to verify the incidence of the disadvantages among young people and checked these against official statistics (where possible).

Exploring overlapping disadvantages

We again used descriptive statistics to identify young people who experienced more than one of the disadvantages at the same time. First, we counted the number of disadvantages that young people had. Next, we looked at which disadvantages were most strongly related, using correlation analysis to identify the pairs of disadvantages that were most likely to occur together.

Box 2.1   Tetrachoric correlations

A correlation is a single number (the correlation coefficient) that describes the degree of relationship between two variables – disadvantages in our case. The number varies from -1 to 1, so it not only shows whether two disadvantages are related, it also shows the strength and direction of the relationship. As the number approaches zero there is less of a relationship (closer to uncorrelated). The closer the coefficient is to either −1 or 1, the stronger the correlation between the variables. The direction of the relationship is indicated by the number being positive or negative. If the number is +1 it indicates a perfect positive (increasing) linear relationship and −1 indicates a perfect decreasing (negative) linear relationship. So, for example, if we found a correlation coefficient of +0.9 between young people who were NEET and those that had low attainment, we would conclude that there is a strong positive correlation between these two disadvantages – in other words that young people with one of these disadvantages are very likely to also have the other one.

Because our disadvantage indicators are dichotomous variables (that is they have a value of 0 or 1) constructed to indicate the presence (or absence) of a disadvantage – we used a form of correlation called tetrachoric correlation. Tetrachoric correlations are used when dichotomous variables are used in place of continuous variables. The tetrachoric correlation then estimates the correlation between the assumed underlying continuous variables.

It is important to note that as with most statistical measures a correlation cannot indicate the potential existence of causal relations. The causes underlying the correlation, if any, may be indirect and unknown, and consequently establishing a correlation between two variables is not a sufficient condition to establish a causal relationship. For example, if we observed a correlation between young people who were NEET and those that had low attainment it would not be correct to infer that NEET was caused by low attainment, or vice-versa.

Identifying different groups of multiply-disadvantaged young people

However, disadvantages do not only occur in pairs, and some young people will face three, four or more disadvantages at the same time. Also, amongst young people who experience a number of disadvantages there is likely to be different groups with different combinations of disadvantages. The crux of the analysis in this study concentrates on identifying these different groups of multiply-disadvantaged young people, where a group is defined by the combination of disadvantages that they are at risk of. To identify these groups we use a statistical technique called Latent Class Analysis (LCA).

Box 2.2   Latent Class Analysis

Latent Class Analysis (LCA) is a subset of structural equation modelling used to find groups or subtypes of cases, 'latent classes', in multivariate categorical data. The LCA approach involves estimating, in sequence, a solution based on the number of classes, or groups, in the data. We began with a two-group solution and added groups sequentially. We then used statistical tests to choose the best solution, on the premise that the interpretation of the groups had to be sensible. We tested the best solution by re-estimating the groups using random samples drawn from the LSYPE data, and found the same or very similar groups, indicating a good level of stability.

Further detail of the LCA can be found in Appendix D.

Prior to undertaking the LCA we identified and grouped young people who had none of our six disadvantages. We know from our earlier analysis that just over half of young people were like this and we felt that these young people were qualitatively different from disadvantaged young people. Young people with no disadvantages also provide a useful comparison for our disadvantaged groups. The LCA identified five groups of disadvantaged young people.

Understanding multiply-disadvantaged groups of young people

We know from previous research that there is a range of risk factors associated with negative outcomes in adolescence, including parental poor health and physical disability; domestic violence; financial stress; parental worklessness; large household size; and low level of parental qualifications (Feinstein and Sabates, 2006). There remains, however, a pressing need for better understanding of the risk factors for multiply-disadvantaged young people and whether risk factors vary according to the particular combination of disadvantages that young people experience.

Intervening early in young people's lives is obviously crucial in attempts to prevent later disadvantages. One of the advantages of using longitudinal data such as LSYPE is that we can look back in the data to see what was happening to young people before they became multiply-disadvantaged at age 16/17 (back as far as the first wave of LSYPE, when the young people were aged 13/14). Using multivariate statistical analysis we can then identify the key factors that help predict multiple disadvantage[6]. We did this by measuring young people's characteristics when they were in Year 10 (aged 14/15) - so prior to our measures of disadvantage in Year 12 (age 16/17). The characteristics of young people and their family, their school and their local area we examined are listed in Box 2.3.

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[6] Using measures at different time points can aid interpretation of the direction of any relationship – however it is important to note that although the analysis presents significant *relationships* between 'risk factors' and 'disadvantages' it does not unravel any *cause and effect* in the relationship.

Box 2.3   Variables used to identify the characteristics of multiply-disadvantaged young people at age 14/15

Individual characteristics of the young person and their family (taken from LSYPE questionnaire):

- Gender
- Ethnic group
- Importance of religion
- Disability
- Special Educational Needs (with and without statements)
- Caring responsibilities in household
- Bullied in previous year

- Changed school in previous year
- Ever been in care
- Eligible for Free School Meals (FSM)
- Parental socio-economic class
- Household size
- Single parent family
- Mother's education
- Poor parental health

Young people's, and their parents', behaviour and attitudes (taken from LSYPE questionnaire):

- Ever been suspended
- Truancy in previous year
- Frequency of going out with friends in last 7 days
- Frequency of reading for pleasure
- Whether been to community centre in last 4 weeks
- Frequency of taking part in sport
- First sexual contact under 16

- Spend evening as a family at least weekly
- Go out as a family at least 2-3 times a month
- Attitude to school
- Aspirations for post-compulsory education
- What think friends will do (educationally)
- Whether parents attend parents' evenings
- How involved parents feel in school life
- Parents think leaving school at 16 limits opportunities

Characteristics of the young person's school (taken from NPD/PLASC data):

- Pupil to teacher ratio
- % eligible for Free School Meals (FSM)
- % with special educational needs (with and without statements)
- % who have played truant
- % with English as a second language
- Teachers' level of discipline
- How unfairly treated young person feels by teachers

Characteristics of the young person's local area (taken from NPD/PLASC data):

- Pupil to teacher ratio
- Rural area
- Income Deprivation Affecting Children Index (IDACI) score

Multiply-disadvantaged young people's use of services

Next we explored the level of contact these young people had with services. This is a useful way of seeing whether young people with particular combinations of disadvantages had contact with suitable services. Box 2.4 lists the service use we looked at.

Box 2.4   Variables used to explore multiply-disadvantaged young people's use of services at age 15/16

- Whether young person's parent/s have been in contact with social services
- Whether young person's parent/s have been in contact with educational welfare services
- Whether young person's parent/s have been in contact with any similar services
- Whether the police have been in contact about the young person's behaviour

Ideally we wanted to measure service use in the same year as the young people were disadvantaged (age 16/17). Unfortunately this information was not collected in that wave of LSYPE, so instead of not using this information, we measured service use in the closest year, which was when the young person was a year younger, aged 15/16. As our later analysis will show, many of our vulnerable young people showed earlier signs of disadvantage, so observing service use a year earlier is not too problematic. Nevertheless, when interpreting the findings on service use the reader should bear in mind that the information was collected in the year prior to the majority of our measures of disadvantage.

Outcomes for multiply-disadvantaged young people

The final stage of the analysis looked at the circumstances of vulnerable young people at age 18/19, two years after we observe them experiencing multiple disadvantages. Here we looked at whether they still experienced the types of disadvantages we identified at age 16/17 (where data allowed) and a range of other 'outcomes' such as their position in the labour market and their educational attainment (Box 2.5).

Box 2.5   Variables used to explore outcomes for multiply-disadvantaged young people at age 18/19

- Main activity status
- Level of study
- Regularly drinks alcohol
- Recently taken drugs
- Have own children
- Ever contracted a sexually transmitted infection
- In receipt of any benefits (excluding EMA or student loans)

3   Indicators of disadvantage at age 16/17

In this chapter we describe the indicators of disadvantage used in this research. To help validate the indicators, we make comparisons with official indicators of disadvantage (where possible).

3.1   Constructing and validating the separate indicators of disadvantage

The first part of our analysis to identify vulnerable young people involved identifying and constructing suitable indicators of disadvantage in the LSYPE data. There are a range of disadvantages that young people face and the disadvantages selected in this study were of interest to the Department and collected in the LSYPE study[7]. The following disadvantages were used (in no particular order):

- Low attainment
- Not in Education, Employment or Training (NEET)
- Teenage parenthood
- Emotional health concerns
- Criminal activity
- Substance misuse

We used wave 4 of LSYPE to construct indicators of these disadvantages for young people aged 16/17. For each indicator we use established thresholds of disadvantage, as suggested by the relevant literature, where the LSYPE data allowed. Below we outline in more detail each of the indicators. We describe the questions in LSYPE that we used to derive the indicators and discuss any limitations.

Low attainment

Table 3.1 shows that almost one in five (19 per cent) young people had low attainment at age 16/17. We used as a threshold for low attainment young people who did not achieve any GCSEs, GNVQs or equivalent qualifications at grades A*-C as this is a measure of more severe disadvantage than the more frequently used indicator of failing to achieve 5 A*-C grades. . This information is obtained from the Pupil Level Annual School Census (PLASC) dataset that is matched onto LSYPE. Importantly our indicator includes both academic and vocational qualifications.

Table 3.1 Indicator of low attainment at age 16/17		
Definition: Young person did not gain any GCSEs, GNVQs or equivalent qualifications at grades A*-C		
	Per cent	Sample frequency
Young person had low attainment	19.0	1,706
Young person did not have low attainment	81.0	9,640
Total	100	11,346

Base: Young people aged 16/17
Note: 103 missing cases

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[7] The Department for Education are also interested in others forms of disadvantage, some not possible to measure using the LSYPE study.

Not in Education, Employment or Training (NEET)

This indicator was constructed using the activity history variables, which indicate what the young person's main activity was in each month from September 2006 (at the start of their first academic year following compulsory education) onwards. Here we take young people who were not in education, employment or training (NEET) for at least six (not necessarily consecutive) months between September 2006 and August 2007. By looking at young people who were NEET for at least six months we focus on those who faced numerous, sometimes persistent, spells of inactivity. Using a snapshot measure of NEET would have risked also capturing those young people going through a period of transition after compulsory education and it is the longer-term, more problematic, NEET young people that we look to portray.

Table 3.2 Indicator of NEET at age 16/17		
Definition: Young person was not in education, employment or training for at least 6 of the previous 12 months		
	Per cent	Sample frequency
Young person was NEET	7.5	663
Young person was in education, employment or training	92.5	10,683
Total	100	11,346

Base: Young people aged 16/17
Note: 103 missing cases

According to LSYPE, 7.5 per cent of young people were NEET at age 16/17 (Table 3.2). This estimate is very close to the 7.3 per cent of 16/17 year olds identified as NEET in 2007 from official sources (Department for Education, 2011a).

Teenage parenthood

LSYPE can identify both males and females who had become parents and had their own children living with them. The survey asks if they regularly looked after any children who lived in their household. If this question was answered in the affirmative, they were then asked if any of these children were their own children. So it is important to note that our teenage parents were living with their own children, rather than with children of their partners (or someone else). Just under one per cent of young people were teenage parents at age 16/17 (Table 3.3).

Table 3.3 Indicator of teenage parenthood at age 16/17		
Definition: Young person was a parent and had at least one of their child/ren living with them		
	Per cent	Sample frequency
Young person was a teenage parent	0.9	71
Young person was not a teenage parent	99.1	11,183
Total	100	11,253

Base: Young people aged 16/17
Note: 196 missing cases

The best benchmark of the percentage of teenage parents from official sources is an estimate of the number of mothers under 18 in 2009 (Office for National Statistics, 2011). This suggests that there were 9,091 mothers under 18 at the end of 2009, most of whom were 16/17 year olds. These figures are derived from annual births data, adjusted to include not only births to under 18s in the current year but also births in previous years to

females who will still be under 18 in 2009. This represents approximately 1 per cent of the 15-17 year old female population.

It is also important to be aware of the small number of teenage parents in LSYPE – there were only 71 amongst our sample of 16/17 year olds. Therefore analyses of teenage parents need to be treated with caution throughout the report and hence we are limited in what we can say about this group of young people. For further exploration of teenage parents a larger sample that is provided by LSYPE is required.

Emotional health concerns

LSYPE contains a suite of questions that make up the General Health Questionnaire (GHQ), a widely used tool in the health field as an indicator of possible emotional health concerns - and has been found to be reliable and well-validated (Goldberg *et al.*, 1997). The GHQ-12 questionnaire is a shortened form of the full assessment. It is a quick, reliable and sensitive set of questions ideal for use in surveys as it only takes around two minutes to complete (Goldberg, 1972).

GHQ-12 consists of 12 items concerning happiness, depression, anxiety, sleep disturbance, and ability to cope over the four weeks preceding the survey interview. The questionnaire was administered in self-completion format in LSYPE. Scores were calculated only for those respondents who had answered all 12 questions. Young people were given a score of 1 for each item if they had more or much more negative feelings than usual and a score of 0 if they had similar or fewer negative feelings than usual. The items were then summed to give a score of between 0 and 12. We chose to identify young people with four or more items - an established threshold of possible emotional health concerns (Goldberg and Williams, 1998)[8].

Table 3.4 shows that over one in five (22.2 per cent) young people scored four or more on the GHQ-12 questionnaire and hence are defined in this study as having had emotional health concerns at age 16/17.

| Table 3.4 | Indicator of emotional health concerns at age 16/17 | |
| | Definition: Young person has a GHQ-12 score of 4 or more | |
	Per cent	Sample frequency
Young person had emotional health concerns	22.2	2,565
Young person did not have emotional health concerns	77.8	8,579
Total	100	11,144

Base: Young people aged 16/17
Note: 305 missing cases

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[8] This is the standard approach to measuring emotional health problems. Other researchers have used different terms for people who score 4 or more on the GHQ-12 measure, including psychological distress, mental well-being and depression.

Criminal activity

This indicator captures those young people who engage in a number of forms of criminal behaviour - vandalism, graffiti, shoplifting, fighting and carrying a knife. The first four of these behaviours were considered as 'externalising risky behaviours' - illegal activities directed against property and other people - in a previous LSYPE report (Cebulla and Tomaszewski, 2009). The authors found that young people who engaged in all four externalising risky behaviours achieved GCSE point scores that were, on average, 20 percent lower than young people who did not take part in any of them. In this study we have added knife crime to this list given the Government's commitment to tackling knife crime amongst young people. Table 3.5 shows that just under one in ten (9.1 per cent) young people had taken part in criminal activity at age 16/17.

Table 3.5	Indicator of criminal activity at age 16/17	
	Definition: Young person was involved in two or more acts of vandalism, graffiti, shoplifting, fighting and carrying a knife	
	Per cent	Sample frequency
Young person was involved in criminal activity	9.1	861
Young person was not involved in criminal activity	90.9	9,760
Total	100	10,621

Base: Young people aged 16/17
Note: 828 missing cases[9]

Unfortunately these questions were not asked routinely in LSYPE and hence measures of vandalism, graffiti, shoplifting and fighting were captured when the young person was aged 15/16 rather than 16/17, which was when carrying a knife was measured. Having measures from different years is not ideal but somewhat dictated by the data collection process of LSYPE – and hence interpretation of this indicator should bear this in mind. However, it was felt that the advantages of including such a measure in this study outweigh the slight measurement inconsistency.

Substance misuse

This indicator was constructed to capture a higher need group and identifies young people who:
- regularly drank alcohol, or
- regularly smoked cigarettes and had also tried cannabis

All young people who drank alcohol on most days were considered to have substance misuse problems, as this was identified as a strong risk factor in a previous LSYPE study looking at alcohol misuse among young people (Green and Ross, 2010).

Young people were also considered to have substance misuse problems if they had tried cannabis and were relatively heavy smokers (smoking at least 6 cigarettes a week, which is a common definition of regular smoking amongst young people). We felt it important to pick up young people who regularly smoke and have tried cannabis as doing just one of these may not identify vulnerable young people. Table 3.6 shows that 15 per cent of young people took part in substance misuse at age 16/17.

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[9] There is a substantial amount of missing data on this indicator as a result of the need to draw on young people's information from two waves of LSYPE.

Table 3.6	Indicator of substance misuse at age 16/17
	Definition: Young person drank alcohol on most days, or, smoked at least 6 cigarettes per week <u>and</u> had tried cannabis

	Per cent	Sample frequency
Young person took part in substance misuse	15.0	1,211
Young person did not take part in substance misuse	85.0	9,304
Total	100	10,515

Base: Young people aged 16/17
Note: 934 missing cases

These questions were not asked routinely in LSYPE so the indicator uses information on drinking and cannabis when the young person is aged 16/17, and smoking at 15/16. Again this should be borne in mind when interpreting the findings.

3.2   Summary

This chapter has explained how we have set up the six indicators of disadvantage to be used throughout the report. As Figure 3.1 shows, the percentage of young people who experienced these disadvantages at age 16/17 varies from less than one per cent (teenage parenthood) to over one in five (emotional health concerns).

Figure 3.1	Percentage of young people who experienced each of the six disadvantages at age 16/17
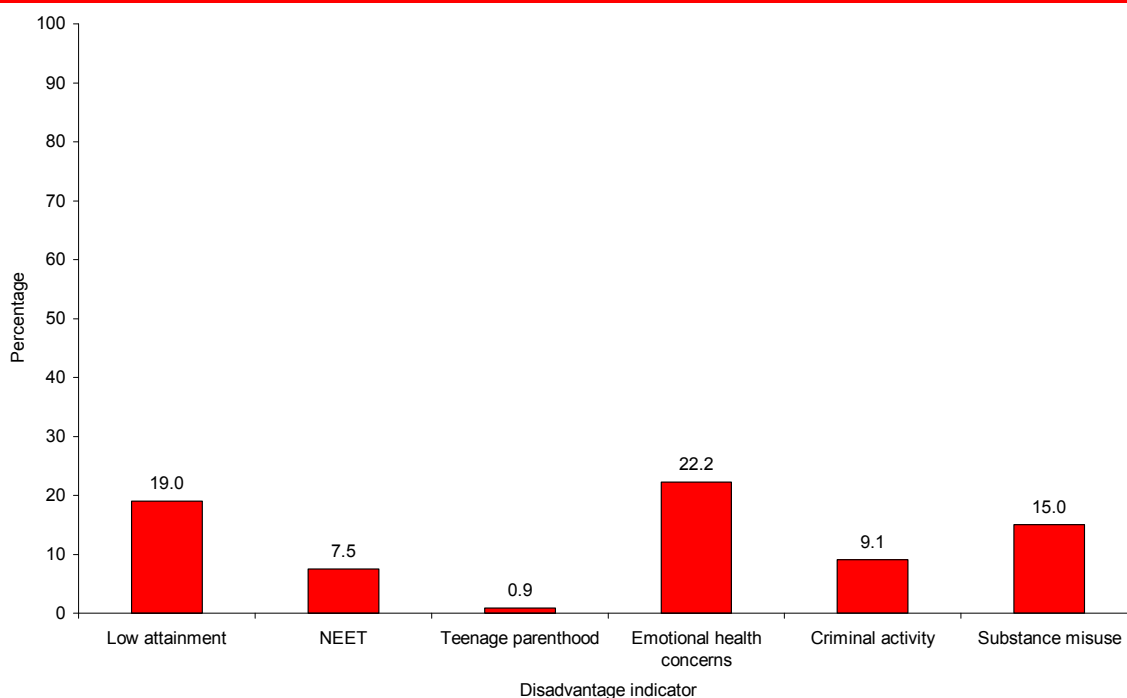
Notes:
- Criminal activity indicator and substance misuse indicator use information collected from the young person at age 15/16 and 16/17. See above for further details.
- Given the small number of teenage parents in the LSYPE dataset, findings that specifically relate to teenage parents have to be treated with caution.

Statistics such as these are regularly produced by government statisticians – often through analysis of LSYPE - and hence do not provide particularly new evidence for policy makers. However, these statistics are often produced independently of each other and we know far less about how disadvantages combine amongst young people. That is the focus of this report and this new evidence is presented and discussed in the following chapter.

4 Describing groups of multiply-disadvantaged young people

4.1 Introduction

The focus of the report is on understanding young people who experience a number of disadvantages at the same time. In this chapter we begin by counting the number of disadvantages that young people experienced. This provides top-line figures for the proportion of young people that experience multiple disadvantage.

However, counting the number of disadvantages that young people experience can only take us so far. It is extremely unlikely that multiply-disadvantaged young people are a homogenous group. In other words, among multiply-disadvantaged young people there are likely to be those that face different numbers of, and different types of, disadvantages.

The main focus of this chapter therefore is to differentiate young people according to their particular experiences of multiple disadvantage. We start these investigations by illustrating which pairs of disadvantages are most likely to overlap. We then use Latent Class Analysis (LCA[10]) to identify different groups of multiply-disadvantaged young people, their commonality being the type of disadvantages they face. We go on to describe the combination of disadvantages each group is vulnerable to, the young people who are most at risk of being in each group, and finally what happens to them at the end of their teenage years.

In summary, we will focus on illustrating the types of disadvantage common to each group and what happens to young people in each group at the end of their teenage years, two years after we categorised them according to their disadvantages. We also look back to when they were at school to see if there were any indicators as to how they ended up where they were.

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[10] Please see Box 2.2 and Appendix D for further details.

4.2　Counting the disadvantages young people have

Whilst the presence of a serious disadvantage can create difficulties for young people, it is likely that the most vulnerable young people face a number of disadvantages at the same time. A basic measure of the proportion of young people who experienced multiple disadvantage was obtained by counting the number of disadvantages that young people faced simultaneously.

Figure 4.1 shows that over half of young people (55 per cent) did not experience any of the six disadvantages. This implies that just under one half (45 per cent) of young people experienced at least one of the disadvantages. Not all of these young people are likely to experience later poor outcomes and later in this report we explicitly explore what happened to them at age 18/19 – and identify the groups of disadvantaged young people that had the poorest outcomes.

We also see from Figure 4.1 that 15 per cent of young people experienced multiple disadvantages - that is, two or more of the six disadvantages. A minority of young people (5 per cent) were exposed to three or more disadvantages and very few (1 per cent) had four or more.

It is also clear from Figure 4.1 that young people with at least one of our six disadvantages were most likely to have just one disadvantage – two-thirds of disadvantaged young people had one disadvantage and one-third had two or more disadvantages.

Figure 4.1	Number of disadvantages young people had at age 16/17
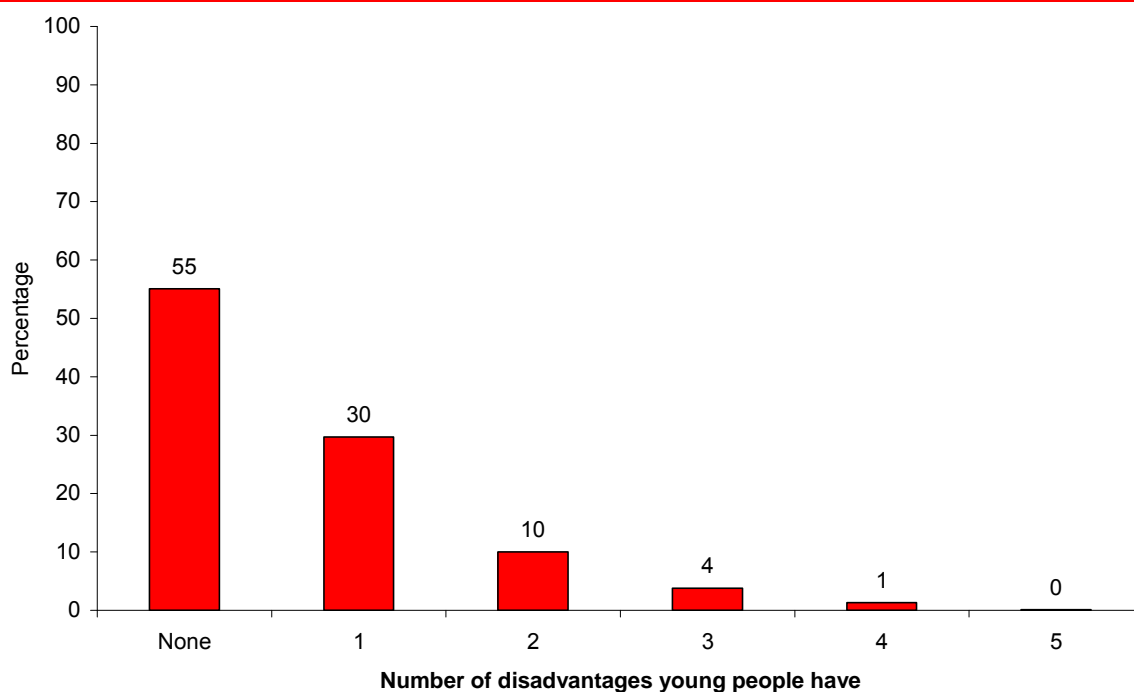
Note: Six disadvantages were counted - Low attainment; Not in Education, Employment or Training (NEET); Teenage parenthood; Emotional health concerns; Criminal activity; and Substance misuse

Figure 4.2 shows the number of disadvantages young people faced given that we know they have one of the six disadvantages examined. This helps show whether having a particular disadvantage is linked to having other disadvantages, or whether there are some solitary disadvantages that young people have in isolation of others. For example, on average, two thirds (67 per cent) of young people with emotional health concerns had this but none of the other five disadvantages. So emotional health concerns, as defined in this study, appears to be a disadvantage least likely to appear alongside other disadvantages. Saying that, there were still young people with this and other disadvantages – one in five young people with emotional health problems had one other disadvantage, 9 per cent had two others and 4 per cent had three or more others.

At the other end of the scale we see that young people who were NEET were far less likely to have this disadvantage in isolation[11]. Only one in five (20 per cent) of young people who were NEET had no other disadvantages and over two in five (43 per cent) had two or more others - with 17 per cent of young people who were NEET having three or more other disadvantages.

This analysis is useful for assessing the likelihood of having to deal with multiple disadvantage if we know one of the disadvantages young people have – which may often be the case when young people are in contact with specialist service providers. For example, if we know a young person is involved with criminal activity, we can expect, on average, they will also have another of our disadvantages – whereas this likelihood is lesser for young people with low attainment for instance.

Figure 4.2   Number of other disadvantages young people had at age 16/17
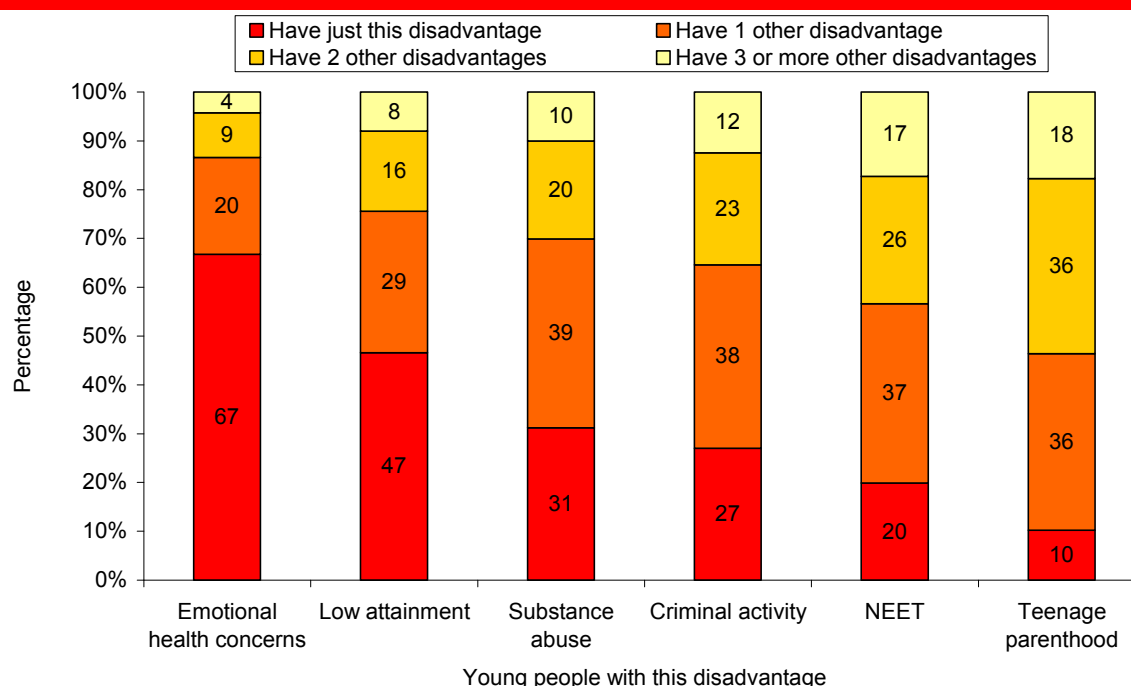
Note: There are relatively few teenage parents used in this analysis (n=71), so statistics for teenage parents should be interpreted with caution.

Although the analyses so far are useful in assessing the likelihood of young people having multiple disadvantages, this approach suggests that disadvantage is cumulative - in other words that having more disadvantages is somehow worse for the young person. It may also be the particular combination of disadvantages that impacts on young people's

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[11] We do not focus our interpretation on teenage parents in the knowledge that there were relatively few teenage parents in the LSYPE dataset and hence our analyses of them should be treated with caution.

lives[12]. In the next section we look at which disadvantages appear together for young people, starting with how pairs of disadvantages overlap.

4.3   Identifying disadvantages that overlap

We saw from Figure 4.2 that young people who were NEET were amongst those most likely to experience other disadvantages. The next stage of our analysis pinpoints which disadvantages young people experienced at the same time. We begin this by looking at the pairs of disadvantages that occurred together.

Table 4.1 presents the percentage of young people with each disadvantage that also had each of the other five disadvantages. The table should be read horizontally. For example, 7 per cent of NEET young people were also teenage parents, and, 67 per cent of teenage parents were NEET. We also present a measure of the strength and direction of the relationship between each pair of disadvantages (the correlation coefficient[13]). This shows that the following pairs of disadvantages were most likely to appear together (presented in no particular order).

- NEET and substance misuse
- Low attainment and NEET
- Teenage parenthood and NEET
- Criminal activity and substance misuse
- Low attainment and substance misuse
- Criminal activity and low attainment
- Criminal activity and NEET

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[12] It may also be the severity of the disadvantage that is important. We do not look at different severities of disadvantage in this report, but we have used indicators of disadvantage that define a relatively severe level of disadvantage. Further analysis could explore whether, say, having moderately severe disadvantage on a wide range of indicators leads to worse outcomes than having very severe disadvantage on fewer indicators.

[13] See Box 2.1 above for explanation of the correlation coefficient.

Table 4.1	Overlap between pairs of disadvantages at age 16/17					

cell %, (correlation coefficient)

Young people who had this disadvantage...	...who also had this disadvantage					
	NEET	Teenage parenthood	Emotional health concerns	Criminal activity	Substance misuse	Low attainment
NEET		7% (0.65*)	28% (0.07*)	19% (0.25*)	33% (0.31*)	56% (0.54*)
Teenage parenthood[1]	67% (0.65*)		19% (0.02)	4% (-0.04)	31% (0.21*)	44% (0.31*)
Emotional health concerns	9% (0.07*)	1% (0.02)		11% (0.14*)	19% (0.12*)	12% (-0.16*)
Criminal activity	15% (0.25*)	0% (-0.04.)	29% (0.14*)		47% (0.53*)	31% (0.23*)
Substance misuse	16% (0.31*)	1% (0.21*)	29% (0.12*)	29% (0.53*)		35% (0.35*)
Low attainment	23% (0.54*)	2% (0.31*)	16% (-0.16*)	16% (0.23*)	30% (0.35*)	
All young people in LSYPE	8%	1%	22%	9%	15%	19%

Notes:
- The closer the correlation coefficient is to either −1 or 1, the stronger the correlation between the variables. The direction of the relationship is indicated by the number being positive or negative.
* indicates correlation coefficient is significant at the 5% level.
[1] Given the small number of teenage parents in the LSYPE dataset, findings that specifically relate to teenage parents have to be treated with caution.

4.4   Identifying distinct groups of multiply-disadvantaged young people

As we have seen from Figure 4.1, 15 per cent of young people experienced at least two disadvantages. It is unlikely that young people with multiple disadvantages are homogenous in the types of disadvantages that they experienced. In other words, different young people will have been exposed to different combinations of disadvantages. We next use Latent Class Analysis (LCA) to help group together young people that shared similar experiences of disadvantage. Not all young people in a group will be exposed to exactly the same combination of disadvantages, as there are too many combinations to make that possible. However, young people are grouped together because they experienced similar combinations of disadvantages, and combinations that make them different to young people in the other groups.

It is important to note that each young person can appear in just one of our groups. However a disadvantage can be common to young people in more than one group. For example, young people in different groups can have low attainment. This could be because not all young people with low attainment have the same combinations of other disadvantages. Hence an individual disadvantage is not necessarily unique to a group – although it is more likely if it is a disadvantage that is commonly experienced on its own, such as emotional health concerns (see Figure 4.2 above).

The LCA resulted in the creation of six distinct groups of young people and these are illustrated in Figure 4.3. We already know that our largest group of young people are those that did not experience any of the six disadvantages and we call them our *non-vulnerable group*. We then have five groups of disadvantaged young people and these vary in size – the largest being the *emotional health concerns group* and the smallest being the *socially excluded group*. We have labelled the groups according to the particular disadvantages that were common to the young people in each group. Below we describe each group in detail, including the disadvantages experienced, their use of services, what happened to them later in their teenage years and which earlier factors are important in determining those young people that ended up in each group.

Figure 4.3   Groups of multiply-disadvantaged young people at age 16/17
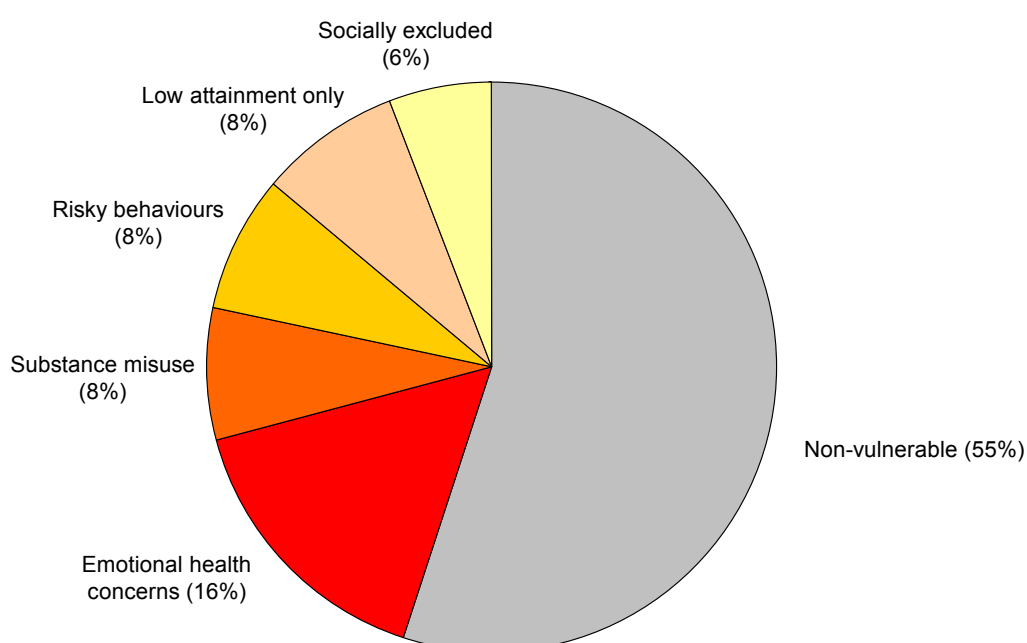
4.5   Describing the groups of disadvantaged young people

Below we describe each of the six groups illustrated in Figure 4.3, starting with the *non-vulnerable group*. When discussing the disadvantaged groups we make comparisons between each group and the *non-vulnerable group*. When comparing a disadvantaged group to the *non-vulnerable group*, statistically significant differences between the groups are shown (if pairs of bars are in lighter shading the difference is <u>not</u> significant, which means that there is an unacceptable likelihood that any difference is due to chance).

Non-vulnerable group

Summary:
- This group represents over half of all young people (55 per cent)
- No one in this group was disadvantaged on any of the indicators
- Young people in this group were unlikely to have used welfare services
- Young people in this group had positive attitudes to school, were less likely to have difficulties at school or have attended schools with fewer SEN pupils or pupils whose first language is not English
- Young people in this group tended to have good outcomes at age 18/19, such as being in full-time education

Over half (55 per cent) of young people had none of the six disadvantages and they represent our *non-vulnerable group*. Although not disadvantaged (on our measures), these young people provide a useful comparison group to assess our disadvantaged groups against. We discuss the benchmark statistics of this group below.

Use of services

Very few *non-vulnerable* young people had been in contact with welfare services (2 per cent) or had contact with the police (2 per cent) (Figure 4.4).

<div style="background-color:red; color:white;">

Figure 4.4   Use of services of the *non-vulnerable group* at age 15/16[14]

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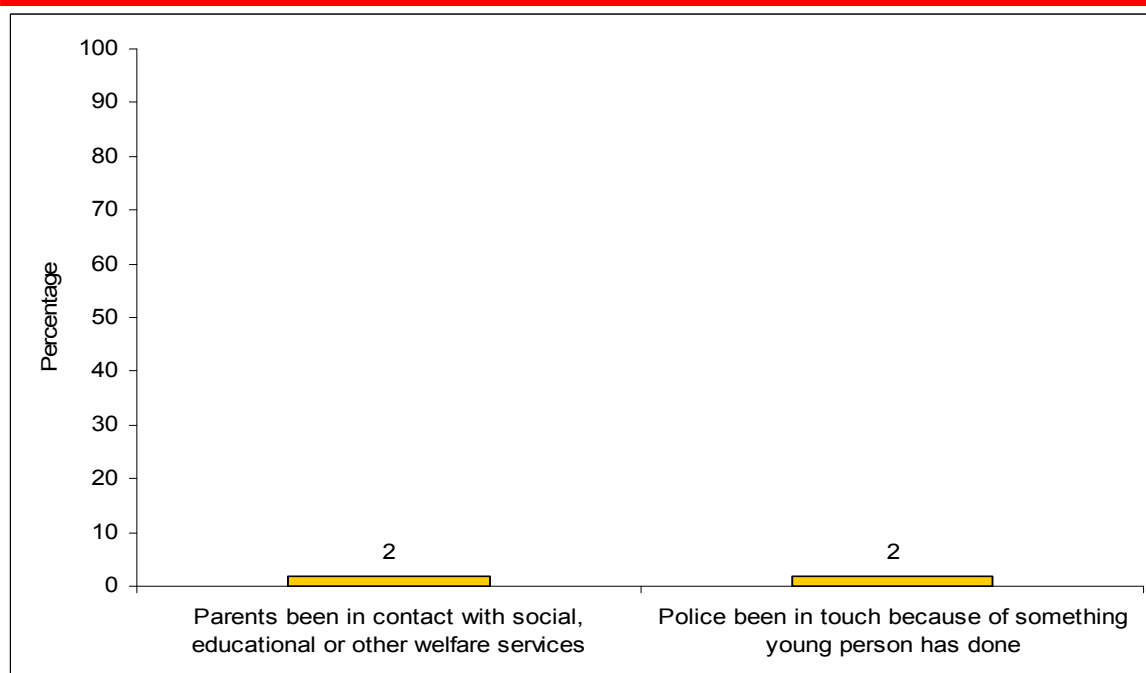
[14] This and other charts presented in this report use a y-axis from 0% to 100%. This is mainly to allow comparison across groups (by comparing charts throughout the report). This does mean that some charts have a lot of white space – which illustrates the low incidence amongst the group (service use in this case).

Outcomes at age 18[15]

Over half (55 per cent) of young people in the *non-vulnerable group* were in full-time education at age 18, a further 30 per cent were in full-time work and 6 per cent were on an apprenticeship or training course (Figure 4.5). Five per cent were NEET, and a further 4 per cent were taking part in other activities such as waiting for a job or course to start and engaging in part-time work and part-time college.

Figure 4.5	Main activity status of the *non-vulnerable group at age 18/19*

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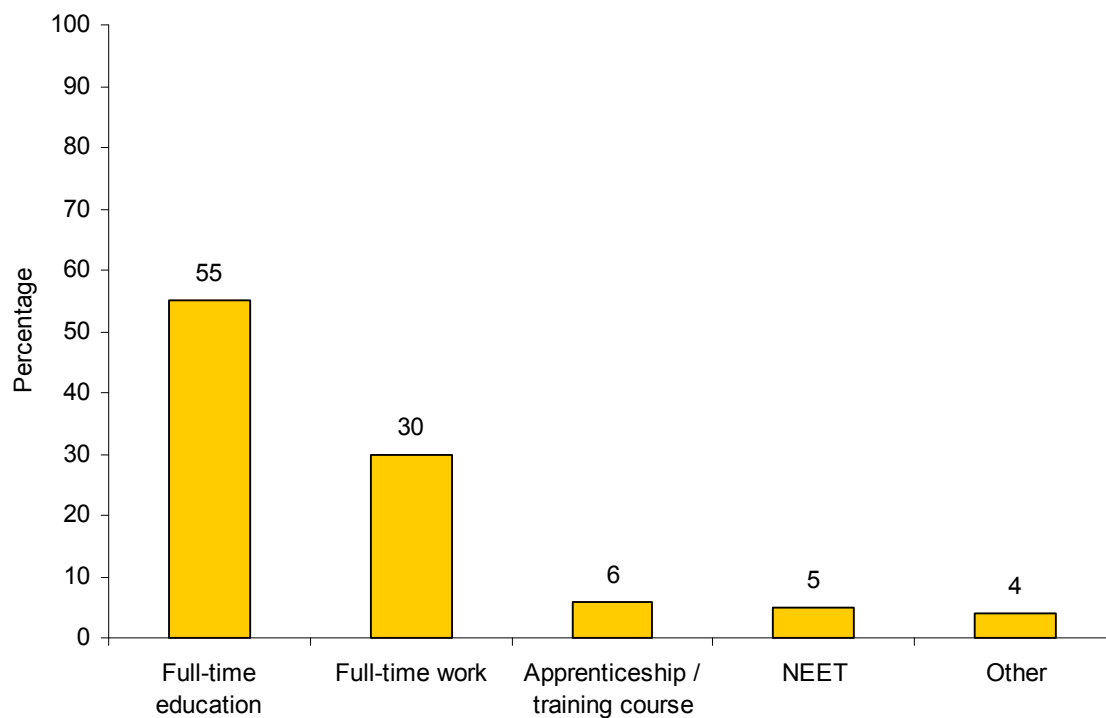
[15] As with all longitudinal surveys, LSYPE suffers from attrition. Appendix G presents attrition rates for the groups between wave 4 and wave 6, and shows that the more disadvantaged groups were more likely to drop out of the study. The LSYPE dataset contains weights to account for survey non-response and attrition and these were used in all analyses presented in this report.

Two in five (43 per pent) of young people in this group were currently studying level 4 or 5, and a further one in five (18 per cent) were studying level 3[16] (Figure 4.6). Three in ten (30 per cent) were not currently studying[17].

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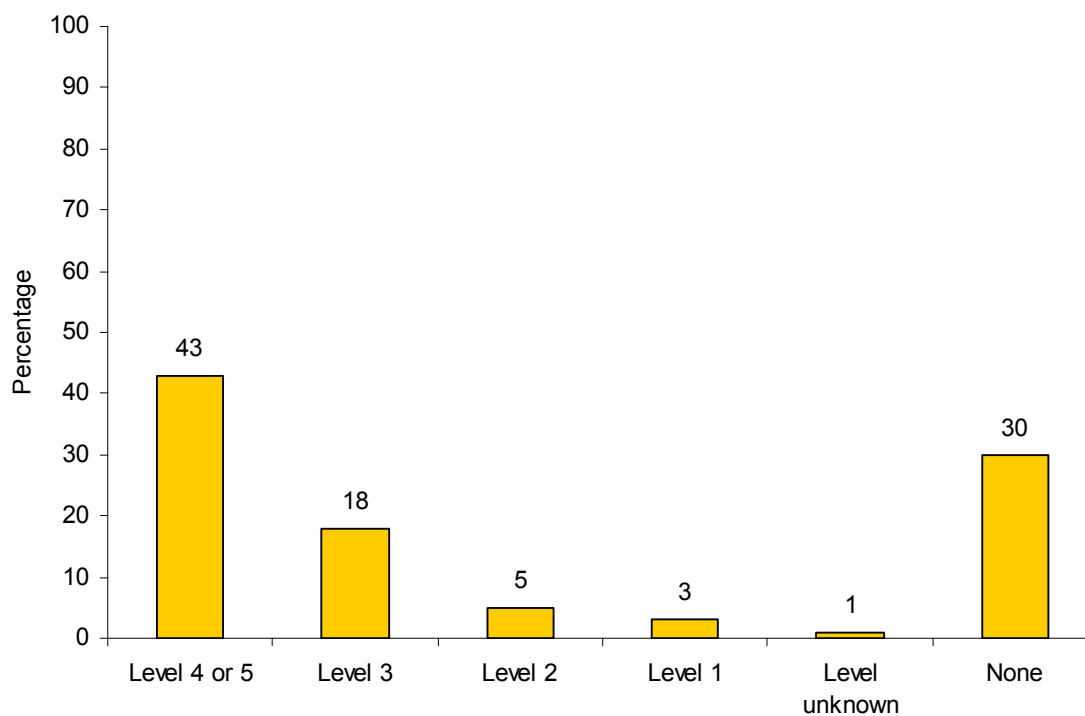
[16] See Glossary above for description of education levels.
[17] This does not necessary tally with the percentage in full-time work in the previous figure, as people can study whilst working – in the evenings for example.

We looked at numerous socio-economic outcomes for these young people, including some of the disadvantages they experienced at age 16/17, plus a wider range of measures such as labour market status and receipt of benefits. We see that only a minority of *non-vulnerable* young people had poor socio-economic outcomes two years later. Less than one in ten had gone on to drink frequently (6 per cent), recently (within the last four weeks) taken drugs (9 per cent) or had ever contracted a sexually transmitted infection (3 per cent) – and very few had had children (1 per cent). Fewer than one in ten (8 per cent) were in receipt of benefits. See figure 4.7.

Figure 4.7   Socio-economic outcomes of the *non-vulnerable group at age 18/19*
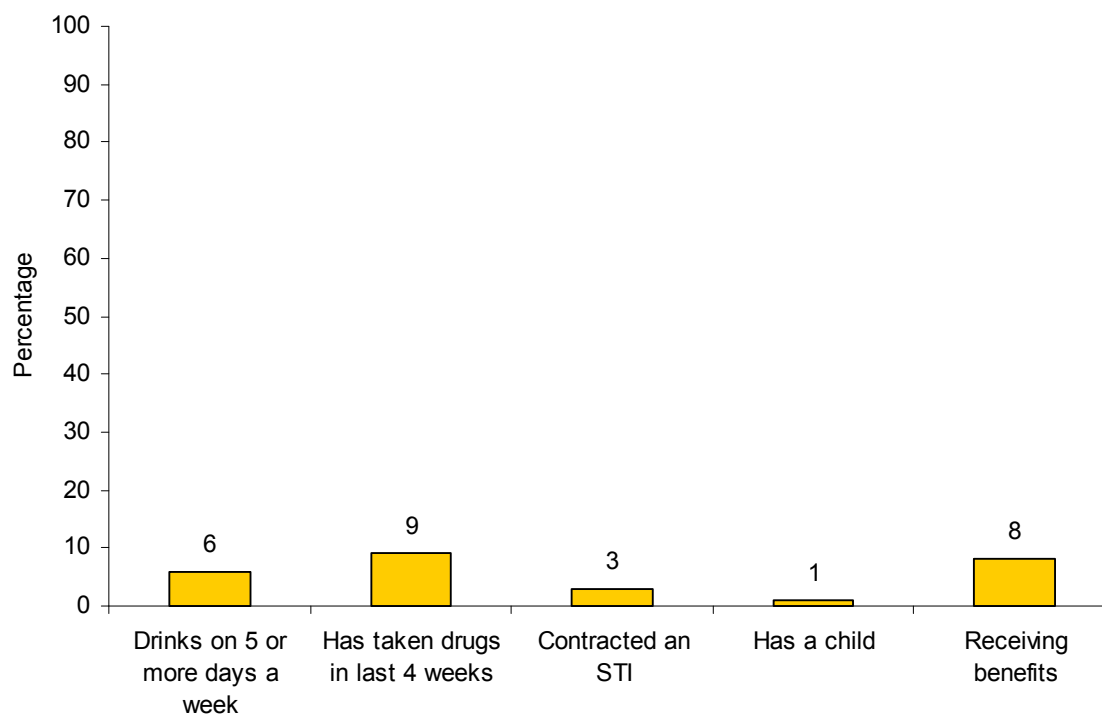
Characteristics at age 14

Figure 4.8 details the various characteristics of young people who were more and less likely to be in the *non-vulnerable group*. We used multiple regression models to explore the relationship between group membership and a large number of factors. In multiple regression, we are able to look at the effect of any of a number of factors (e.g. gender or social position) on the likelihood of a young person being a member of one of our disadvantaged groups, controlling for the effect of other factors. This gives us an estimate of the 'independent' effect of each individual factor on the outcome concerned (e.g. being in the *non-vulnerable group* in this case).

The results take the form of odds ratios (OR) which describe the ratio of the odds of being in the *non-vulnerable group* (or whatever the outcome is in the model in question) for a particular factor (such as having a disability or being female) to the odds of being in the *non-vulnerable group* for the reference, or comparison, category of the same factor (i.e. not having a disability or being male). An OR greater than 1 indicates an increased chance of the outcome, and an OR less than 1 indicates a decreased chance. An OR of 2 for gender would therefore indicate that girls had twice the odds (i.e. were more likely) of being in the *non-vulnerable group* compared with boys. Likewise an OR of 0.5 for gender would indicate that girls had half the odds (i.e. were less likely) of being in the *non-vulnerable group* compared with boys. It is therefore the case that in the charts below,

bars to the right of the central line indicate that young people with the denoted characteristic were *more* likely to fall into the group in question, and bars to the left of the central line indicate that young people with this characteristic were *less* likely to fall into this group[18].

The reference categories[19] for all the variables included in these models were selected before the models were run and were chosen on the basis of being the most commonly used or numerous category for each variable. All reference categories are indicated in the results graphs in Section 5 of this report. Only significant differences at the 5% level are presented – where the relationship was not significant the OR is not shown.

Here we see that Black Caribbean[20] young people were more likely than White young people (the reference category) to be in the *non-vulnerable group*, as were young people who had more positive attitudes to school, whose parents attended parent evenings and who took part in sport. The latter may be evidence that positive activities such as sport mean that young people are less likely to be involved in other more negative activities. There is also evidence that young people who went to schools with perceived higher levels of discipline amongst the teachers were more likely to be *non-vulnerable*. As some of the disadvantages we are looking at are behaviour based – such as substance misuse and criminal activity – there may be evidence that greater discipline at school discourages these behaviours.

There are lots of factors that reduce young people's chances of being in the *non-vulnerable group*. These include personal characteristics such as being female and having a Special Educational Need (SEN); having aspirations away from continued education (i.e. to be in full-time work or work-based training) and having friends with similar aspirations, having first sexual contact before the age of 16, being more likely to truant or be suspended; and being bullied or going to a school with more SEN pupils or pupils whose first language is not English. These are factors common to the general literature on disadvantaged young people and hence will not be further discussed here.

We now go on to categorise our disadvantaged young people according to the distinct set of disadvantages that they face – characterised by our five disadvantaged groups. We can then isolate the particular factors associated with membership of each disadvantaged group, which is more helpful to policy makers than simply talking about factors related to disadvantage more generally.

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[18] It is important to note that we are less likely to observe a relationship between a young people's characteristics and group membership when we have few young people in the LSYPE dataset with that characteristic. This is because you would need to see large differences between young people with and without the characteristic for the finding to be statistically significant. Furthermore, small sample sizes can increase the chance of finding spurious differences. Findings for characteristics that are uncommon among young people should therefore be treated with caution and we mention this in the text when observed. In Appendix F (Table F1) we present the percentage of young people in each group that have particular characteristics. Here it is possible to see that findings for certain characteristics could be uncertain, or missed, because of small sample sizes – for example, ethnic minority groups and children who have been in care.

[19] The reference category indicates the comparison category in the logistic regression analyses. For more details on the logistic regression analyses see Appendix E.

[20] The number of Black Caribbean young people in this analysis is small, so this finding should be treated with caution.

Figure 4.8   Characteristics of the *non-vulnerable group at age 14/15*

■ **Odds of being in non-vulnerable group**

Gender: *Ref: male*
Female

Ethnicity: *Ref: white*
Black Caribbean

SEN: *Ref: no SEN*
Has SEN

Bullying: *Ref: not been bullied*
Bullied in Last 12 Months

Attitude to school: *Linear*
More positive attitude to school

Post-16 aspirations: *Ref: full-time education*
Work-based training or part-time education

Friends' aspirations: *Ref: stay in education*
Leave education

Parents been to parents' evenings: *Ref: no*
Yes

Truancy: *Ref: none*
Odd day or lesson

Particular lessons

Days or weeks at a time

Suspension from school: *Ref: never*
Ever been suspended

Frequency of doing sport: *Linear*
More frequent

Age of first sexual contact: *Ref: 16 or over*
Under 16

School level of SEN: *Linear*
More pupils with SEN

School level of EAL: *Linear*
More pupils with English as additional language

Discipline among teachers: *Linear*
Higher levels of discipline among teachers

0.1   Less likely   1   More likely   10

Note: Odds Ratios (ORs) greater than 1 indicate young people who were more likely to be in the *non-vulnerable group*, ORs less than 1 indicate young people who were less likely to be in the *non-vulnerable group*

Emotional health concerns group

Summary:
- This group represents 16% of young people
- Young people in this group tended to experience emotional health concerns only
- They were unlikely to have used welfare services
- Young people at risk of being in this group included girls, those who had been bullied, had less contact with friends and had negative attitudes to school
- They had only marginally worse outcomes at age 18/19 than the *non-vulnerable group*

The disadvantages this group face

Figure 4.9 displays the probabilities of each of our six disadvantages for young people in the *emotional health concerns group*. A probability of 1.00 indicates that all of the young people in this group had emotional health concerns (a score of 4 or more on the GHQ-12 questionnaire). We saw earlier that young people with emotional health concerns are particularly likely to have that disadvantage and no other. On average the young people in this group have no other disadvantages - there is a very low probability that these young people have substance misuse (0.06), criminal activity (0.03) or are NEET (0.01).

Figure 4.9   Disadvantage probabilities for the *emotional health concerns* group *at age 16/17*
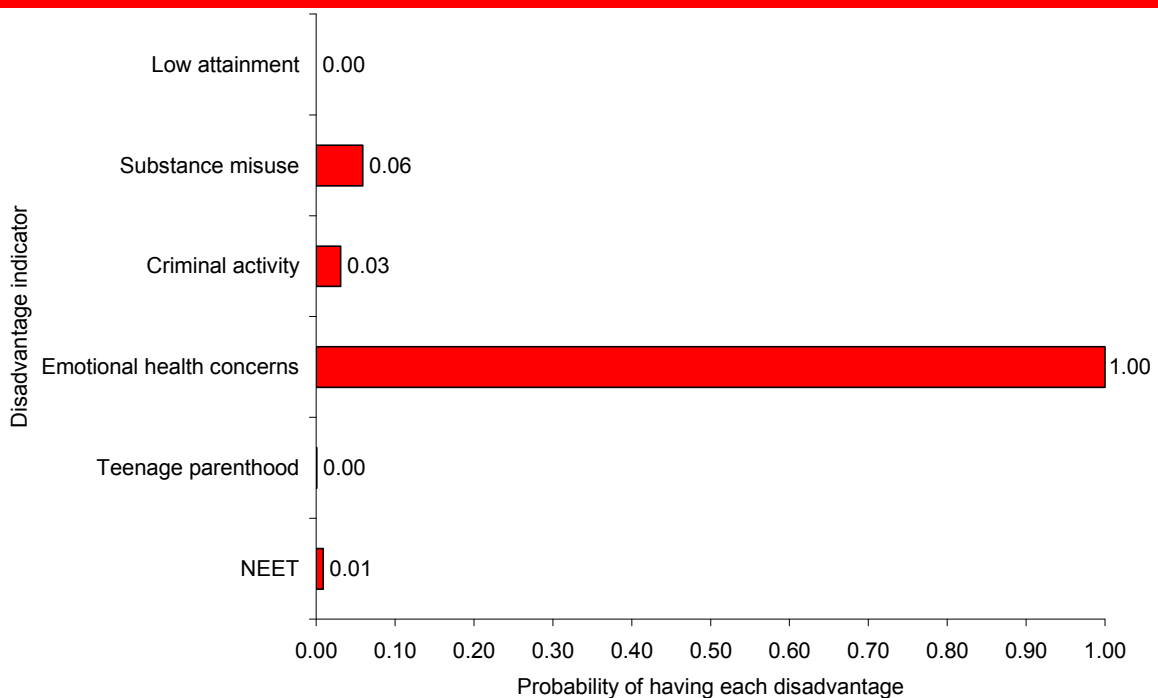
Use of services

Young people in this group had low rates of contact with welfare services and with the police (Figure 4.10). Although they were more than twice as likely as the *non-vulnerable group* to use welfare services, only one in twenty (five per cent) did so, and contact with the police was no more likely than for the *non-vulnerable group*.

Figure 4.10   Use of services for the *emotional health concerns* group *at age 15/16*
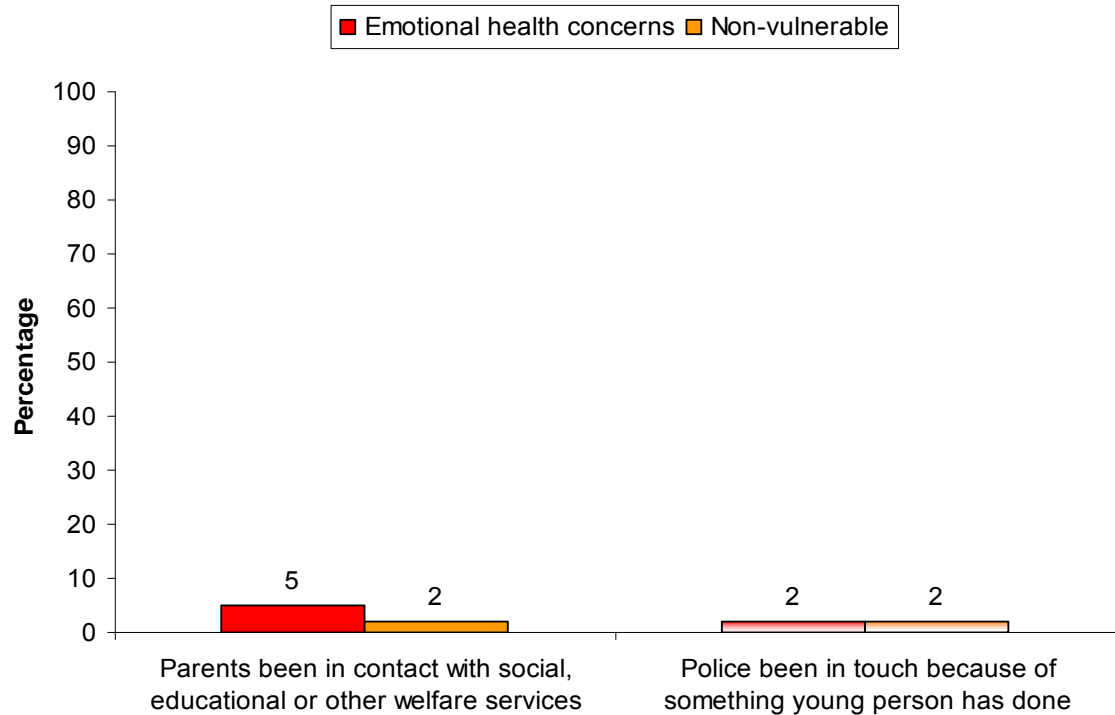
Legend: ■ Emotional health concerns   ■ Non-vulnerable

Y-axis: Percentage (0–100)

Parents been in contact with social, educational or other welfare services: Emotional health concerns 5, Non-vulnerable 2

Police been in touch because of something young person has done: Emotional health concerns 2, Non-vulnerable 2

Note: Differences between the groups are statistically significant (p<0.05) except where pairs of bars are in lighter shading (e.g. police been in contact).

Outcomes at age 18

Again, young people in this group were only marginally different from those in the *non-vulnerable group.* Young people with emotional health concerns were slightly more likely to be in full-time education and NEET, and slightly less likely to be in full-time work and apprenticeships (Figure 4.11).

Figure 4.11   Main activity status for the *emotional health concerns* group *at age 18/19*
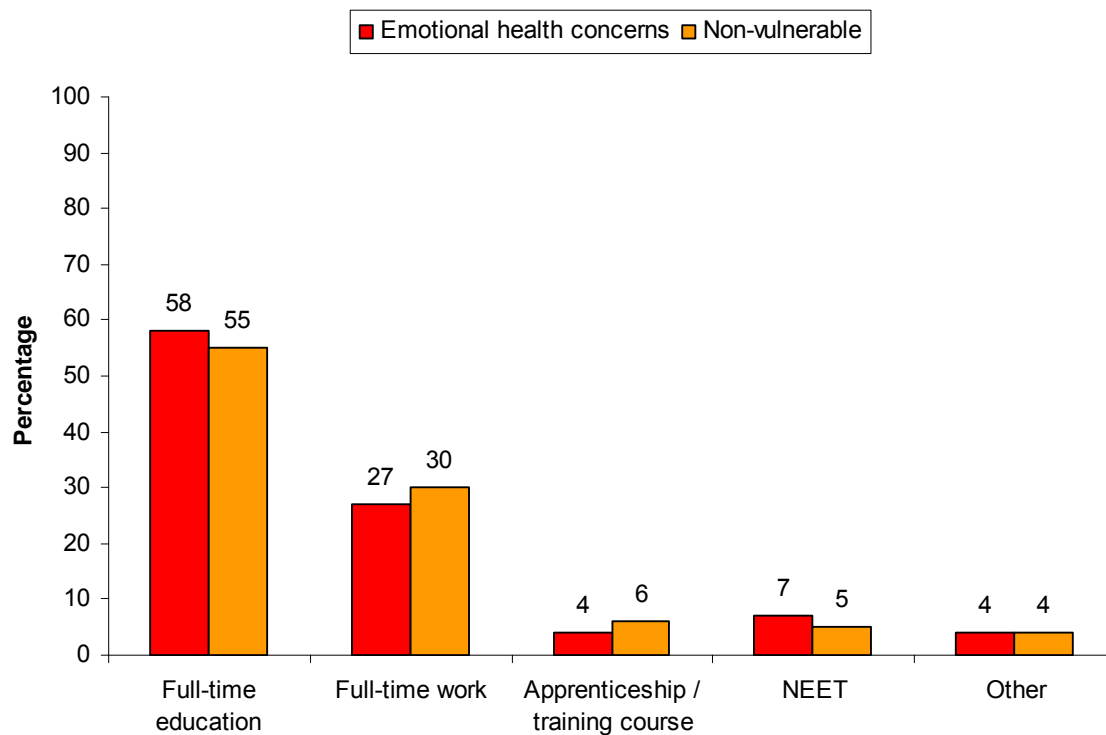
Again, study levels of the *emotional health concerns group* were very similar to the *non-vulnerable group*. In fact there were no significant differences between the groups across the study levels (Figure 4.12).

Figure 4.12   Study level of the *emotional health concerns* group *at age 18/19*
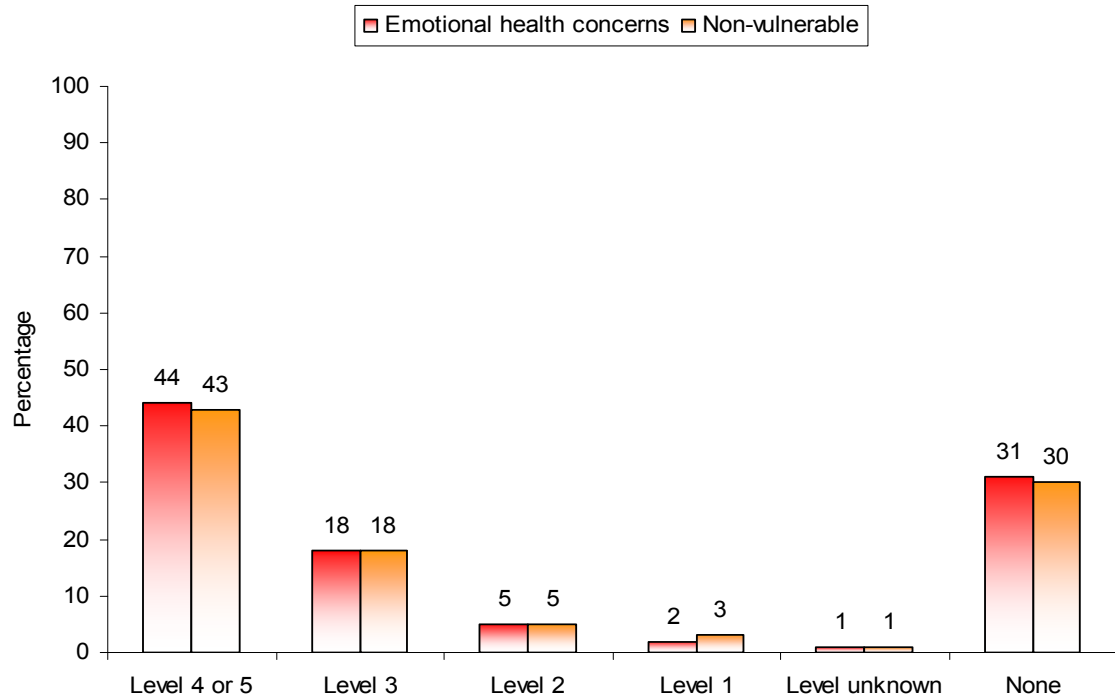
Note: Differences between the groups are statistically significant (p<0.05) except where pairs of bars are in lighter shading (all the pairs of bars here).

Although these young people have slightly worse socio-economic outcomes than the *non-vulnerable group*, the differences are not large. We see that these young people were more likely to have taken drugs in the past four weeks (14 per cent compared with 9 per cent) and to be receiving benefits (12 per cent compared with 8 per cent) (Figure 4.13).

Figure 4.13   Socio-economic outcomes for the *emotional health concerns* group *at age 18/19*
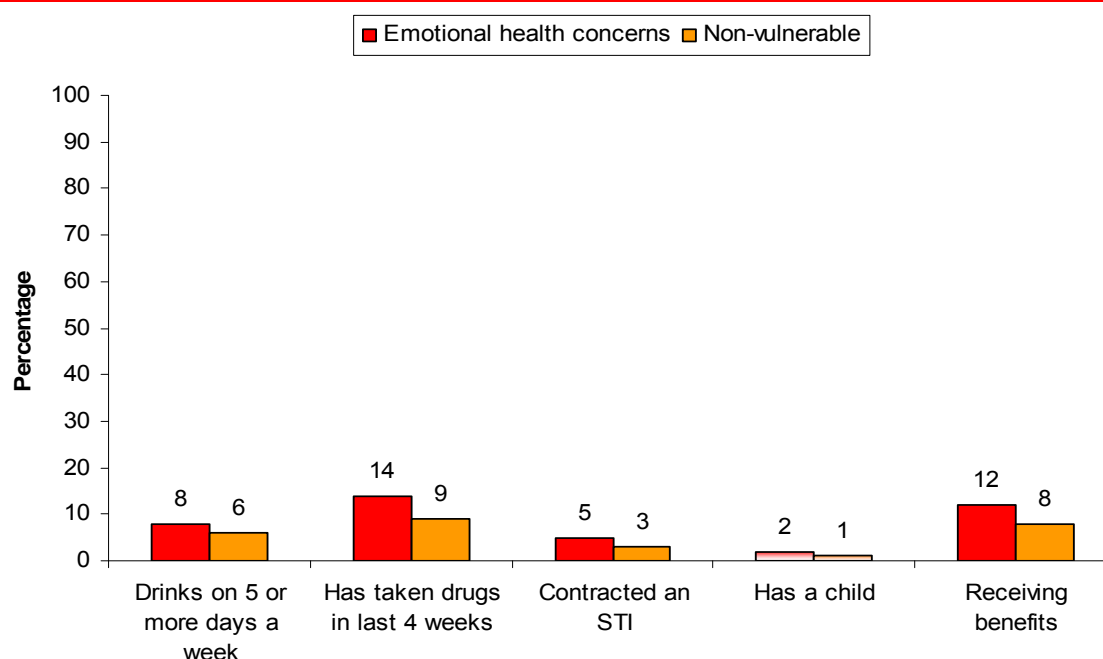
Note: Differences between the groups are statistically significant (p<0.05) except where pairs of bars are in lighter shading (e.g. has a child).

Risk factors at age 14

As Figure 4.14 shows, there were a number of factors associated with an increased risk of a young person being in the *emotional health concerns group*. It is important to remember that these factors were measured two years previously to the measures of disadvantage, so provide indicators as to the earlier circumstances of these young people. For example, those who were bullied two years earlier, at age 14-15, have twice the odds of being in this disadvantaged group than those who were not. Young people who were less likely to have gone out regularly with friends were also more likely to be in this group, possibly indicating that they were more prone to social isolation at this point.

Girls were also more likely to be in this group. There is lots of other research to suggest that in adolescence, girls become more likely to experience emotional difficulties than boys (Calvete and Cardenoso, 2005; Bebbington et al, 2003).

Attitudes and behaviours at school also appear as important factors associated with young people being in the *emotional health concerns group*. Young people with more negative attitudes to school and those with higher levels of school truancy were more likely to be in this group. These young people had parents who were more likely to believe that leaving school at 16 limits young people's opportunities in later life. This combination of parental aspirations and a negative attitude to school may contribute to emotional health concerns for these young people[21]. It might also suggest that whilst they have positive aspirations for the future and remain engaged with education, their daily school experience is more problematic. There are school characteristics also associated

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[21] This suggests a need for further research to explore the impact that parental aspirations have on young people.

with being in this group – young people at schools with higher rates of truancy (as recorded in the National Pupil Database) were less likely to be in this group, as were those who believed their teachers expected higher levels of discipline.

Finally, we see that young people in this group were more likely to have had sexual contact under the age of 16. We can only speculate why this is the case and hence is an area that warrants further research.

Figure 4.14   Risk factors for the *emotional health concerns* group *at age 14/15*
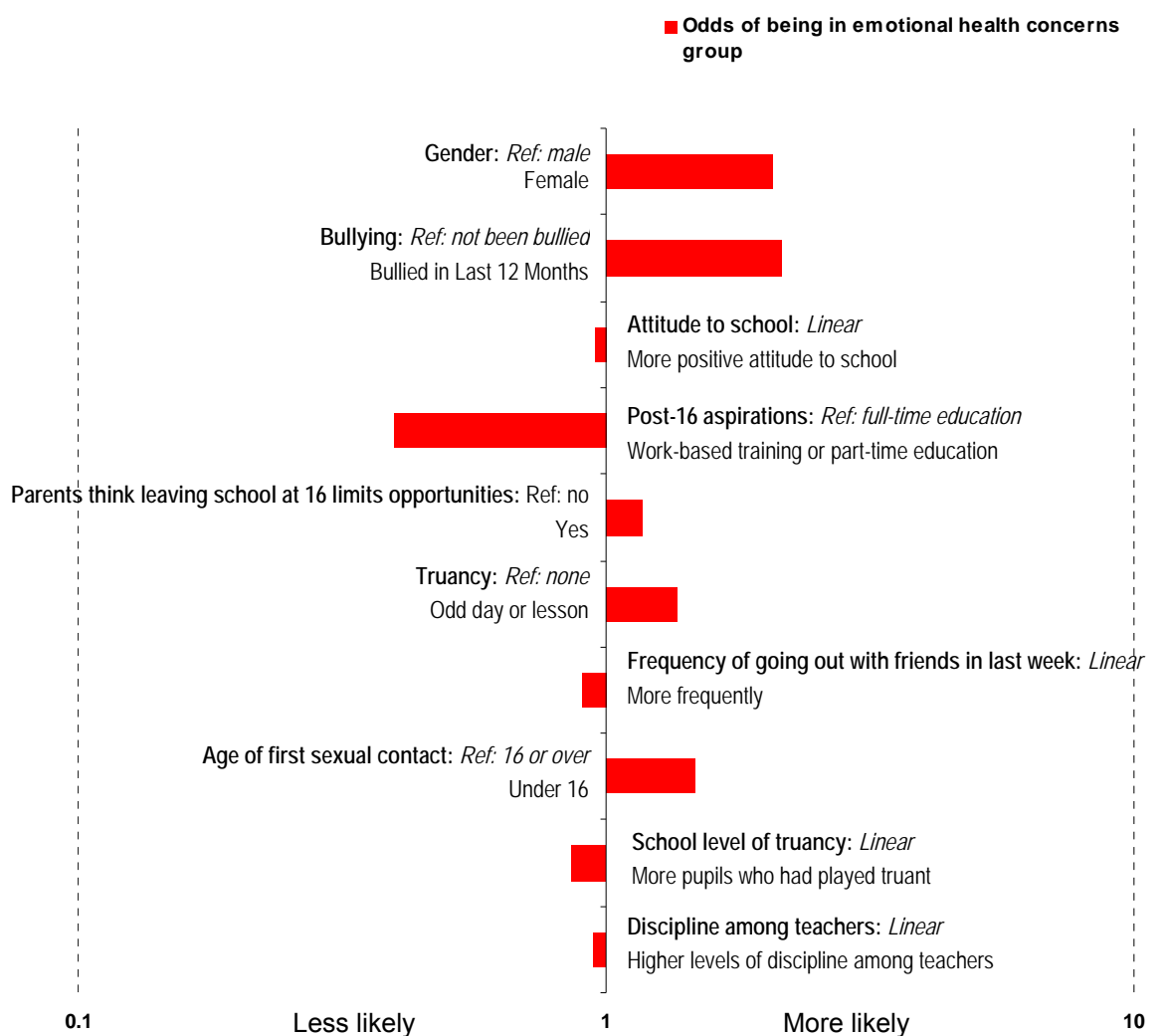
Note: ORs greater than 1 indicate young people who were more likely to be in the *emotional health concerns group*, ORs less than 1 indicate young people who were less likely to be in the *emotional health concerns group*

Substance misuse group

Summary:
- This group represents 8% of young people
- All of the young people in this group experienced substance misuse, and had some, albeit relatively low, chance of also having low attainment or emotional health concerns
- They were more likely to have accessed services and had contact from the police, but still at relatively low rates
- There were a range of risk factors associated with young people ending up in this group, including being female, being disengaged at school and spending time with friends
- They had worse outcomes than the *non-vulnerable group*, especially for drug misuse, and only a quarter were in full-time education at age 18/19

The disadvantages this group face

All of the young people in this group experienced substance misuse (drank alcohol on most days, or, smoked at least 6 cigarettes per week <u>and</u> had tried cannabis). This group also contains young people with a 30 per cent chance of having low attainment, a 19 per cent chance of emotional health concerns and a very low risk of being NEET. Hence it is an interesting grouping of young people, primarily characterised by their substance misuse (Figure 4.15).

Figure 4.15	Disadvantage probabilities for the *substance misuse group at age 16/17*
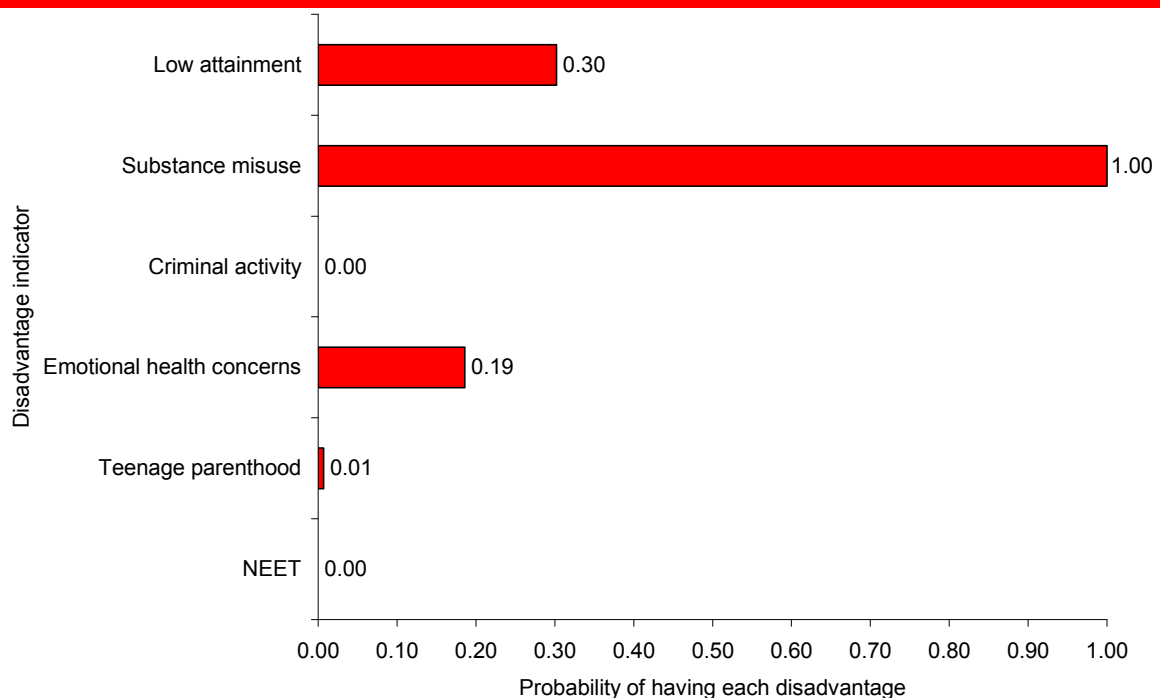
Use of services

Young people in the *substance misuse group* were more likely than those in the *non-vulnerable group* to have been in contact with welfare services. They were also more likely to have had contact from the police. However, the incidence of these events happening was still relatively low, with only approximately one in ten (12 per cent) young people having experienced each event (Figure 4.16).

Figure 4.16	Use of services for the *substance misuse group at age 15/16*

Page content: Bar chart. Legend: Substance misuse (red), Non-vulnerable (orange). Y-axis: Percentage, 0 to 100.

Parents been in contact with social, educational or other welfare services: Substance misuse 12, Non-vulnerable 2.

Police been in touch because of something young person has done: Substance misuse 12, Non-vulnerable 2.
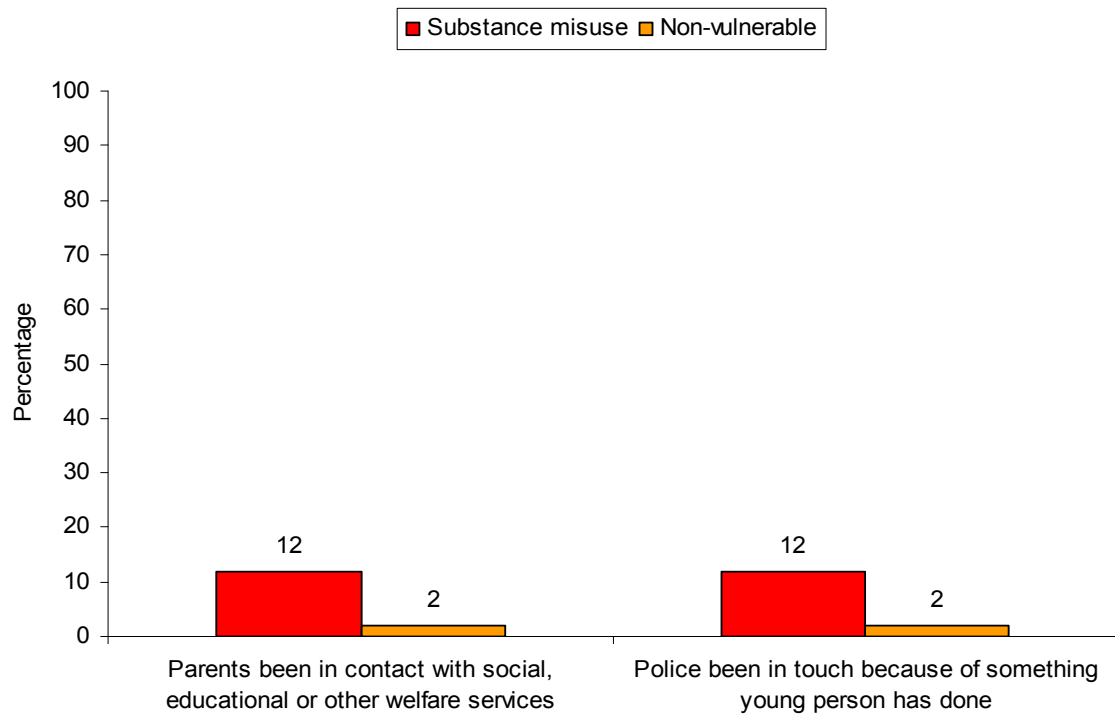
Outcomes at age 18

There are clear differences in outcomes between young people in the *substance misuse group* and *non-vulnerable* young people (Figure 4.17). For example, young people in the *substance misuse group* were more likely to be in full-time work and to be NEET. Consequently they were only half as likely to be in full-time education at age 18/19 (28 per cent compared with 55 per cent).

Figure 4.17   Main activity status for the *substance misuse group at age 18/19*
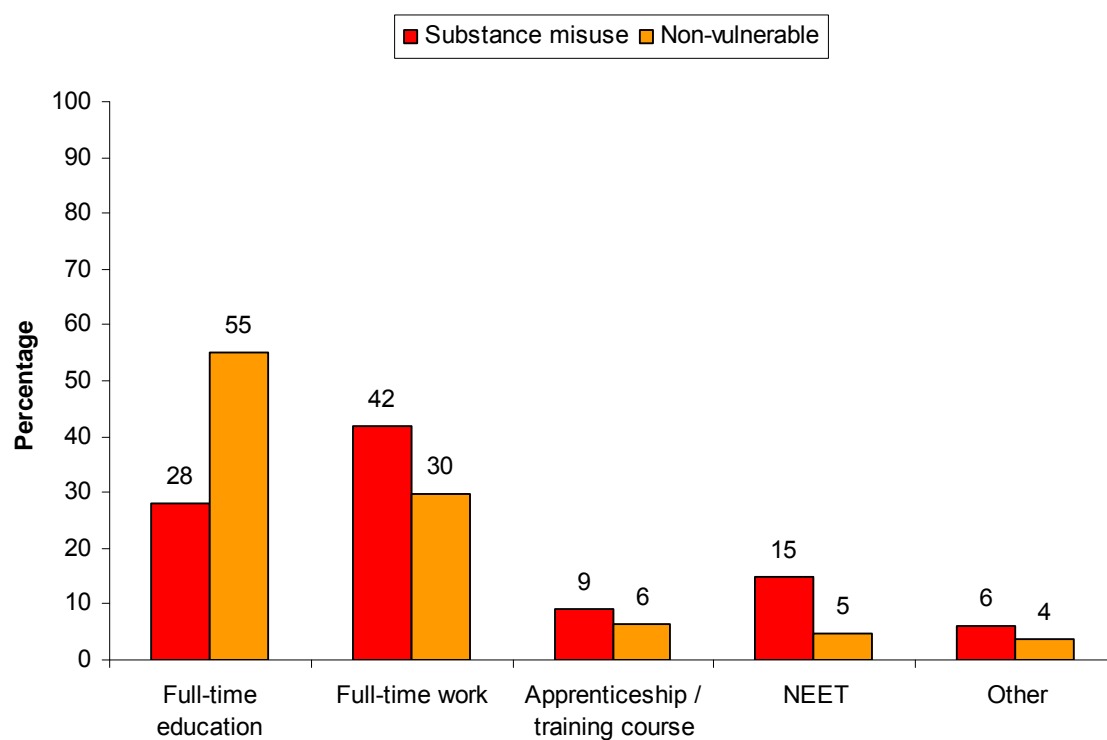
Again we see young people in the *substance misuse group* with lower study levels compared with *non-vulnerable* young people (Figure 4.18). Only 16 per cent were currently studying at level 4 or 5, compared with 43 per cent of the *non-vulnerable group*. Half (50 per cent) of this group were not currently studying, again far higher than the *non-vulnerable group*.

Figure 4.18	Study level of the *substance misuse group at age 18/19*
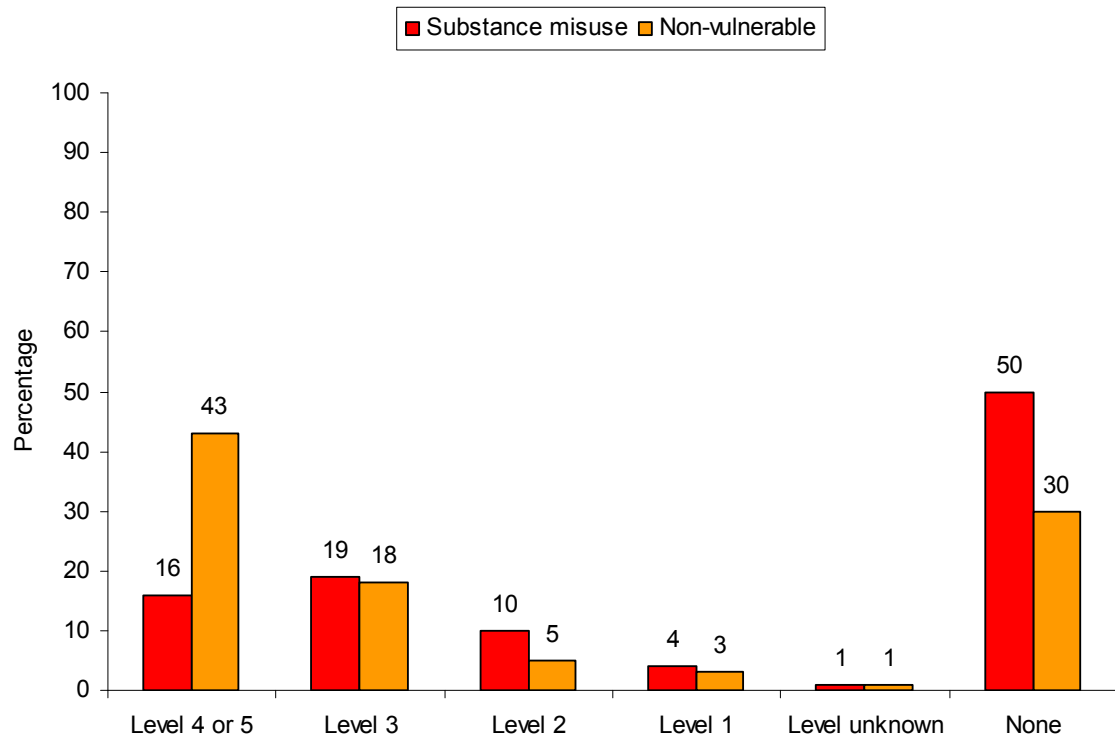
As expected, young people in the *substance misuse group* recorded poorer socio-economic outcomes than the *non-vulnerable group* (Figure 4.19). Over one quarter (27 per cent) were still using drugs (defined in the questionnaire as any drugs, but examples such as cocaine, LSD and ecstasy are given) and 15 per cent were drinking frequently two years after we had categorised them according to their substance misuse problems. Again, the rates of alcohol and drug misuse were much higher than for young people in the *non-vulnerable group*. Young people in the *substance misuse group* were also more likely to have contracted an STI, have a child and to be receiving benefits.

Figure 4.19   Socio-economic outcomes for the *substance misuse group at age 18/19*
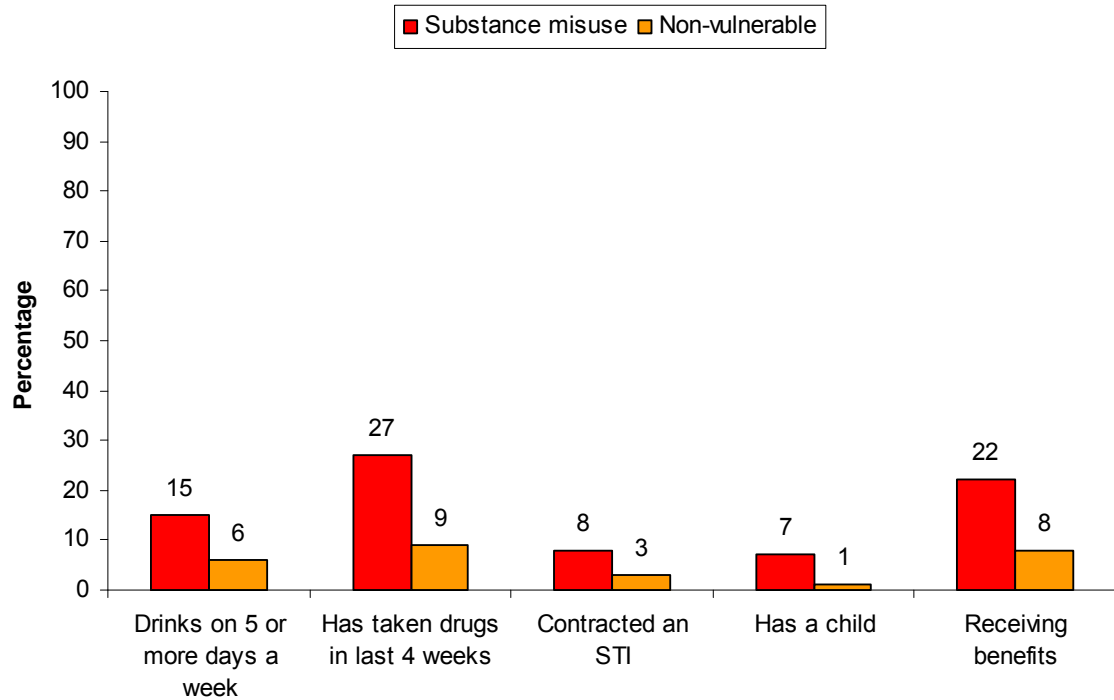
Risk factors at age 14

Again there was a range of factors associated with being in this group and we highlight the most interesting to discuss here[22]. In terms of personal characteristics, it was girls who were more likely to be in this group than boys (Figure 4.20).

Clearly there is an association between disengagement at school and substance misuse. Young people who had poor attitudes to school were more likely to be in this group, as were those who thought that their friends would leave education at 16, who had been bullied, who had played truant and who had been suspended from school.

Other behavioural characteristics linked to being in this group were spending time out with friends and having sexual contact before the age of 16 – the former may suggest young people are more likely to partake in substance misuse activities in the company of friends. No school level characteristics were associated with being in the *substance misuse group*, but young people living in rural areas were more likely to be in this group.

| Figure 4.20 | Risk factors for the *substance misuse group at age 14/15* |
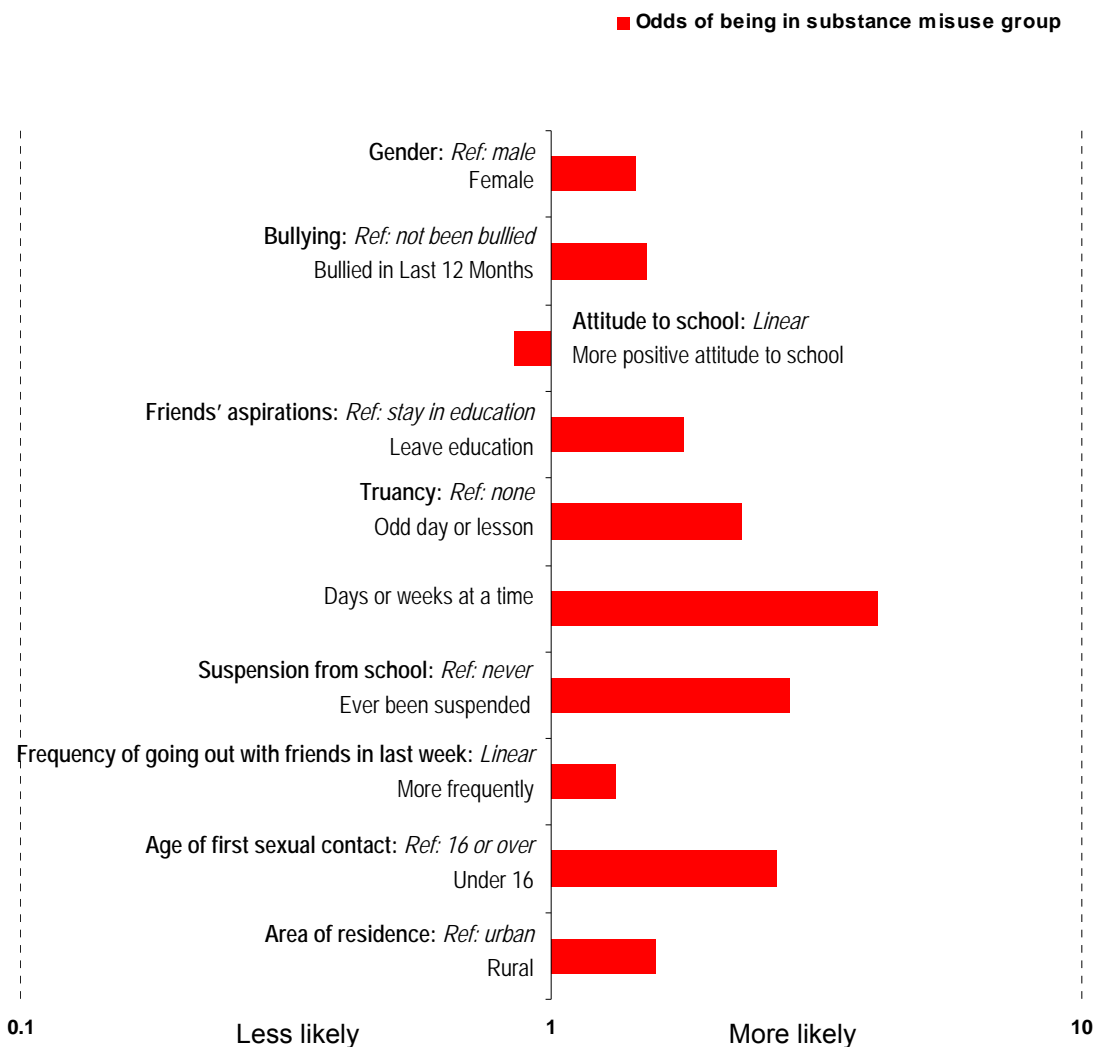
Note: ORs greater than 1 indicate young people who were more likely to be in the *substance misuse group*, ORs less than 1 indicate young people who were less likely to be in the *substance misuse group*

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[22] The full table of regression results is presented in Appendix D.

Risky behaviours group

Summary:
- This group represented 8% of young people
- Young people in this group had two disadvantages on average, although some had more
- All young people in this group had taken part in criminal activity, and half had been involved in substance misuse. They also had a relatively high chance of low attainment, emotional health concerns and, to a lesser extent, being NEET
- There had been contact with the police for a quarter of these young people
- Young people in this group were more likely to be boys, those disengaged from school, those who had been bullied and who had felt unfairly treated by teachers
- Young people in this group had a higher risk of poor socio-economic outcomes at age 18/19; two in five had taken drugs in the last four weeks
- These young people were more likely to be NEET, or in full-time work, and less likely to be in full-time education at age 18/19

The disadvantages this group face

All of the young people in this group had taken part in criminal activity (they were involved in two or more of vandalism, graffiti, shoplifting, fighting and carrying a knife). There was also a 50/50 chance that they had been involved in substance misuse, and a relatively high probability that they would have low attainment or emotional health concerns. There was also a low to moderate risk that they would be NEET. Hence this group represents one of our most multiply-disadvantaged groups of young people (Figure 4.21).

Figure 4.21   Disadvantage probabilities for the *risky behaviours* group *at age 16/17*
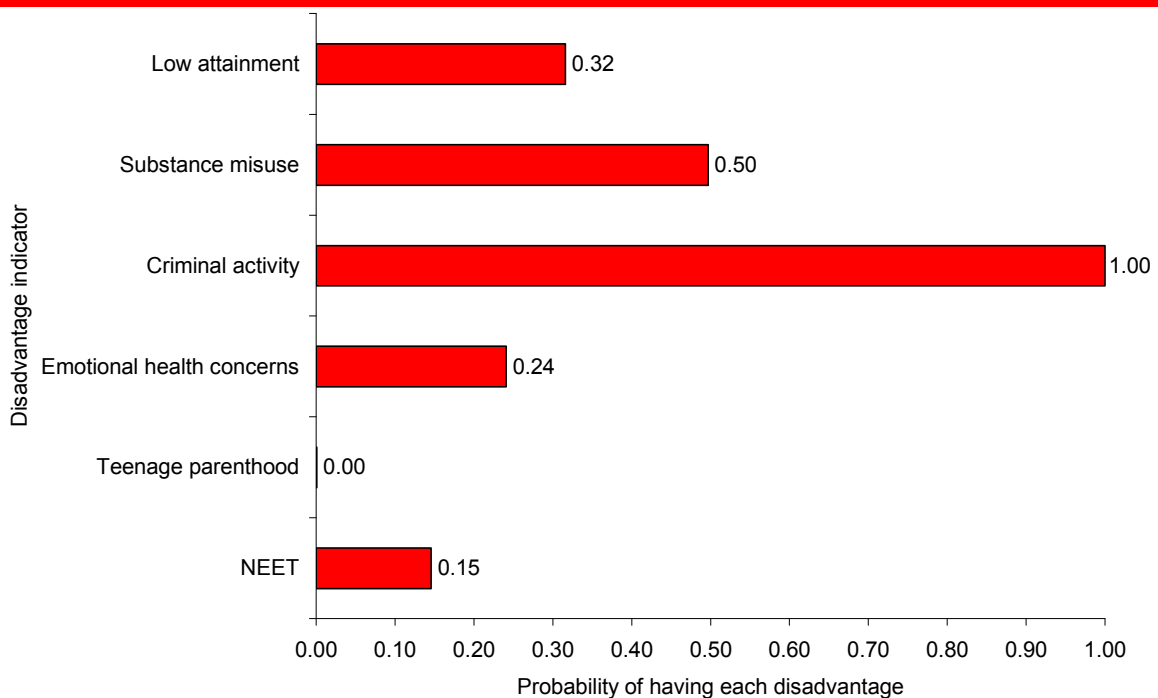
Use of services

This group were much more likely than the *non-vulnerable group* to have had contact with education and welfare services and from the police. One quarter (25 per cent) of this group had had contact with the police (Figure 4.22).

Figure 4.22   Use of services for the *risky behaviours* group *at age 15/16*
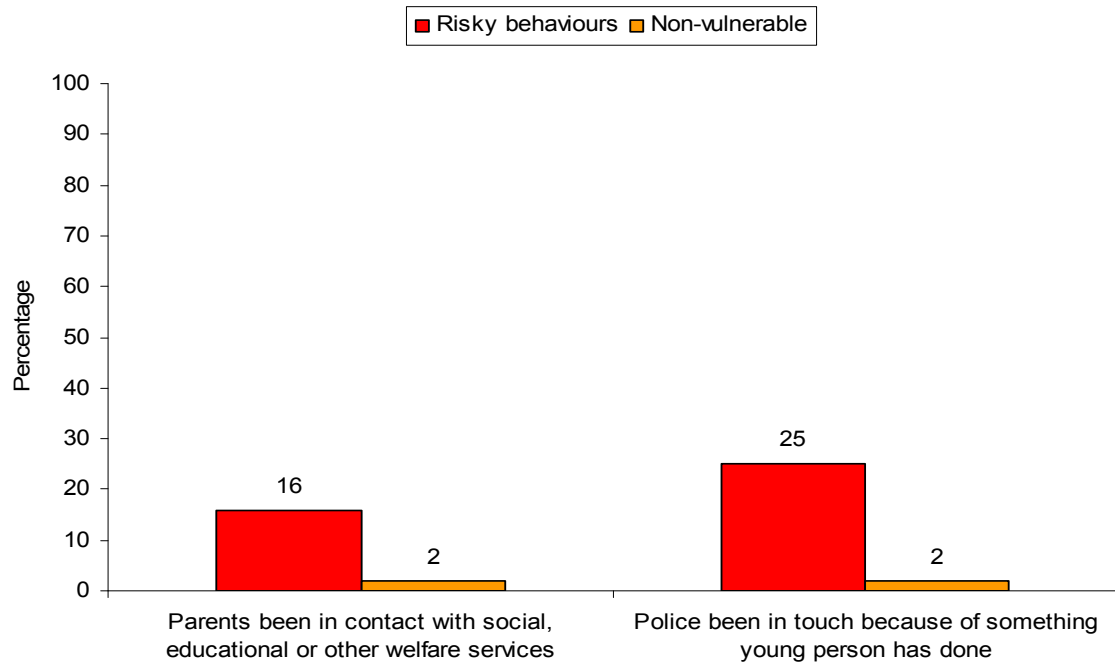
Outcomes at age 18

One in five (18 per cent) young people in this group were NEET at age 18/19 – almost three times the proportion of young people in the *non-vulnerable group* (Figure 4.23). Young people in this group were also more likely to be in full-time work. A much lower proportion were in full-time education - only a quarter (26 per cent) compared with over a half (55 per cent) of the *non-vulnerable group*.

Figure 4.23   Main activity status for the *risky behaviours* group *at age 18/19*
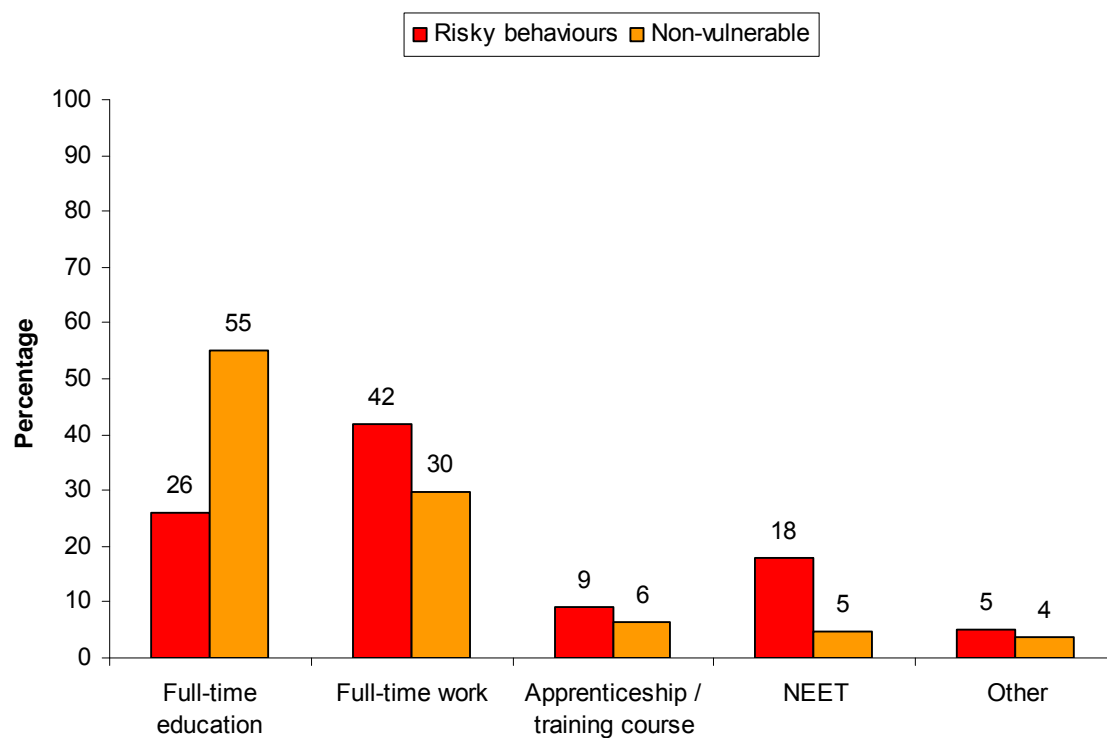
Half (51 per cent) of the young people in this group were not studying and few (14 per cent) were studying at level 4 or 5 (Figure 4.24). However, they were more likely to be studying than the other predominately multiply-disadvantaged group (the *socially excluded group*).

Figure 4.24   Study level of the *risky behaviours* group *at age 18/19*
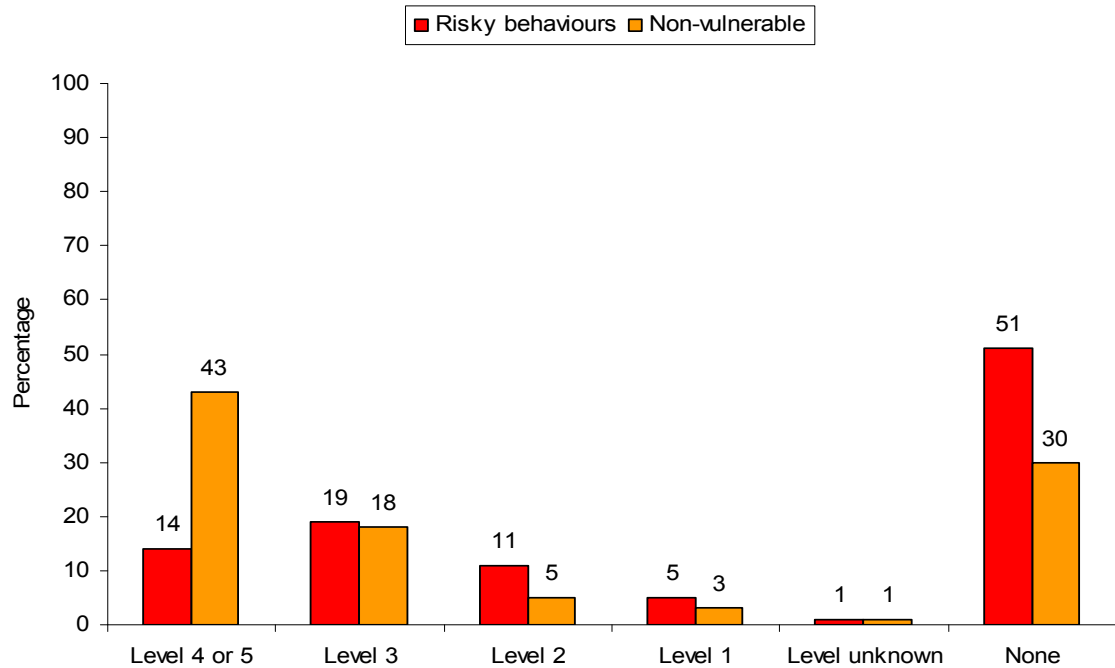
This group showed a propensity to continue to take part in risky behaviours at age 18/19 - they were disproportionately likely to have poorer outcomes on all the socio-economic outcomes presented in Figure 4.25. For example, almost two in five (38 per cent) had taken drugs, four times the proportion of those in the *non-vulnerable group* (9 per cent). They were also more likely to have drunk alcohol regularly (11 per cent compared with 6 per cent), contracted a Sexually Transmitted Infection (13 per cent compared with 3 per cent) and to have a child (7 per cent compared with 1 per cent). There is no surprise then that a quarter (23 per cent) of these young people were receiving benefits – three times the proportion of the *non-vulnerable group* (8 per cent)

Figure 4.25   Socio-economic outcomes for the *risky behaviours* group *at age 18/19*
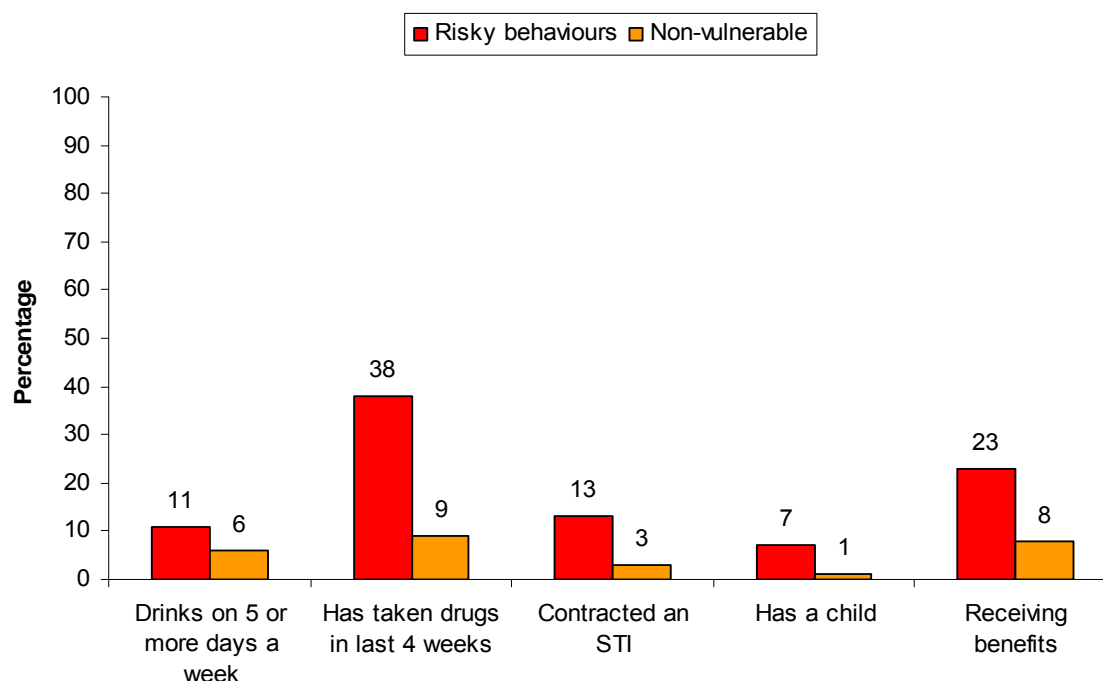
Risk factors at age 14

One of the most striking findings here is that girls were *less* likely to be members of this group (Figure 4.26). This contrasts with most of the other disadvantaged groups, where girls were *more* likely to be members than boys. This group is important as it suggests that boys were disproportionately likely to experience multiple disadvantage. The other predominantly multiply-disadvantaged group, *Socially excluded*, shows no significant difference between boy and girl membership.

Other noticeable factors associated with being in this group are playing truant, particularly persistent truancy, and being suspended, suggesting a certain level of disengagement with school. Young people who were bullied and who felt unfairly treated by their teachers were also more likely to be in this group.

Young people who regularly spent time going out with friends and who had had sexual contact under the age of 16 were more likely to be in this group.

Figure 4.26   Risk factors for the *risky behaviours* group *at age 14/15*[23]

■ **Odds of being in Risky behaviours group**

Gender: *Ref: male*
Female

Ethnicity: *Ref: white*
Black Caribbean

Importance of religion: *Linear*
Religion more important to young person

Bullying: *Ref: not been bullied*
Bullied in Last 12 Months

Attitude to school: *Linear*
More positive attitude to school

Truancy: *Ref: none*
Odd day or lesson

Particular lessons

Days or weeks at a time

Suspension from school: *Ref: never*
Ever been suspended

Frequency of going out with friends in last week: *Linear*
More frequently

Age of first sexual contact: *Ref: 16 or over*
Under 16

Discipline among teachers: *Linear*
Higher levels of discipline among teachers

Treatment by teachers: *Linear*
Feels more unfairly treated by teachers

0.1   Less likely   1   More likely   10

Note: ORs greater than 1 indicate young people who were more likely to be in the *risky behaviours group*, ORs less than 1 indicate young people who were less likely to be in the *risky behaviours group*

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[23] The analysis for Black Caribbean young people is based on a small sample size so should be treated with caution.

Low attainment only group

Summary:
- This group represents 8% of young people
- All of the young people in this group experienced low attainment, and most just experienced this disadvantage - although a few had low risk of emotional health problems
- It is worth noting that not all young people with low attainment were found in this group. A significant number of young people with low attainment are considered elsewhere in the report as their low attainment ties in with other factors such as NEET and substance misuse (for example see *Socially excluded group* below)
- They were more likely than the *non-vulnerable group* to have had contact with welfare services
- Those most likely to be in this group include girls, those with SEN, a less educated mother and those with poor attitudes to school
- They were more likely to be NEET and less likely to be in full-time education than the *non-vulnerable group* at 18/19
- A relatively high proportion received benefits, although they did not have other markedly worse outcomes than the *non-vulnerable group*

The disadvantages this group face

All of the young people in this group had low attainment (they had no GCSEs, GNVQs or equivalent qualifications at grades A*-C) (Figure 4.27). They had a low probability of emotional health concerns and even lower probability of teenage parenthood, but in general the young people in this group had only low attainment.

Figure 4.27   Disadvantage probabilities for the *low attainment only* group *at age 16/17*
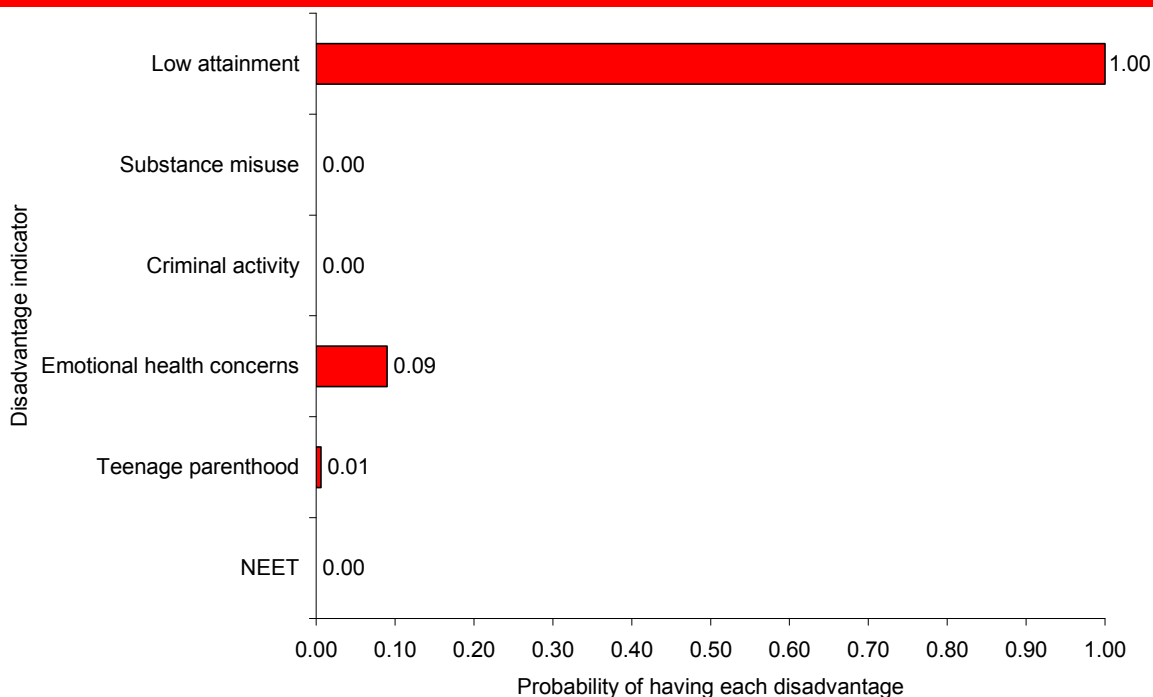
Use of services

Young people in this group were more likely than *non-vulnerable* young people to have had contact with welfare services and, to a lesser degree, contact with the police (Figure 4.28). The incidence of this happening was still relatively low though, with only one in eight (13 per cent) having had this experience.

Figure 4.28   Use of services for the *low attainment only* group *at age 15/16*
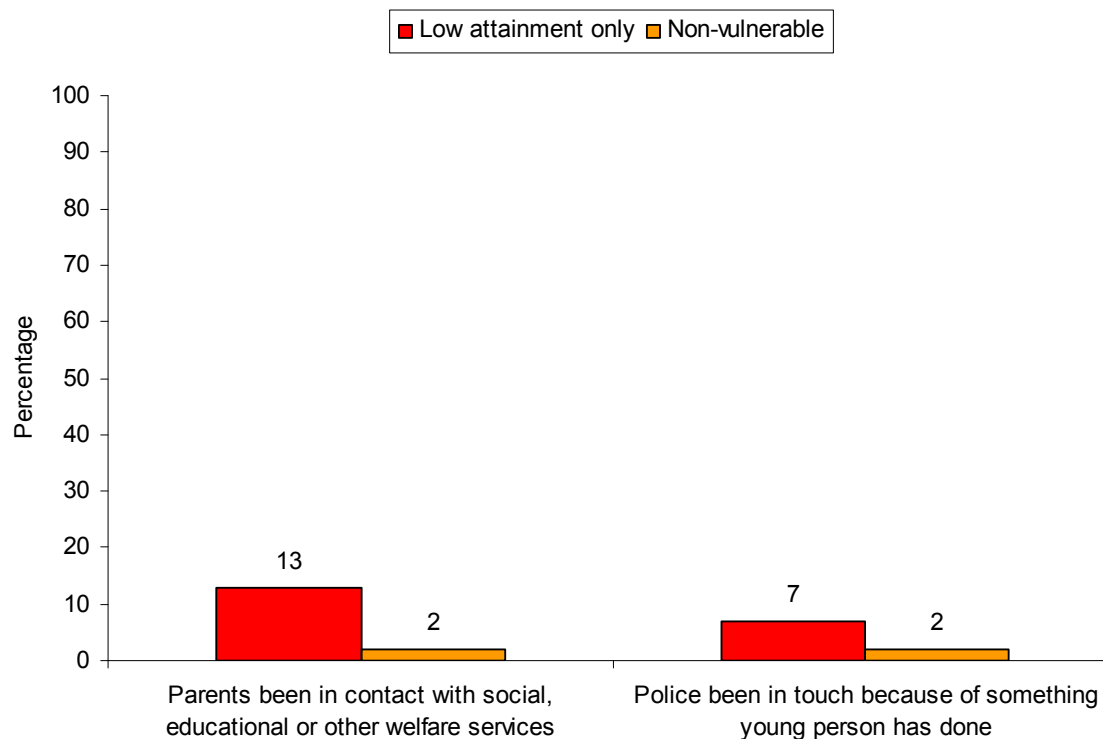
Outcomes at age 18

We would expect young people in the *low attainment only group* to have a different pattern of main activity status at age18/19 from *non-vulnerable* young people – and this is clearly illustrated in Figure 4.29. Young people in this group were four times as likely to be NEET (21 per cent compared with 5 per cent) but slightly more likely to be in full-time work (38 per cent compared with 30 per cent). Again we see a marked difference in the proportions of those in full-time education – only three in ten (30 per cent) of the *low attainment only group* were in education compared with over half (55 per cent) of the *non-vulnerable group*.

Figure 4.29   Main activity status for the *low attainment only* group *at age 18/19*
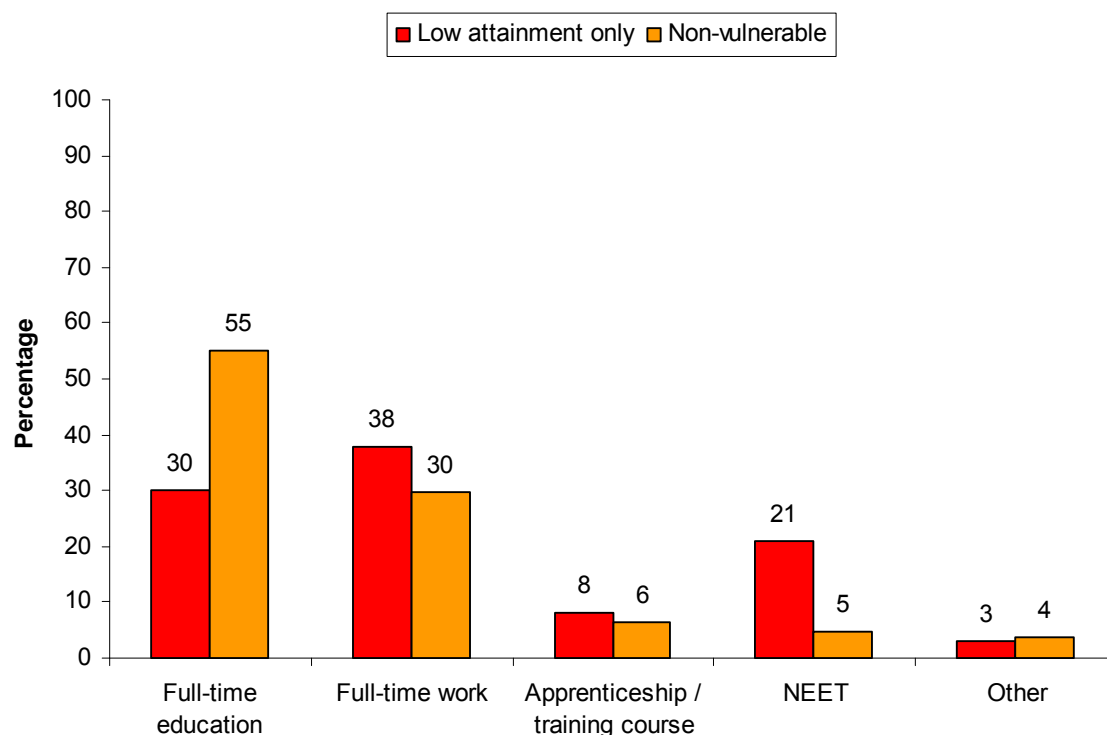
Once more we see striking differences in the study level between the groups (Figure 4.30). As we would expect, very few (3 per cent) of the *low attainment only group* were studying at level 4 or 5, and over half (54 per cent) were not studying at all.

Figure 4.30   Study level of the *low attainment only* group *at age 18/19*
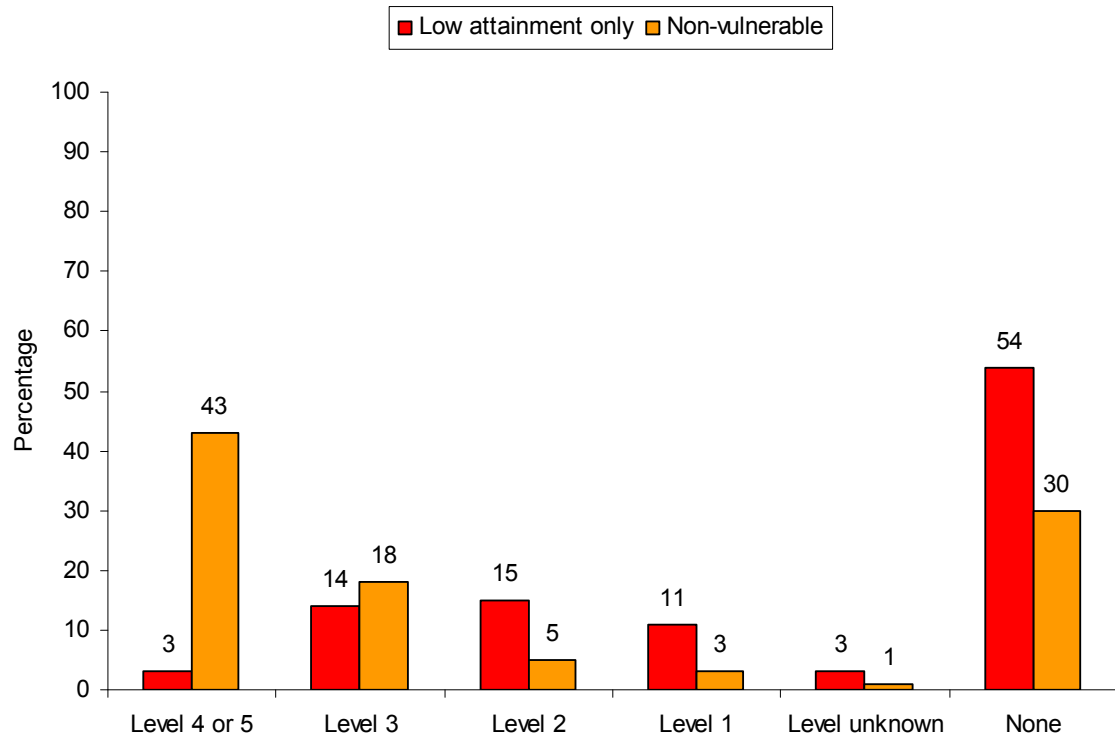
Figure 4.31 shows that the *low attainment only group* were far more likely than the *non-vulnerable group* to be receiving benefits (30 per cent compared with 8 per cent). This is in accordance to a reasonable number of the *low attainment only group* being NEET (plus the fact that low attainment can often lead to low paid work).

Perhaps surprisingly given the preceding findings, there are only marginal differences in socio-economic outcomes. The *low attainment only group* also have a lower rate of recently taking drugs than the *non-vulnerable group*.

Figure 4.31   Socio-economic outcomes for the *low attainment only group at age 18/19*
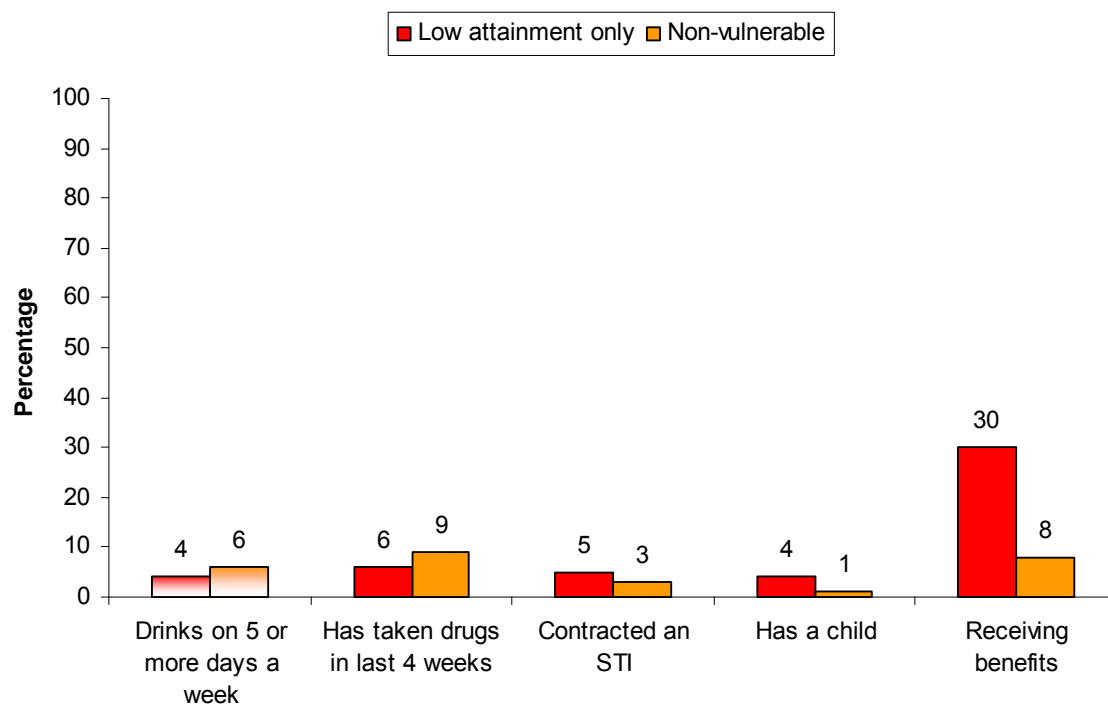
Note: Differences between the groups are statistically significant (p<0.05) except where pairs of bars are in lighter shading (e.g. drinks on 5 or more days).

Risk factors at age 14

There are a multitude of factors associated with being in this group and we focus on the main factors here. One of the most striking findings is that girls were slightly more likely to be in this group than boys (Figure 4.32). This is perhaps slightly surprising given that we know that girls tend to do better than boys at school (DCSF, 2007), however evidence does suggest that there is not a great deal of difference in the number of those that perform badly – which is what our indicator is measuring (it identifies those who did not achieve any GCSE grade C or above, or equivalent qualifications). Our group of young people here are also a particular type of those with low attainment – they are the young people who had low attainment but not our other forms of disadvantage. Other young people with low attainment and other disadvantages appear in some of the other groups[24].

We also see that young people at schools with a greater proportion of Special Educational Needs children were at risk of being in this group. When looking more broadly at family background, it is young people who lived in larger households and who had a poorly educated mother that were most at risk. Having special needs at school and having less educated parents may have contributed to these young people under performing at school.

Young people who moved school in the previous year were also more likely to be in the *low attainment only group* than those who remained in the same school. This finding is supported by other research in this area, which concludes that pupil mobility has a significant detrimental impact on pupil attainment and progress (Strand and Demie, 2007).

When focusing on the behaviours of young people associated with this group we see that young people in this group were more likely to have had a poor attitude to school and more likely to have aspired to be in part-time work or work based training post 16. They were also more likely to have played truant. Those who thought their friends were likely to leave education at 16 also had more than twice the odds of being in this group.

There were few behavioural factors associated with being in this group, but young people who frequently read books for pleasure were less likely to be members. Young people who spent an evening as a family at least once a week were more likely to be in this group – a finding not straightforward to explain so worthy of further investigation (it was outside the remit of this current study). As is the finding that those more likely to be in this group were young people from schools with more pupils who were eligible for free school meals – although further research is required to assess whether pupils do better in mixed school environments where there is a range of backgrounds and a range of abilities.

Young people from more deprived areas were noticeably more likely to be in this group. Other research has confirmed this, stating that teachers in disadvantaged areas often spend a lot of time dealing with pupils' and parents' wider problems (DCSF, 2009).

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[24] It is worth reiterating that young people can appear in just one of our groups.

Figure 4.32   Risk factors for the *low attainment only group at age 14/15*

■ **Odds of being in low attainment group**

Factor	
Gender: *Ref: male* Female	
SEN: *Ref: no SEN* Has SEN	
Changed school in last 12 months: *Ref: no* Yes	
Household size: *Linear* Larger household	
Single parent family: *Ref: no* Yes	
Mother's highest qualification: Linear Higher qualified mother	
Parental health Linear Poorer parental health	
Attitude to school: *Linear* More positive attitude to school	
Post-16 aspirations: *Ref: full-time education* Work-based training or part-time education	
Friends' aspirations: *Ref: stay in education* Leave education	
Parents think leaving school at 16 limits opportunities: Ref: no Yes	
Spent evening as a family at least once a week: Ref: no Yes	
Truancy: Ref: none Days or weeks at a time	
Reading for pleasure: *Linear* More frequently reads	
School level of free meal eligibility: *Linear* More pupils who were eligible for free meals	
School level of SEN: *Linear* More pupils with SEN	
Area IDACI score: *Linear* Higher deprivation affecting children score	

0.1   Less likely   1   More likely   10

Note: ORs greater than 1 indicate young people who were more likely to be in the *low attainment only group*, ORs less than 1 indicate young people who were less likely to be in the *low attainment only group*

Socially excluded group

Summary:
- This was the smallest of the groups, representing 6% of young people
- Young people in this group had two disadvantages on average, although some had more
- Tended to be NEET and had relatively high chance of low attainment, and, to a lesser extent, emotional health concerns and substance misuse
- Young people in this group were more likely than those in the *non-vulnerable group* to have accessed welfare services and to have had contact with the police
- Young people in this group tended to come from more disadvantaged backgrounds, and they had problems at school such as being SEN, having negative attitudes and playing truant
- A high proportion of these young people remained NEET at age 18/19 and very few were studying
- Over half were claiming benefits and one in five had children at age 18/19

The disadvantages this group face

The majority of young people in this group were NEET for at least six of the previous twelve months (Figure 4.33). This is also a group likely to face multiple disadvantages. We saw in the earlier correlation analysis that being NEET was associated with certain other of the remaining five disadvantages, and two of these are prominent amongst this group; low attainment and substance misuse. These young people also had propensity for emotional health concerns.

This group have been called the *socially excluded group* because of their complex set of disadvantages which suggests a detachment from mainstream society. The report will go on to show that this group also have poor outcomes in line with young people identified in the seminal report on young people with complex needs by the Social Exclusion Unit (2005).

Figure 4.33   Disadvantage probabilities for the *socially excluded* group *at age 16/17*
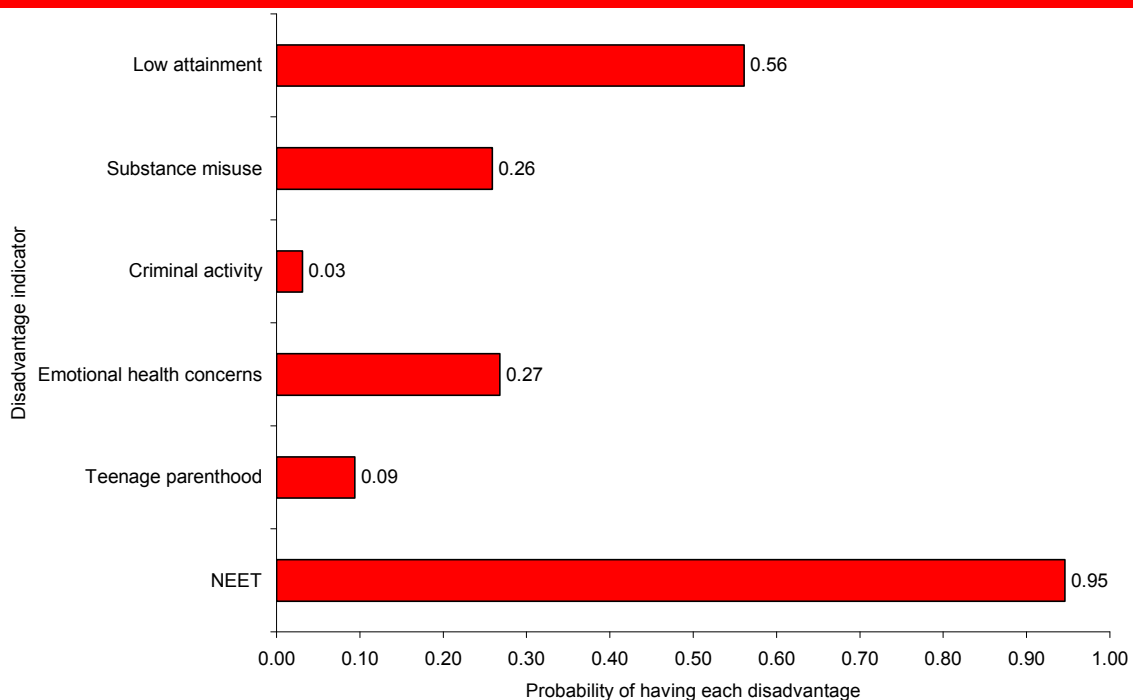
Use of services

Young people in this group were ten times more likely to have accessed welfare services than those in the *non-vulnerable group*. They were also more likely to have had contact with the police (Figure 4.34).

Figure 4.34   Use of services for the *socially excluded group at age 15/16*

Figure 4.34   Use of services for the *socially excluded group at age 15/16*
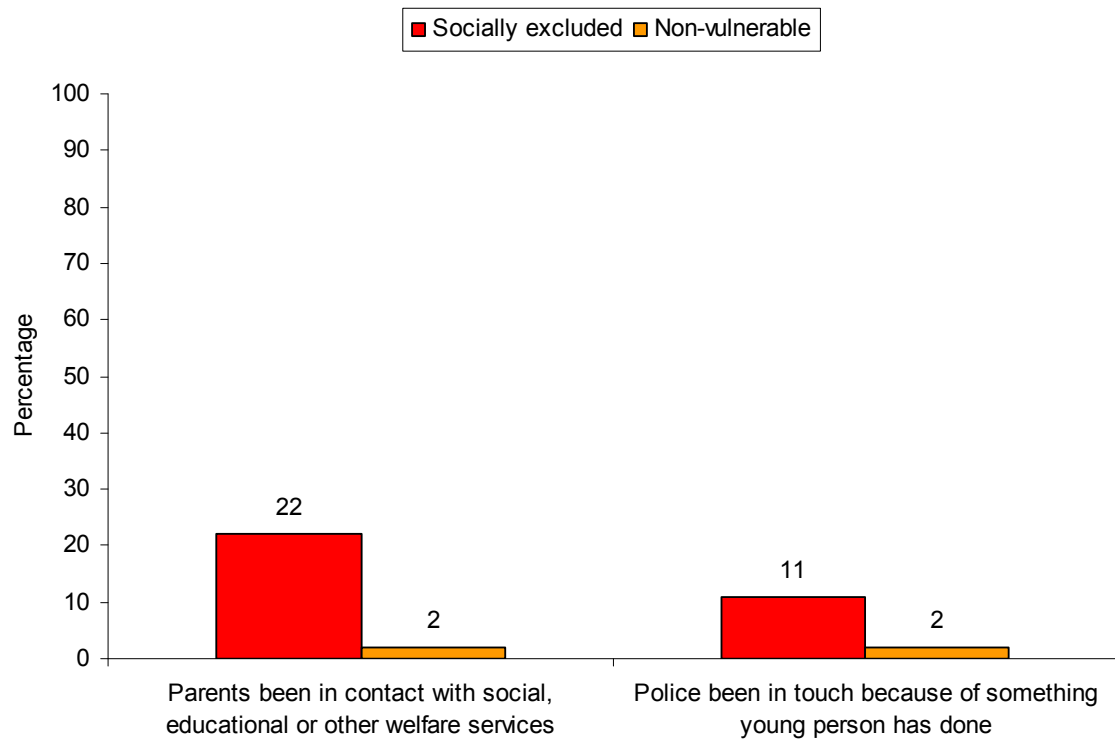
Outcomes at age 18

The vast majority (95 per cent) of young people in this group were NEET at age 16/17, and the proportion NEET two years later had halved (42 per cent) (Figure 4.35). However, this is still a very high proportion and nearly nine times higher than the average rate amongst young people in the *non-vulnerable group.* There is also a significant proportion in full-time work, and it really is the very few in full-time education, plus the high proportion of young people NEET that characterises this group.

Figure 4.35   Main activity status for the *socially excluded group at age 18/19*
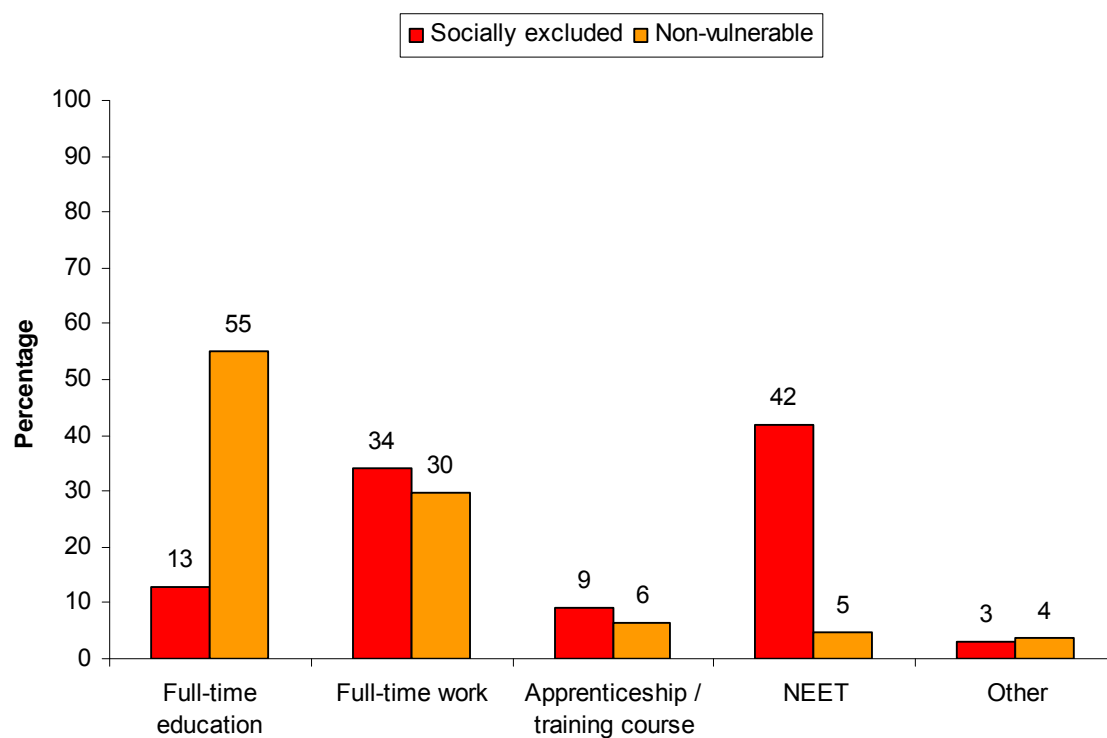
Markedly fewer of this group were currently studying than the *non-vulnerable group* (29 per cent compared with 70 per cent) (Figure 4.36). The majority of those that were studying were spread around levels 1 to 3. Only two per cent were studying at level 4 or 5.
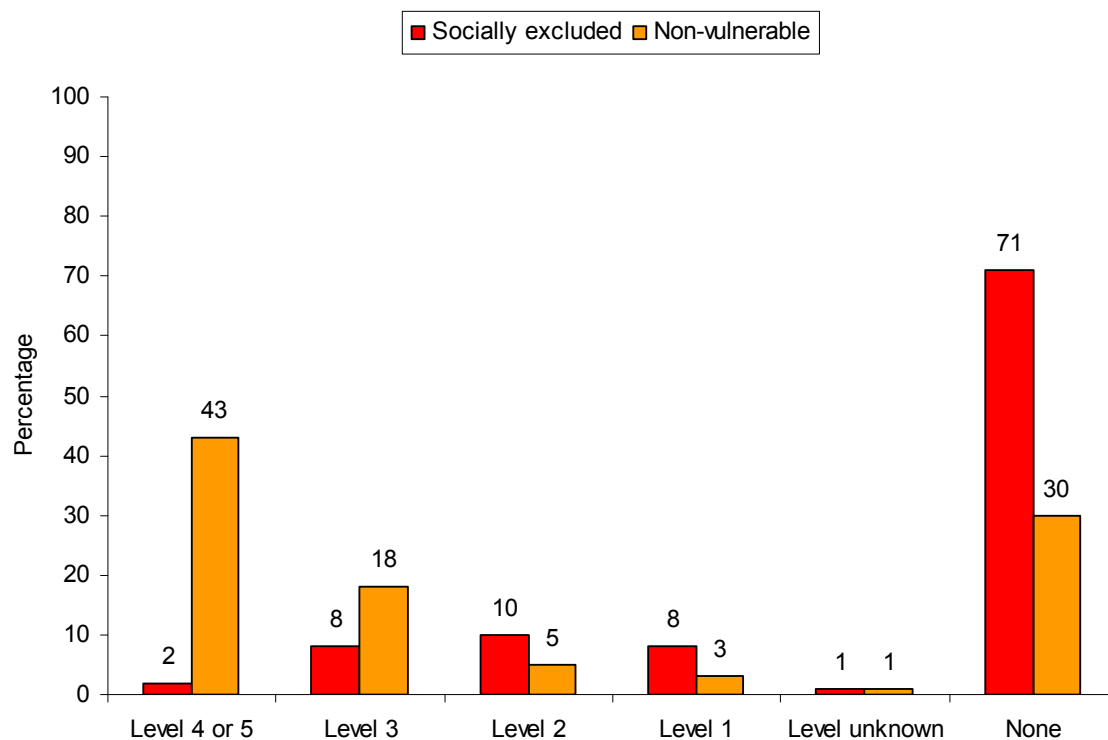
Having a high proportion of young people NEET in this group is likely to have an impact on socio-economic outcomes for these people – and we see below that over half of young people in this group were in receipt of benefits (Figure 4.37). These young people were more likely to have children, one in five (21 per cent) had become parents by the time they were 18/19 – a huge proportion compared with those in the *non-vulnerable group* (1 per cent of whom had children). They were also more likely than the *non-vulnerable group* to have contracted a Sexually Transmitted Infection, and, to a lesser extent, taken drugs.

Figure 4.37   Socio-economic outcomes for the *socially excluded group at age 18/19*
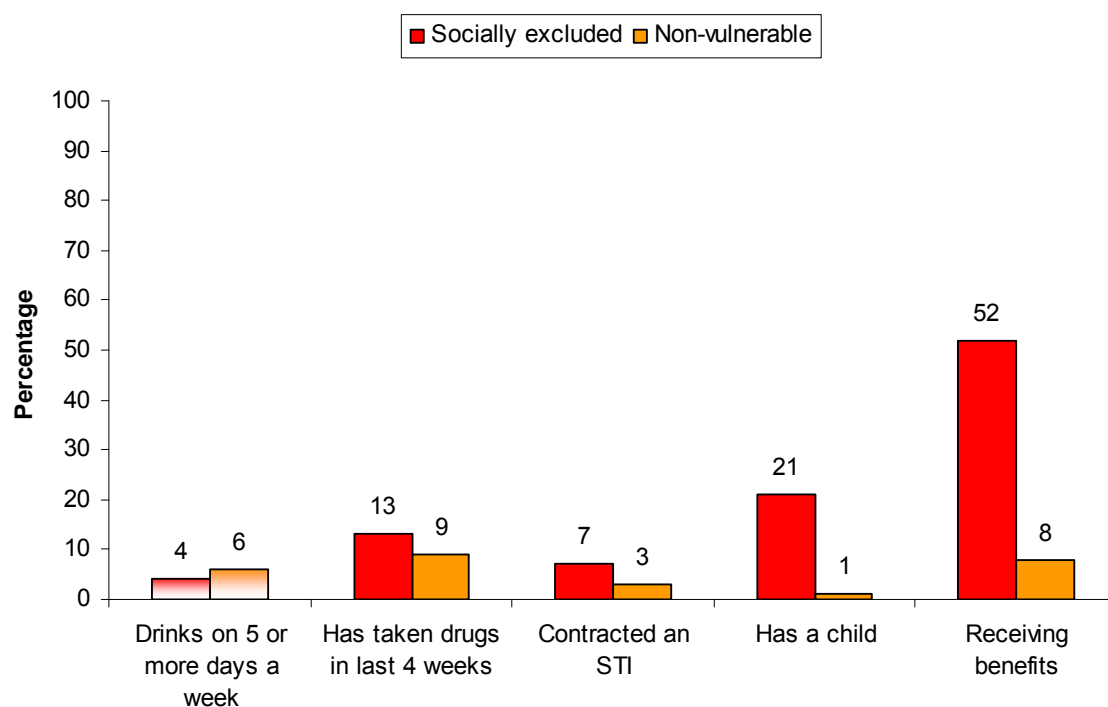
Note: Differences between the groups are statistically significant (p<0.05) except where pairs of bars are in lighter shading (e.g. drinks on 5 or more days).

Risk factors at age 14

Young people from more disadvantaged backgrounds were more likely to be in this group, including those whose parents had poor health and those from single parent families (Figure 4.38).

Being able to engage with school seemed difficult for this group. They tended to have had more negative attitudes to school than the *non-vulnerable group* and were more likely to have played truant (although not systematically). These young people also aspired to leave education to go into work-based training or full-time work, and believed most of their friends would be leaving education at 16 too.

Young people whose mother had higher qualifications and whose parents went to parents' evenings were less likely to be in this group.

Figure 4.38   Risk factors for the *socially excluded group at age 14/15*

■ **Odds of being in Socially excluded group**

Single parent family: *Ref: no*
Yes

Mother's highest qualification: Linear
Higher qualified mother

Parental health Linear
Poorer parental health

Attitude to school: *Linear*
More positive attitude to school

Post-16 aspirations: *Ref: full-time education*
Work-based training or part-time education

Full-time work

Friends' aspirations: *Ref: stay in education*
Leave education

Parents been to parents' evenings: *Ref: no*
Yes

Truancy: Ref: non
Odd day or lesson

School level of SEN: *Linear*
More pupils with SEN

| 0.1 | | 1 | | 10 |

Less likely   More likely

Note: ORs greater than 1 indicate young people who were more likely to be in the *socially excluded group*, ORs less than 1 indicate young people who were less likely to be in the *socially excluded group*

4.6   Summary

This chapter has explored the relationship between disadvantages and shown that certain disadvantages are more likely to occur together, whilst others tend to happen in isolation (at least in terms of the six disadvantages we focus on). This is important information as knowing which disadvantages young people have is key to effective policy making.

The combinations of disadvantages young people have are vast and we have identified six groups of young people – each of whom share similar experiences of disadvantage. These vary from a group with no disadvantages, to those who tend to have just a solitary disadvantage, and those who face a number of disadvantages at the same time.

In the next chapter we summarise the key findings for each group and concentrate on making comparisons across the groups. This allows us to assess issues such as which groups have poorer outcomes and whether there are any risk factors common to a number of the groups.

5   Conclusions and recommendations

This chapter begins with a summary of the main findings from this research, including a concise description of the six groups of young people we have identified. We then go on to compare and contrast the six groups, identifying similarities and differences in the disadvantages they face, their outcomes and the factors linked to being in each group. We conclude by relating the findings to current government policy and recommend areas for future policy development.

5.1   Summary of main findings

Young people face a multitude of challenges during adolescence and being able to fulfil their potential can be constrained by experiences of disadvantage. Whilst the experience of a single disadvantage can create difficulties for young people, multiple disadvantages can often interact and exacerbate one another, leading to more harmful and costly outcomes for both the young person and society as a whole.

This research used data from the Longitudinal Study of Young People in England (LSYPE) to explore multiple disadvantage. It used six indicators of disadvantage for young people when aged 16/17 - low attainment (19 per cent), being Not in Education, Employment or Training (8 per cent of young people aged 16/17), teenage parenthood (1 per cent), emotional health concerns (22 per cent), criminal activity (9 per cent) and substance misuse (15 per cent) – and grouped young people according to the combinations of disadvantaged they experienced. Because LSYPE interviews the same young people on an annual basis we were able to look at their outcomes at the end of their teens and also go back and see what they were doing in their school years, which helps us identify which young people are most at risk of disadvantage.

Almost half (45 per cent) of young people experienced at least one of the six disadvantages at age 16/17. Two-thirds of these young people had just one disadvantage and it is young people with two or more, i.e. multiple, disadvantages that this research was most interested in as they were the young people most likely to be vulnerable to poor outcomes.

More than one in six (15 per cent) of young people had two or more of the six disadvantages. Certain disadvantages tend to occur alone, such as emotional health concerns; whereas others occur together. For example, more than two in five young people NEET had two or more additional disadvantages. We also found that certain pairs of disadvantages were more likely to occur together, such as low attainment and NEET, criminal activity and substance misuse, and, low attainment and substance misuse.

But the crux of our research was to identify groups of young people who were characterised by the combination of disadvantages they experienced. We used Latent Class Analysis, a statistical technique that identifies patterns in multivariate data, and identified six distinct groups - a group with no disadvantages (the *non-vulnerable group*) and five groups of disadvantaged young people: *emotional health concerns group*, *substance misuse group*, *risky behaviours group*, *low attainment only group* and the *socially excluded group*.

Below we illustrate the characteristics of each group in terms of their size, the number and type of disadvantages they faced, their outcomes at age 18/19 and risk factors at age 14/15. In the following section we compare and contrast the groups in detail, and draw out some of the key similarities and differences in terms of risk factors and later outcomes.

Figure 5.1   Summarising the six groups of young people

Non-vulnerable group

Size: 55 per cent of young people
Average number of disadvantages: Zero
Main disadvantages: None
Contact with services: Very little
Most likely to be in group when age 14:
- Positive attitude to school
- Few difficulties at school
- Advantaged socio-economic background

Outcomes at age 18:
- 55% in full-time education
- 30% in full-time work
- 9% taken drugs in last four weeks
- 8% receiving benefits

Emotional health concerns group

Size: 16 per cent of young people
Average number of disadvantages: 1.1
Main disadvantages: Emotional health concerns only
Contact with services: Very little
Risks factors at age 14:
- Girls
- Bullied
- First sexual contact under 16

Outcomes at age 18:
- 58% in full-time education
- 27% in full-time work
- 14% taken drugs in last four weeks
- 12% receiving benefits

Substance misuse group

Size: 8 per cent of young people
Average number of disadvantages: 1.5
Main disadvantages: Substance misuse. Some risk of low attainment, emotional health concerns
Contact with services: Some but low
Risks factors at age 14:
- Girls
- Disengaged at school

Outcomes at age 18:
- 28% in full-time education
- 15% NEET
- 27% taken drugs in last four weeks
- 22% receiving benefits

Risky behaviours group

Size: 8 per cent of young people
Average number of disadvantages: 2.2
Main disadvantages: Criminal activity. 50/50 risk of substance misuse. Some risk of low attainment, emotional health concerns
Contact with services: 25% with police
Risks factors at age 14:
- Boys
- Truancy (including persistent), suspended, bullied

Outcomes at age 18:
- 26% in full-time education
- 18% NEET
- 38% taken drugs in last four weeks

Low attainment only group

Size: 8 per cent of young people
Average number of disadvantages: 1.1
Main disadvantages: Low attainment only
Contact with services: Some but low
Risks factors at age 14:
- Person has Special Educational Need
- Disadvantaged family
- Persistent truancy
- School with high proportion of SEN pupils, deprived area

Outcomes at age 18:
- 30% in full-time education
- 21% NEET
- 30% receiving benefits

Socially excluded group

Size: 6 per cent of young people
Average number of disadvantages: 2.2
Main disadvantages: NEET. 50/50 chance of low attainment. Some risk of substance misuse, emotional health concerns
Contact with services: Welfare services
Risk factors at age 14:
- Single parent family, poor parental health
- Aspire to work at 16, truancy

Outcomes at age 18:
- 13% in full-time education
- 42% NEET
- 21% have a child
- 52% receiving benefits

5.2   Comparing the groups

So far we have focused on each disadvantaged group in turn, describing in detail their characteristics, the risk factors associated with being a member of each group, and their longer term outcomes. Here we explore the findings across groups, looking at where there are both similarities and differences enabling us, in particular, to identify whether there are any key factors that increase young people's risk of being in more than one disadvantaged group; risk factors that policy should pay particular attention to if it is to gain the greatest benefits. We also consider which groups tend to have the most problematic outcomes two years later when the young people are aged 18/19.

Risk factors at age 14/15

In terms of the individual characteristics that young people share, gender shows a very clear relationship with disadvantage (see Appendix E which presents all the odds ratios showing how well each characteristic predicts being in each of the groups).

Gender

Girls were significantly more likely to be disadvantaged than boys. They had twice the odds of being in the *emotional health concerns* group, and one and a half times the odds of being in both the *substance misuse* and *low attainment only group*s than boys (although they were much less likely to be in the *risky behaviours* group). It is not surprising that girls were more likely to have emotional health concerns than boys, with evidence elsewhere clearly demonstrating girls' higher vulnerability for mental health issues, particularly around this age (Calvete and Cardenoso, 2005; Bebbington et al, 2003). However the fact that they were more likely to be in the *low attainment only* and *substance misuse* group is more surprising. Overall, girls tend to perform better at GCSE than boys. This finding clearly demonstrates is that for some girls this is not the case, and that policies aimed at improving attainment should take care to ensure they are not overlooked. In addition, what this confirms is that girls are just as prone to problem drinking as are boys (Green and Ross, 2010).

Been bullied

Whether the young person had reported at age 14/15 that they had been bullied in the previous twelve months shows a very clear relationship with being a member of three of the disadvantaged groups (Figure 5.2). These young people had twice the odds of being in the *emotional health concerns* and *risky behaviour* groups and over one and a half times the odds of being in the *substance misuse* group. This finding hints at the severe impact that experiencing bullying can have on young people's lives - a finding that also replicates the results of other recent reports highlighting the consequences that bullying can have on young people's engagement with education (Ross, 2009), their attainment (Brown and Taylor, 2005; Green, et. al., 2010) as well as their drinking behaviour (Cebulla and Tomaszewski, 2009; Green and Ross, 2010). It's perhaps not surprising that being bullied is associated with being in the three disadvantaged groups noted for their relatively high levels of emotional health concerns or substance misuse.

<div style="background-color:red; color:white; padding:4px;">Figure 5.2   Odds of being in disadvantaged groups if bullied in the last 12 months at age 14/15</div>
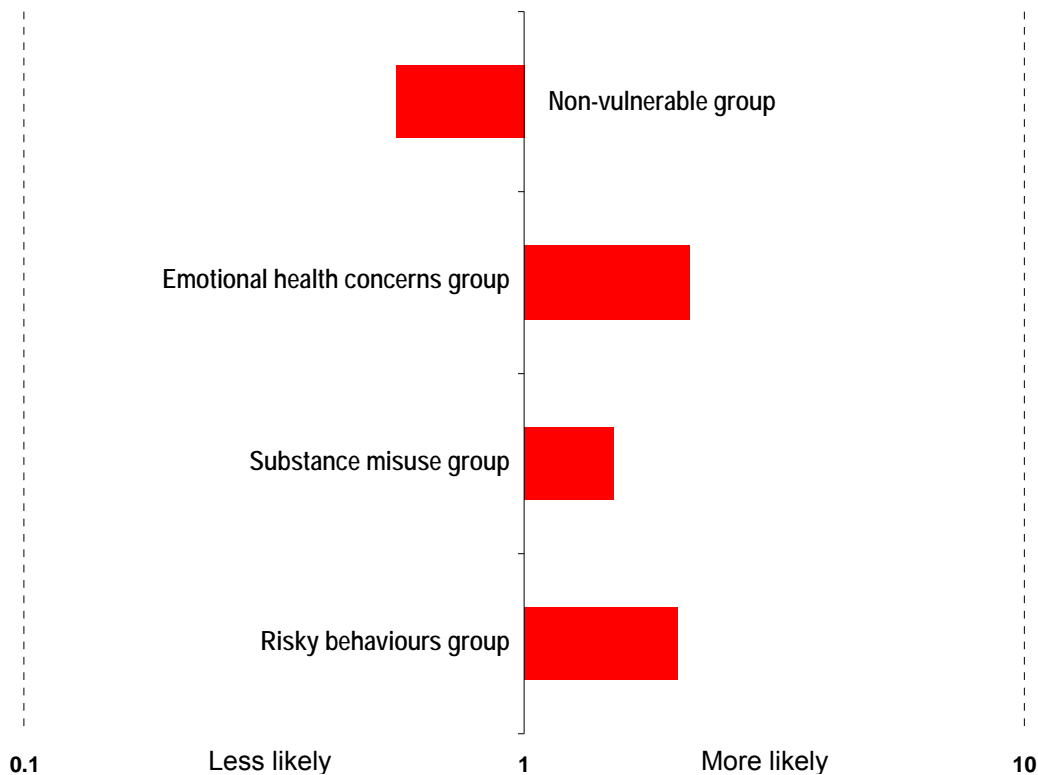
Note: ORs greater than 1 indicate young people who were bullied were more likely to be in the disadvantaged group compared with being in the non-vulnerable group, ORs less than 1 indicate young people who were bullied were less likely to be in this group. The reference category for the non-vulnerable group result is *all* disadvantaged young people

Attitudes to school and education

Disengagement from education is unambiguously related to young people's disadvantage suggesting that it is a key component of disadvantage among young people which can lead to damaging outcomes not necessarily related to education, for example becoming a teenage parent. There is a clear relationship between young people's attitudes to school in Year 10 and their subsequent membership of all of the disadvantaged groups, and a similar although mixed relationship with young people's aspirations and levels of truancy (Figure 5.3). Young people with poor attitudes to school were more likely to be in the *substance misuse*, *low attainment only* and *socially excluded* groups, and also, although to a lesser degree, the *risky behaviour*s and the *emotional health concerns* groups[25].

Figure 5.3   Odds of being in disadvantaged groups according to attitudes to school/education at age 14/15

Note: ORs greater than 1 indicate young people who were had positive attitudes were more likely to be in the disadvantaged group compared with being in the non-vulnerable group, ORs less than 1 indicate young people who had positive attitudes were less likely to be in this group. The reference category for the non-vulnerable group result is *all* disadvantaged young people

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[25] Although the size of the bars suggests this relationship is relatively small, young people's attitudes to school are measured on a continuous scale so the bars actually reflect the reduced risk of being in each of the disadvantaged classes with each one-unit increase in positive attitudes. The full range of variation is captured on a scale of 1-30.

Truancy

There is also a very pronounced relationship between the truanting behaviour and aspirations of young people and their subsequent disadvantage (Figure 5.4). Truancy is especially predictive of becoming a member of the *risky behaviours* group, with between 4 and 9 times the odds of being in this group, which increases with increasing frequency of truancy. These are the young people noted for their engagement in criminal activities, but they also had a relatively high probability for substance misuse and low attainment. Skipping classes also allows young people more time spent unsupervised by adults, which is of course conducive to engaging in risky behaviours.

Figure 5.4   Odds of being in disadvantaged groups according to truancy at age 14/15

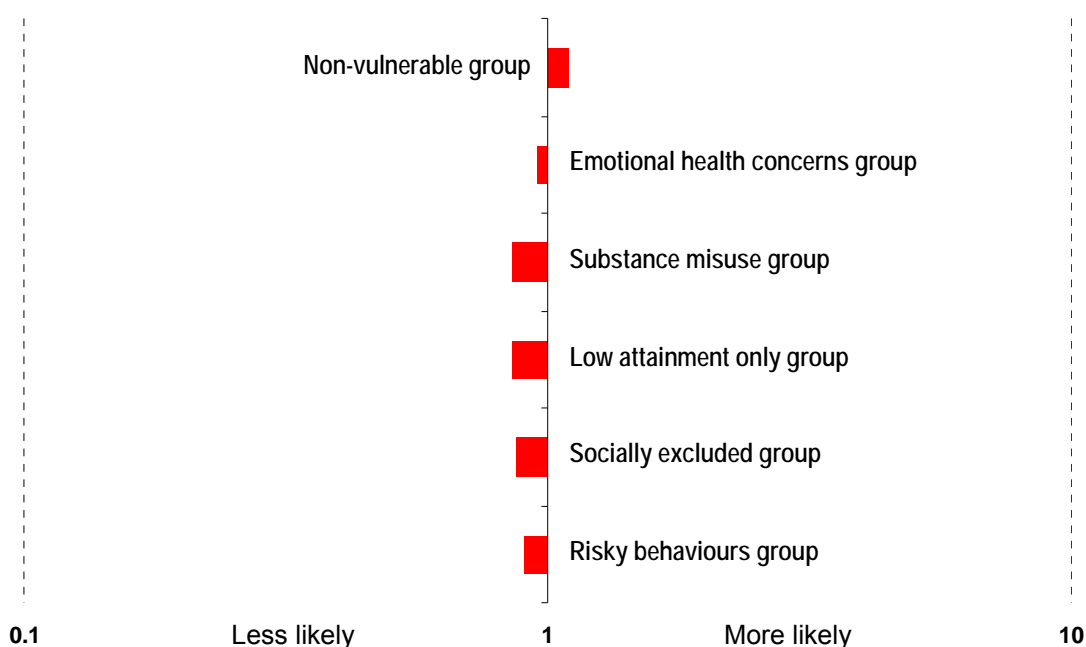Note: ORs greater than 1 indicate young people who truanted were more likely to be in the disadvantaged group compared with being in the non-vulnerable group, ORs less than 1 indicate young people who truanted were less likely to be in this group. The reference category for the non-vulnerable group result is *all* disadvantaged young people. The reference category for truancy is 'did not truant'.

Aspirations

Aspirations, on the other hand, are associated with being in the *low attainment only* and *socially excluded* groups, with increased odds among young people who aspired to do full-time work, work-based training or part-time education as opposed to continuing in full-time education (reference category).

We cannot be certain of the direction of causation from this analysis, i.e. previous low attainment may contribute to the low aspirations of some young people, and engaging in risky behaviours may contribute to some young people skipping classes. However, the relationship is most likely to be reciprocal, highlighting the importance of policies that are aimed at increasing young people's aspirations and engagement with school and education in general (Ross, 2009). What these findings also demonstrate is that different manifestations of disengagement are associated with different disadvantages later on. Truancy appears to be associated with engagement in risky behaviours whereas low aspirations are more associated with inactivity and low attainment. There is also evidence that the parents of young people in the groups noted for their low attainment were also less engaged with their child's education. Parents were also less likely to recognise the importance of getting a good education - highlighting the importance of policies aimed at parents too.

| Figure 5.5 | Odds of being in disadvantaged groups according to young people's aspirations at age 14/15 |

Note: ORs greater than 1 indicate young people who had this aspiration were more likely to be in the disadvantaged group compared with being in the non-vulnerable group, ORs less than 1 indicate young people who had this aspiration were less likely to be in this group. The reference category for the non-vulnerable group result is *all* disadvantaged young people. The reference category for aspirations is 'full-time education'.

This finding supports those of a study on disengagement from education (Ross, 2009) which distinguished between groups of individuals defined by their attitudes, truancy and aspirations. Young people with the highest levels of truancy were also the most likely to engage in other risky behaviours, but this did not always predict low attainment. What this suggests is that young people's disengagement needs to be tackled differently depending on how it is manifested, and it is likely to have different consequences for different young people. What the study also found however, is that most young people were already engaged or disengaged by the time they were in Year 9 (aged 13/14). Therefore policies aimed at improving engagement probably need to intervene earlier than the data enabled us to explore here.

Although young people in the *emotional health concerns* group also tended to have poorer attitudes to school than the *non-vulnerable* young people and skipped the odd class, they were more likely to aspire to continue with their education. In addition, they were also more likely to have parents who thought that leaving school at age 16 limits young people's opportunities. These young people may be more focused on their education and there is evidence that some of this may come from their parents - a factor that in itself may be contributing to their emotional health concerns. We are not suggesting that parents shouldn't encourage their children to aspire and achieve, but that high expectations should also be accompanied by the support, which may be needed to handle the pressures that these aspirations can bring.

Other factors

Two of the disadvantaged groups - *low attainment only*, and, *socially excluded* - were particularly related to a young person's background. Individuals in these groups were more likely to live in a single parent family, have a mother with a limited education, and a parent with poor health. Young people in the *low attainment only group* were also more likely to come from a larger family. What this suggests is the important role that socio-economic background, but also family health, plays in a young person's attainment. However, it is perhaps surprising that these same factors identifying family disadvantage do not appear to be important for predicting substance misuse, engagement in risky behaviours or young people's emotional health, once all other factors have been taken into account.

There is also evidence that early sexual contact (before age 16) was predictive of being a member of the *emotional health concerns*, *substance misuse* and *risky behaviours* groups (Figure 5.6). The relationship with the latter two groups may highlight the relationship between problem drinking behaviour, risk taking behaviour and early sexual exploration. Previous research has also suggested teenagers who have sex are at risk of emotional problems, particularly for girls, although the direction of this relationship is difficult to prove and may in fact go both ways (Hallfors et al, 2005).

Finally, one last finding of particular note is the relationship between perceived teacher discipline and being in the *emotional health concerns* or the *risky behaviours* groups. Young people in both groups were more likely to consider that discipline was poor in their schools, illustrating the importance of discipline for managing young people's behaviour. This finding also highlights the importance of discipline for all young people, not just those who are the most likely to be unruly, as it appears that teachers' levels of discipline also have an impact on other young people's emotional wellbeing.

Figure 5.6   Odds of being in disadvantaged groups according to sexual activity prior to age 16
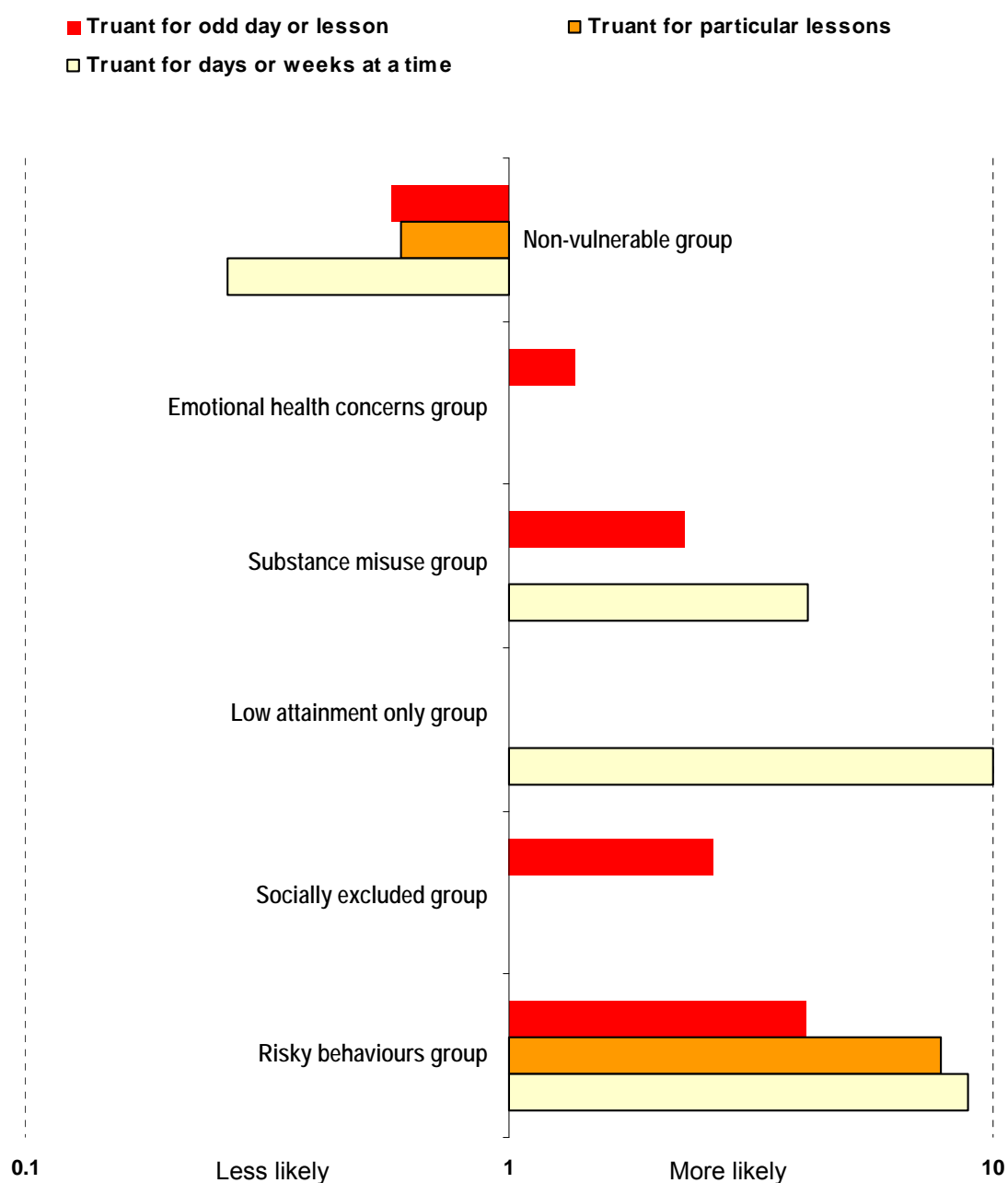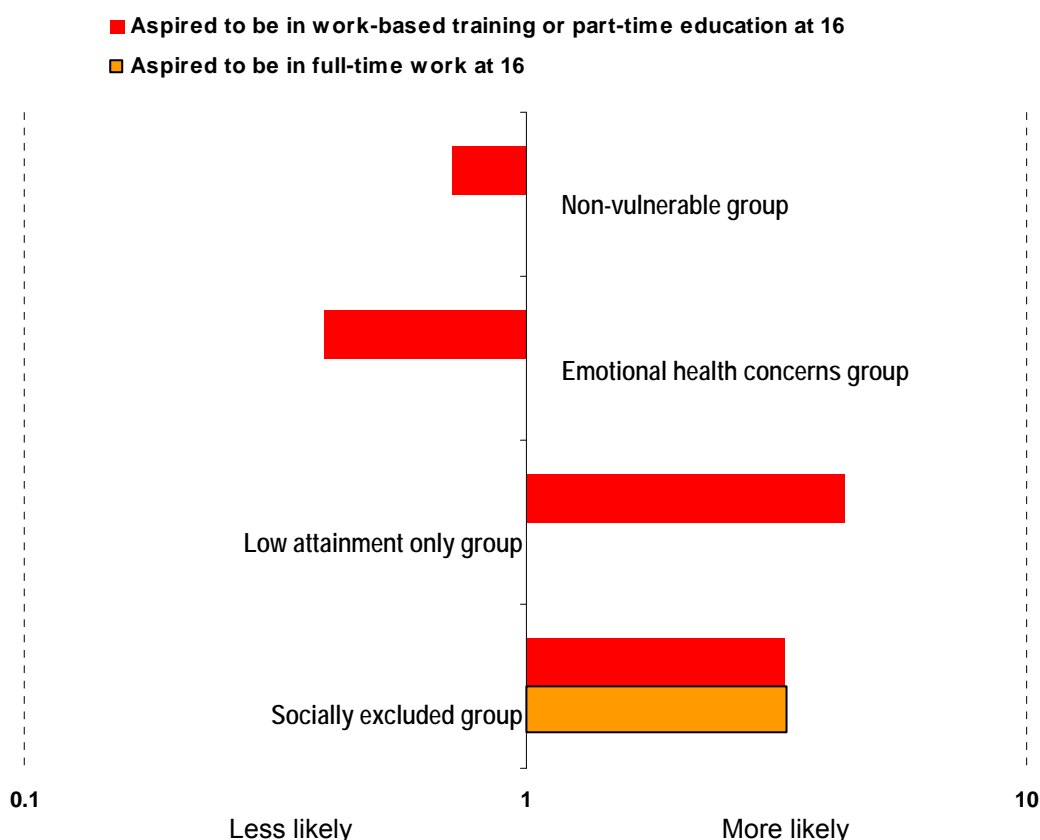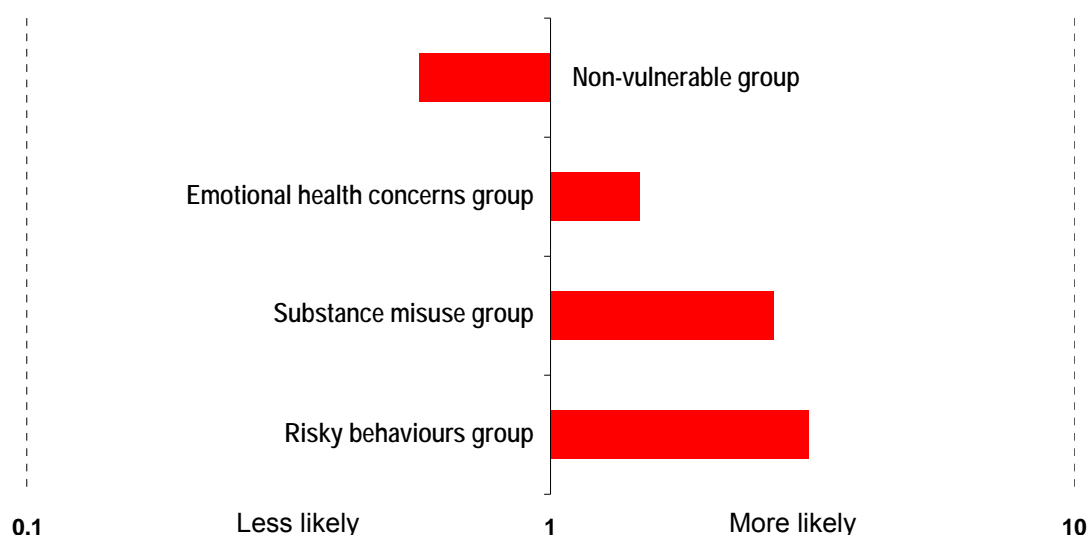

Note: ORs greater than 1 indicate young people who had early sexual activity were more likely to be in the disadvantaged group compared with being in the non-vulnerable group, ORs less than 1 indicate young people who had early sexual activity were less likely to be in this group. The reference category for the non-vulnerable group result is *all* disadvantaged young people.

Service use

Figure 5.7 below shows the proportion of young people in each group whose parents had been in contact with social, educational or other welfare services because of their behaviour at home or at school, or whether the police had been in contact with them because of something the young person had done. The figure shows that the parents of young people in the disadvantaged groups were more likely to have had contact with services than the non-vulnerable young people, which is of course not surprising. This is especially so among those in *the socially excluded* group, but also (in order of prevalence) among those in the *risky behaviours, low attainment only and substance misuse* groups. This suggests that those who were multiply disadvantaged were the most likely to have received some kind of intervention. However the overall incidence remains fairly low suggesting that perhaps more could be done to ensure this type of support is more widely available. Unfortunately we are unable to determine from the data the actual type of support these families are receiving and whether it is also sustained.[26]

Figure 5.7 also shows the proportion of parents who had been contacted by the police because of something their child had done. Not unsurprisingly the parents of young people in the *risky behaviours* group, i.e. those most likely to have engaged in criminal activities, were more likely to have had a visit by the police. They were twelve times more likely to have had contact with the police than the parents of non-vulnerable young people, and more than twice as likely as the other disadvantaged groups. Whilst this appears to reflect a very negative contact with services, we would suggest that the outcome could be positive with the potential identification of interventions that could serve to help improve the life chances of these young people. Of course we are unable to measure the direct

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[26] Another important point to note is that service use is measured in the year prior to the one in which we measure young people's disadvantage. It is therefore likely that some of these young people may not have actually been disadvantaged at that time.

outcome of this contact, and this contact is also very dependent on the young person being caught in the first place.

Figure 5.7   Use of services at age 15/16
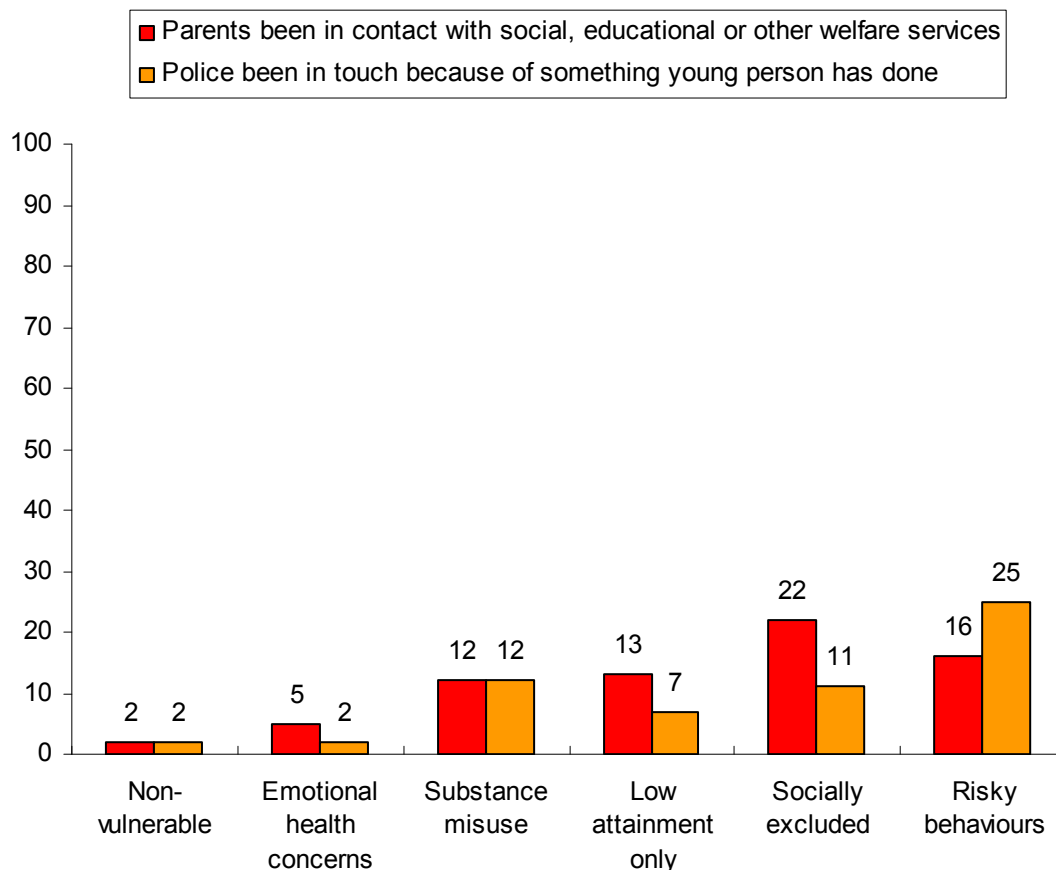
Outcomes at age 18/19

Below we present two charts which together describe young people's disadvantage over time. Figure 5.8 describes the average number of disadvantages among young people in each group measured when they were aged 16/17 (i.e. the average number of indicators that were used to define the groups). The second chart, Figure 5.9, describes a similar (although not identical) set of disadvantages two years later when the young people were aged 18/19. The separate segments that make up the bars in this chart represent the proportion of young people in each group who had that particular disadvantage, which can of course overlap. What this demonstrates is that even though the set of disadvantages are not identical, the overall picture regarding the different groups remains the same. Those young people who were most disadvantaged at age 16/17, i.e. both the *risky behaviours* and the *socially excluded* groups but also to a lesser degree the *substance misuse* group, are the very same groups that were most likely to experience disadvantage two years later.

Figure 5.8   Average number of disadvantages per group at age 16/17

Figure 5.8   Average number of disadvantages per group at age 16/17

Figure 5.9   Disadvantages experienced at age 18/19
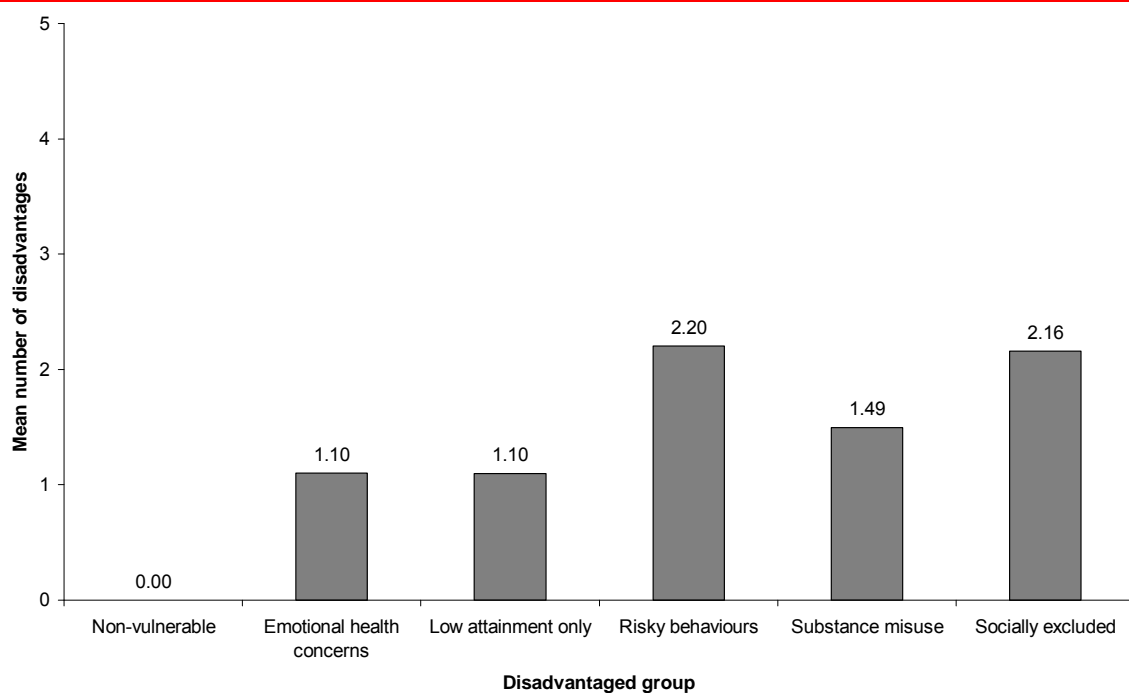
Figure 5.9   Disadvantages experienced at age 18/19
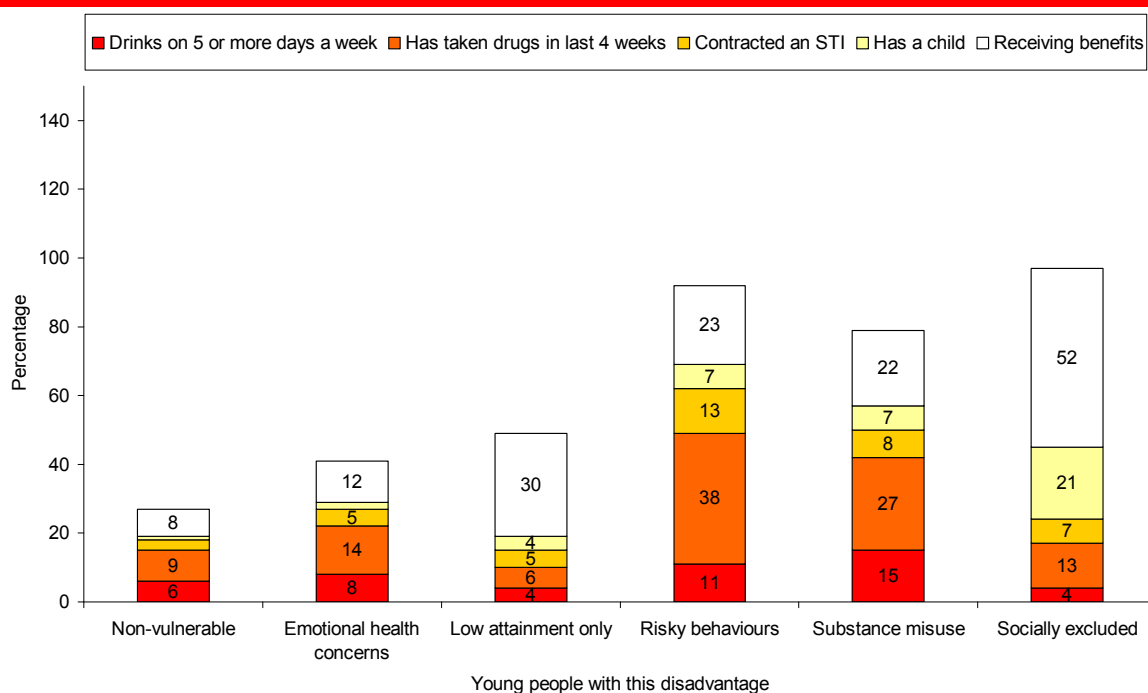
Notes:
- Each segment represents the percentage of young people who had that particular disadvantage. The y-axis is greater than 100% because the same young person may have had more than one disadvantage
- Some figures are too small to show in the chart. For the *non-vulnerable group,* 3% had contracted an STI and 1% had a child. For the *emotional health concerns group* 2% had a child.

The relative height of each bar in Figure 5.9 is broadly similar to the relative height of the bars in Figure 5.8, again suggesting that the relative prevalence of disadvantage that young people experienced remains fairly stable over time. There is evidence of an increasing broader range of disadvantage among young people who were in the

emotional health concerns group, although we remain cautious in our interpretation of this as the disadvantages described are not identical at each time point. Nevertheless, in terms of drinking alcohol, where the measures remain similar across time, those in the *emotional health concerns* group at age 16/17 showed a greater propensity for problematic drinking as they get older, perhaps reflecting the impact that their poor emotional health is having on their health-related behaviour.

There is also a clear relationship between the nature of the groups as defined when the young people were aged 16/17 and the kinds of disadvantage young people in these groups tend to face later on. Young people noted for their low attainment or combined low attainment and inactivity (the *socially excluded* group) were those most likely to have been in receipt of benefits two years later. Young people in the *risky behaviours* group were those most likely to have taken drugs in the last four weeks, or to have contracted a sexually transmitted infection. Those in the *substance misuse* group were the second most likely group to have taken drugs but also those most likely to have drunk on five days or more a week, again demonstrating a continuity of experienced disadvantage over time[27].

There was a sizeable increase in the number of young people who had a child in the *socially excluded* group at the ages of 18/19, reflecting a continuation of the earlier trend of teenage parenthood among these young people. However, there is evidence that some young people in the *risky behaviours* and *substance misuse* groups were also becoming parents, indicating a link between risky behaviour and pregnancy which can be exacerbated by drinking alcohol.

Overall, what these two charts demonstrate is the continuity of disadvantage over time, whether in the overall prevalence of disadvantage these young people experience, the broad range of disadvantage, or in the kinds of disadvantages they face. One exception to this rule is the *emotional health concerns* group, who demonstrate an increased propensity for a growing range of disadvantage (at least across those measured here) over time, suggesting that disadvantage relating to emotional health can be especially problematic if these young people do not get the kind of support they need. Intervening earlier for young people may not only help to save these young people from further personal difficulty, but could also prove more cost effective to society.

Finally, Figure 5.10 below shows the main activity these young people were engaged in when they were aged 18/19. What is immediately clear is that young people who were disadvantaged at age 16/17 were far less likely to be in full-time education or some training two years later, and much more likely to be NEET than the *non-vulnerable* young people. That is except for those in the *emotional health concerns* group, who were more likely to be in full-time education or training. A good education may later serve to buffer these young people from further disadvantage, although as Figure 5.9 demonstrates above, this may not be apparent in the short term with evidence of actual increasing disadvantage for these young people. Overall, however, those young people who are the most likely to be disadvantaged in the longer term are those who were noted for being inactive at age 16/17. Two in five of these young people were NEET at age 18/19 (42 per cent). Perhaps in terms of disadvantage over the life course, it is these young people who are likely to fare worst and should be the target of interventions aimed to improve young people's life chances. It is also worth mentioning that the *low attainment only group*, despite appearing to have had relatively low levels of most of the disadvantages at age 18/19 (Figure 5.8) were the second highest group to be receiving benefits at age 18/19 (Figure 5.9) and to be NEET at age 18/19 (Figure 5.10).

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[27] Although those in the *substance misuse* group were second to the *risky behaviours* group when it came to taking drugs at age 18/19 this does not necessarily reflect a change in ranking. The *substance misuse* group was originally defined (in the main) by problem drinking behaviour because of the limitation of information on other drug use. This group still continues to be the group with the most problematic drinking behaviour.

Figure 5.10   Main activity at age 18/19

Figure 5.10   Main activity at age 18/19
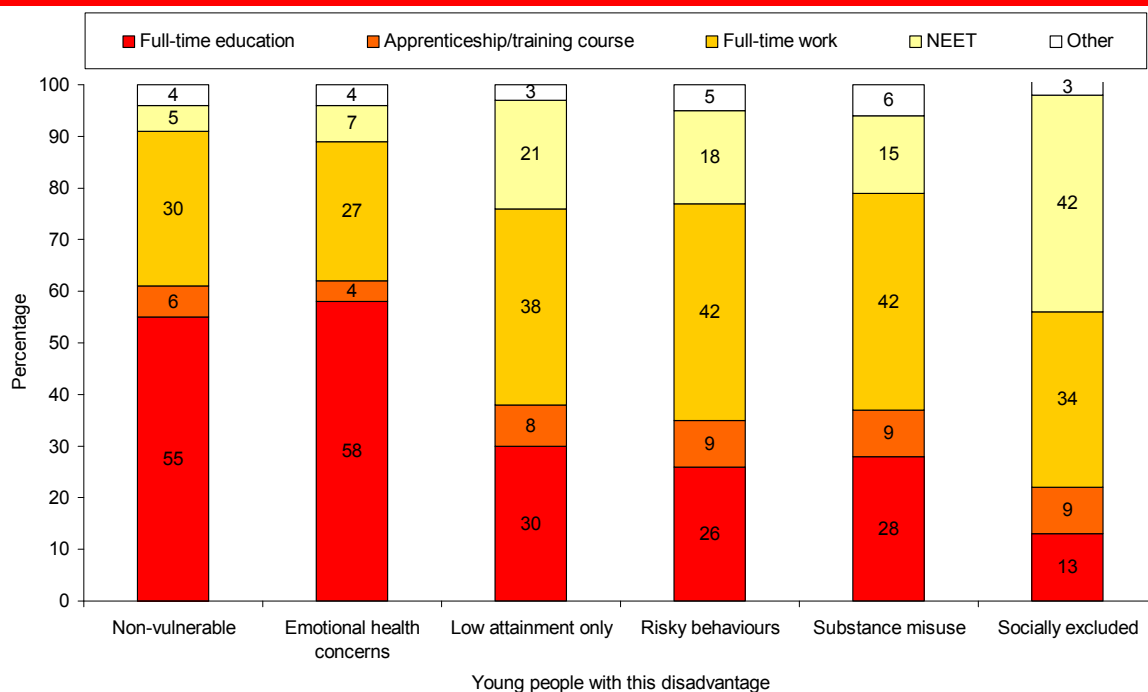
5.3   Policy implications

This research has shown the value of this analysis for achieving a more multi-dimensional understanding of young people's circumstances. Understanding in a more nuanced way how different disadvantages cluster among vulnerable young people, and the types of young people most likely to experience such disadvantages, may assist public service providers to better identify the range and complexity of need among young people. This could help inform the targeting and prioritisation of services and resources, both at a national, strategic level and at a more local level. In this section we discuss some of the main messages to come out of the research and translate them into implications for policy.

• **There are two groups of young people at high risk of multiple disadvantage and both record the poorest outcomes at age 18/19**

Both the *socially excluded group* and the *risky behaviours* group contain young people most likely to have multiple disadvantages, and hence these groups may warrant key policy focus. This is further reinforced by the fact that both groups record the worst outcomes at age 18/19, suggesting that these young people require support to address their underlying issues and to prevent the negative outcomes that the research has demonstrated. Early intervention could make significant impacts on these young people's lives and substantial savings to society – for example, 52 per cent of the *socially excluded group* were on benefits at age 18/19 (Figure 5.9).

Knowing the combinations of disadvantages that these groups face can help the formulation of policies that focus on these particularly disadvantaged young people. The majority of young people in the *socially excluded group* were NEET for at least six of the previous twelve months, and young people in this group also had propensity for low attainment, substance misuse and emotional health concerns. All of the young people in the *risky behaviours* group had taken part in criminal activity, half had been involved in

substance misuse, and a relatively high proportion had low attainment or emotional health concerns.

Clearly young people's experiences of school and education are key here, and achieving a good education can help protect young people from multiple disadvantage. The Coalition Government have produced a range of strategies to raise young people's aspirations and attainment at school. They have protected funding for schools and are changing school funding to pay a pupil premium to give schools incentives to recruit and meet the needs of disadvantaged young people. The Schools White Paper, *The Importance of Teaching* (Department for Education, 2011b) sets out their programme for the schools system. The Education Bill confirms that the Coalition Government will raise the participation age to 17 in 2013 and to 18 in 2015 (Department for Education, 2011c).

Away from education, government departments are working closely to ensure a coherent focus on young people. This includes reforms to the NHS and the creation of a public health service. The Public Health White Paper (Department of Health, 2010) sets out a life course approach which recognises the distinctive needs of adolescence; and reinforces the case for prevention and early intervention – something that the early risk factor analysis in this research points to. Other key policy issues are drugs and crime and mental health, and the reforms to youth justice set out in the Ministry of Justice Green Paper *Breaking the Cycle* (Ministry of Justice, 2010b).

- **The most vulnerable young people may require a coordinated and tailored policy response**

The identification of overlapping disadvantages among young people suggests that they may need to access support from different service entry points, including from their school, the health service, the police or social services. This could be costly if various different service interventions are required. It may also be costly in terms of the time and effort required by the young person and their family to access such interventions, and confusing if they have to juggle various service provisions. Policy makers and service providers may therefore wish to consider how services can best be 'joined up' and coordinated to address the full range of need among young people in the most efficient and straight-forward manner.

Clearly young people may seek help for their disadvantages in a number of ways. A recent government report has shown that two in five under 18s in specialist services for drug or alcohol misuse were referred via the criminal justice system and such services save £2 for every £1 invested over two-year period (Department for Education, 2011e). The LSYPE data has been used to observe young people's contact with services. Although the information provided by the survey is limited, the analyses have suggested that some vulnerable young people may not come to the attention of services. This suggests that Local Authorities need to understand patterns of need amongst young people in their areas and routes into support services for young people.

The Coalition Government has emphasised the significant role that schools, families and communities play in helping young people in their personal and social development. Communities and local services for young people should support this development through providing out of school activities and experiences which help young people develop the skills and attitudes that they need for life, work and to play a responsible and active role in society. The findings from this research point particularly to the need to engage and inspire young people at school, and to support those with difficulties - such as being victims of bullying.

- **There are some key risk factors common to many of the disadvantaged groups**

Certain risk factors repeatedly appeared across a number of the disadvantaged groups. These included being female (although boys were more likely to be in the *risky behaviours*

group), being bullied at school, having poor attitudes to school (including playing truant, having low aspirations and having parents who favour their children leaving the education system at 16). This suggests that policy could make some efficiencies by focusing on these factors, particular at younger ages, before some of our disadvantages take effect. However it is important to note that this research has not identified risk factors that come into play at an earlier age, nor the timing of the onset of the disadvantages we focus on.

The Coalition Government have expressed a commitment to focus support on improving the lives of the most vulnerable. This includes the *Early Intervention Grant* (EIG) which brings together a range of funding streams, and will give greater freedom and responsibility to Local Authorities to making funding decisions according to local need. The EIG is designed to encourage a focus on targeted support for vulnerable young people to engage them in education and training, to prevent crime and risky health behaviours such as teenage pregnancy and substance misuse – all disadvantages highlighted in this research. At a local level, programmes that are highly targeted and provide wrap-around interventions, which address the underlying causes of risky behaviour, with high quality personal support are seen as most effective for vulnerable young people. Again, treating causes, early on, is something that this research has highlighted and given the multitude of disadvantages and difficult background circumstances we have seen many vulnerable young people to have, personalising their support seems a sensible approach to take.

- **Some disadvantages tend to occur in isolation**

The research shows that some disadvantaged young people have isolated problems and hence identifying one problem does not necessarily indicate there will be others. For example, young people with emotional health problems tend to have only this disadvantage and there was a group of young people who only tended to have low attainment. So for these young people there was not an obvious spiral into multiple disadvantage and consequently many of these recorded good outcomes at age 18/19 (of course there could also be young people who have these disadvantages as part of a set with other disadvantages unmeasured in this research). This points to the need to take a more individual-based approach to identifying the range and multitude of problems young people face, rather than relying on methods that summarise characteristics of schools or classes of young people, and to understand the magnitude of single problems – some of which may be enough in themselves to affect the lives of young people.

Having a singular disadvantage does not always mean avoiding poor outcomes – the *low attainment only group* are evidence of that. Clearly low attainment can impact on young people's chances of continuing their education and finding suitable work. Issues of low attainment have been addressed by the Coalition Government in the recent *Wolf Review* (Department for Education, 2011d), which considers how vocational education for 14-19 year olds can be improved. It recommends that children should study mainly academic subjects until they are 16 and made to continue with English and maths if they do not get a good GCSE in those subjects by that age.

- **Make more use of cross-cutting longitudinal data on young people**

Too often the issues that affect young people are explored in isolation, using data that focus on just one area of their lives. This research has shown that a multi-dimensional perspective is key to understanding the lives of young people, particularly the most vulnerable to disadvantage. Much more could be made of survey datasets that contain a range of information on young people, such as the Longitudinal Study of Young People in England (LSYPE).

We have shown that longitudinal surveys, such as LSYPE, provide crucial evidence to help understand what happens to peoples lives – here used to explore outcomes for our disadvantaged young people at age 18/19 and earlier risk factors at age 14/15. It is only

by routinely collecting information about the same individuals that we are able to carry out these investigations. Cross-sectional surveys, although often initially cheaper to administer, do not allow for this type of analysis and hence it is important that surveys such as LSYPE continue.

This research has also highlighted a number of findings worthy of further exploration, including understanding how the severity of disadvantage affects the likelihood of experiencing other disadvantages and later outcomes, how multiple disadvantage in adolescence impacts on outcomes further into adulthood and at which points during children's lives risk factors have the biggest influence on young people ending up multiply disadvantaged. There are also various groups of young people that we have not being able to analyse in sufficient detail because of the low number of them in the LSYPE dataset – including young people who have been in care and teenage parents.

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Appendix A   The Longitudinal Study of Young People in England (LSYPE)

Purpose of the LSYPE study

The main objectives of the study are:
- To provide evidence on key factors affecting educational progress and attainment from the age of 14.
- 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.

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 1st September 1989 and 31st 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 Children, Schools and Families (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 make anonymised LSYPE data and metadata, can be found at the interactive LSYPE website http://ilsype.education.gov.uk/

Appendix B Derived variables used in the analyses

A number of derived variables were used in the analyses for this study... A list of these derived variables and how they were created can be found in Table 0.1 below.

Table B1	Derived Variables Used in Analyses	
Variable Description	**Method of Derivation**	**Waves**
RISK FACTORS		
Young person's ethnic group	Information on ethnic group taken from young person interview, and coded into one of 8 groups (White, Mixed, Indian, Pakistani, Bangladeshi, Black African, Black Caribbean and Other) – if no young person interview this information was taken from the household grid	1
Mother's highest qualification	List of 50 possible qualifications for main and second parent coded into 7 groups (degree or equiv, higher education below degree level, GCE A-level or equiv, GCSE grades A-C or equiv, qualifications at Level 1 and below, other qualifications, and none), with only highest qualification of mother recorded	2
Parental NS-SEC class	Father's (or mother's if father not present) occupational category calculated from ONS lookup table and grouped into 4 classes (managerial and professional,, intermediate, routine and manual and never worked/unemployed)	2
Whether young person has a disability	Calculated from two variables which code whether the young person has a disability and, if so, whether this makes it hard for them to attend school regularly	2
Young person's attitude to school	Scale comprised of whether the young person is happy at school, whether they feel schoolwork is a waste of time, whether they feel school work is worth doing, whether most of the time they do not want to go to school, whether on the whole they like being at school, whether they work as hard as they can in school, and whether they feel the work they do in lessons is a waste of time, recoded so that higher scores indicate a more positive attitude to school	2
Whether household is a single parent household	Uses household grid relationships to identify whether none, one or two parents of the young person are present in the household	2
Teachers' level of control/discipline	Scale comprised of how many teachers make sure homework is done, how many teachers make it clear how pupils should behave, how many teachers take action when they see anyone breaking school rules, how many teachers praise the young person when they do schoolwork well and how many teachers can keep order in class, recoded so that higher scores indicate higher levels of control/discipline	2
Whether young person feels unfairly treated by their teachers	Scale comprised of how many teachers young person feels do not listen to what they say in class and how many teachers they feel unfairly treated by, recoded so that higher scores indicate more unfair treatment.	2
Whether young person had sexual contact before the age of 16	Matched in from Wave 6 data indicating at what age young person had first sexual contact. Coded 1 if this was under the age of 16 and 0 if it was at 16 or over.	4
OUTCOMES		
Main activity at age 19	Recoded into 5 category variable indicating whether young person was in full-time education, full-time work, on a training course or apprenticeship, NEET or doing something else	6
Receiving any state benefits	Binary variable derived to describe whether young person is in receipt of any benefits including unemployment benefit, income support, sickness or disability benefit, family benefits, child benefit, housing or Council Tax benefit, tax credits or other benefits (not including EMA or student loans)	6
Whether drinks on five or more days a week	Frequency of drinking variable recoded to indicate whether young person drank on five or more days a week	6
Whether took any drugs in last 4 weeks	Variables for using cannabis and using other drugs combined and summed to indicate number of occasions on which any drugs were taken in last 4 weeks, then recoded into a binary variable	6

Appendix C   Characteristics of young people's background, school and local area

The LSYPE study was designed to be representative of the population of young people in England as a whole. Below we present characteristics of some key characteristics of young people at age 14/15 (year 10). Some of these characteristics are associated with risk of particular forms of disadvantage and it is useful for the reader to use this table to see the relative size of these sub-groups when interpreting the analysis presented in Chapter 4 of the main report (and Appendix E).

Table C1	Frequencies of variables available from LSYPE	
Base: All young people present at Wave 4 of LSYPE		
Distribution of factors at age 14/15		
	Weighted percentage	Unweighted frequency
Gender		
Male	50.3%	5,045
Female	49.7%	5,022
Ethnic group		
White	86.4%	7,052
Mixed	2.5%	466
Indian	2.5%	692
Pakistani	2.2%	573
Bangladeshi	0.9%	435
Black Caribbean	1.3%	297
Black African	1.8%	286
Other	2.3%	252
Importance of religion		
No religion	38.0%	3,170
Not at all important	9.7%	824
Not very important	24.1%	2,103
Fairly important	17.9%	1,939
Very important	10.3%	1,978
Disabled	14.4%	1,286
Special educational needs (with and without statements)	10.2%	816
Caring responsibilities in household	5.0%	555
Reported being bullied in the previous 12 months	39.7%	3,583
Ever been in care	1.4%	120
Changed school in previous year	3.0%	248
Eligible for free school meals	14.1%	1,593
Parental social class		
Professional and managerial	32.7%	2,781
Intermediate	26.1%	2,192
Routine and manual	18.9%	1,608
Never worked/long term unemployed	22.3%	1,909
Single parent family	22.2%	
Mother's highest qualification		
No qualifications	17.1%	2,162

Other qualifications	2.8%	289
Level 1 and below	9.5%	816
GCSE grades A-C or equivalent	30.3%	2,676
A levels	14.2%	1,292
HE below degree	13.6%	1,265
Degree or equivalent	12.7%	1,168
Health of main parent		
Very good	53.2%	5,095
Fairly good	34.9%	3,521
Not very good	9.0%	1,001
Not good at all	2.9%	338
Aspirations for post compulsory education		
Staying in education	82.8%	8,524
Work based training or part-time education	8.0%	625
Full-time work	3.6%	276
Something else	0.6%	47
Don't know	5.1%	455
What think friends will do after Year 11		
Stay in education	78.7%	7,604
Leave education	19.4%	1,576
Something else	1.9%	168
Whether parents been to parents' evenings	82.6%	8,304
How involved parents feel in school life		
Not at all involved	4.0%	346
Not very involved	22.9%	2,126
Fairly involved	48.6%	4,907
Very involved	24.4%	2,586
Parental agreement that leaving school at 16 limits opportunities		
Disagree strongly	8.2%	728
Disagree a little	18.9%	1,663
Agree a little	22.2%	2,126
Agree strongly	50.7%	5,265
Spend evening as a family at least once a week	88.3%	8,852
Whether go out as a family at least 2-3 times a month	65.0%	6,518
Truancy in previous year		
None	78.8%	7,525
Odd day or lesson	14.6%	1,286
Particular lessons	4.4%	394
Weeks/days at a time	2.2%	175
Ever been suspended	7.7%	606
How many times been out with friends in last week		
None	18.5%	2,055
Once or twice	34.0%	3,469
3-5 times	26.2%	2,560
6 or more times	21.3%	1,889
Frequency of reading for pleasure		
Never	6.1%	591
Hardly ever	10.1%	987
Less than once a week	10.2%	1,023
Once a week	17.9%	1,754
More than once a week	21.9%	2,218
Most days	33.7%	3,407
Whether been to community centre in last 4 weeks	4.6%	440
Frequency of taking part in sport		

Never	7.9%	797
Hardly ever	8.1%	787
Less than once a week	5.5%	574
Once a week	18.9%	1,949
More than once a week	26.9%	2,641
Most days	32.7%	3,238
TOTAL	100.0%	**10,067**

Appendix D   Identifying the optimal latent class solution

In order to identify a typology of disadvantaged young people a statistical technique called Latent Class Analysis (LCA) was used. LCA is a useful technique for identifying types or groups of individuals not directly observable from the data, and is especially useful for measuring multi-dimensional concepts such as disadvantage or vulnerability. For a good introduction to latent class analysis read 'Latent Class Analysis' by Allen McCutcheon (McCutcheon, 1987)

The technique works by exploring the structure within a set of observed variables in order to establish whether associations between these observed measures (i.e. the structure of the data) can be explained by a set of underlying classes, or groups. The process of identifying the typology of disadvantaged young people involves estimating multiple latent class solutions, beginning at first with just one group, and then each time adding an additional group until the optimal solution is found. The estimation procedure runs through a complex set of algorithms designed to identify the best groups to fit the data.

Establishing the optimal solution generally follows four common criteria: First, a measure of statistical fit, the Bayesian Information Criterion (BIC) was employed; a commonly used fit index that balances statistical fit and model parsimony. The model with the lowest BIC is considered optimal (Muthén and Muthén, 2000). Second, the solution was examined to ensure that it was both interpretable and useful for the aims of the study. At this step the groups were also examined to ensure they were distinguishable from one another (i.e. they represent qualitatively different young people). Third, the validity of the groups was tested by examining the relationship of the typology with other measures known to be associated with disadvantage. As a further and final test of the reliability of the solutions the analysis was replicated using a 50 per cent and a 25 per cent random sample. All the analysis was carried out using Mplus version 5.1 (Muthén and Muthén, 1998-2007).

The LCA was run for all young people with at least one disadvantage. We created a group of young people with no disadvantages (called the *non-vulnerable group*) as, given all the disadvantages were quite 'severe', we viewed them as qualitatively different from disadvantaged young people. The *non-vulnerable group* also provided a good group to compare the groups of disadvantaged young people to.

Figure D1 plots the BIC for the latent class estimations. It shows that the BIC was virtually identical for solutions with five, six and seven classes, and that all of these solutions were an appreciably better fit to the data than a solution with fewer than five classes. After examining the five, six and seven class solutions carefully, we concluded that the five class solution produced the most meaningful and qualitatively distinct groups. We also determined that this was a stable and robust solution by replicating the analysis using random samples of the data as described above. At this step the relationship of the five types (and the non-vulnerable group) with gender, ethnicity and parental socioeconomic class was also examined and produced sensible findings (many of these are illustrated and discussed in Chapter 4).

BIC
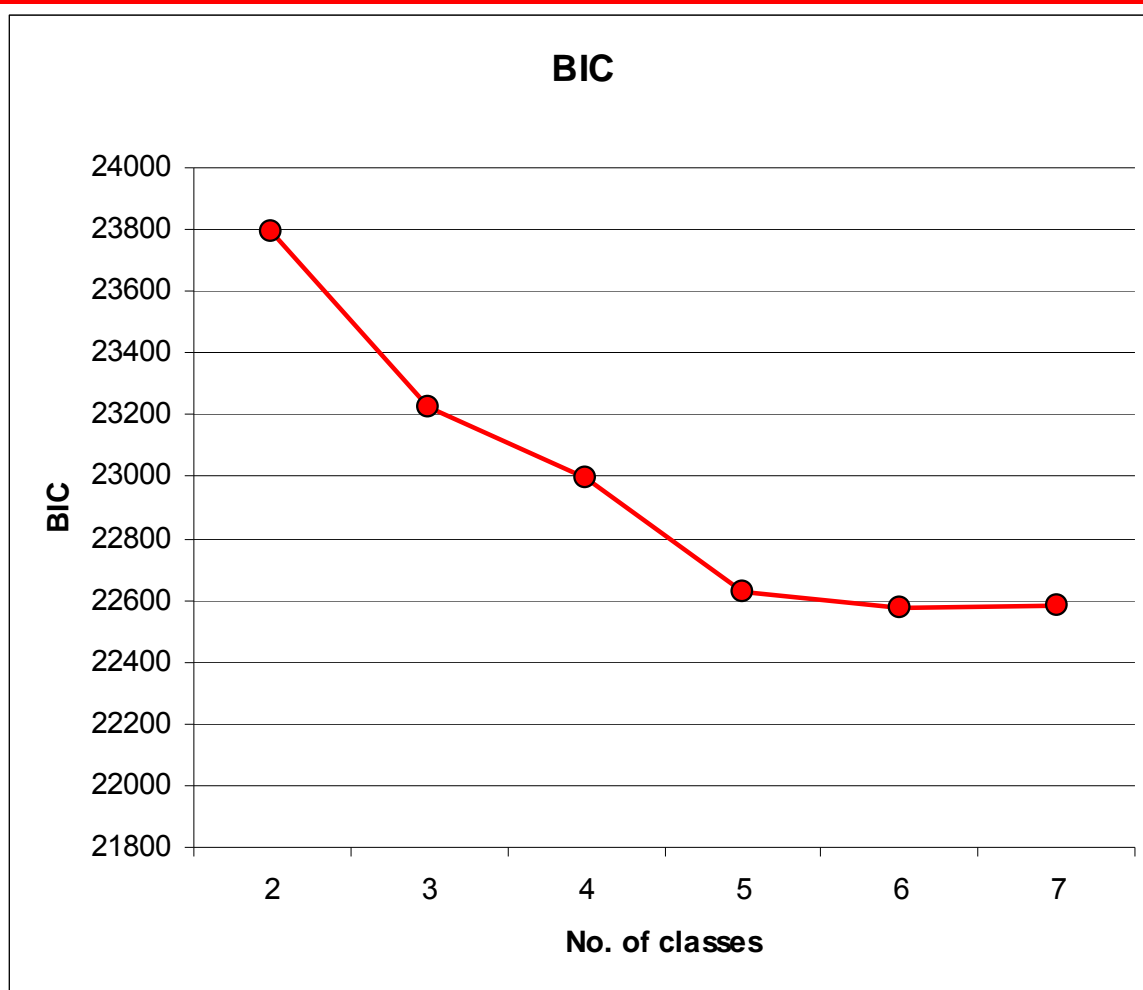
The final six groups are presented in the table below.

Table D1   The final six group solution

Probability of disadvantage for people in each class

Disadvantage indicators	Group					
	Non-vulnerable	Emotional health concerns	Low attainment only	Risky behaviours	Substance misuse	Socially excluded
NEET	0	0.009	0	0.146	0	0.946
Teenage parenthood	0	0.001	0.006	0.001	0.007	0.094
Malaise	0	1	0.09	0.241	0.186	0.268
Criminal activity	0	0.031	0	1	0	0.031
Substance misuse	0	0.059	0	0.497	1	0.259
Low attainment	0	0	1	0.316	0.302	0.561
% of young people in each group	55%	16%	8%	8%	8%	6%

Appendix E   Identifying young people most likely to be in each group: logistic regression analysis

In this stage we explore the factors that increase the risk of a young person ending up in each disadvantaged group. We look at a range of socio-demographic characteristics of the young person and their family, the behaviours and attitudes of the young person and their parents, and characteristics of their school and local area. These factors were all measured when the young person was aged 13/14, so prior to our measures of disadvantage (measured at age 16/17), and hence help to highlight where policy can intervene to reduce the chances of a young person becoming multiply disadvantaged.

The analysis compares the factors associated with each of our five groups of disadvantaged young people to those in the *non-vulnerable group*. To do this we used multiple logistic regression models, and odds ratios which are statistically significant at the 5 per cent level are presented in the table below.

Variables not found to be strongly associated with group membership or not found to improve the overall model were left out of the analyses. These were:

- Receipt of free school meals (FSM)
- Language spoken at home
- Whether the young person was a carer
- Percentage of pupils in a school with SEN
- Percentage of pupils in a school without English as a first language
- Pupil to teacher ratio
- School admissions policy
- Gender of school
- Local-Authority level variables

Interpreting odds ratios

An odds ratios (OR) describes the ratio of the odds of being in, say, the *emotional health concerns group* rather than the *non-vulnerable group* for a particular factor (such as having a disability or being female) to the same outcome for the reference category of that factor (i.e. not having a disability or being male). An OR greater than 1 indicates an increased chance of the outcome, and an OR less than 1 indicates a decreased chance. An OR of 2 for females would therefore indicate that females had twice the odds than boys of being in the *emotional health concerns group* rather than the *non-vulnerable group*. The reference categories for all the variables included in these models were selected before the models were run and were chosen on the basis of being the most commonly used or numerous category for each variable. ORs in **bold** are significant at the 5 per cent level.

	Class					
	Non-vulnerable	Emotional health concerns	Substance misuse	Risky behaviours	Low attainment	Socially excluded
Predictors at age 14/15	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
BLOCK 1: INDIVIDUAL CHARACTERISTICS						
Female	**0.703**	**2.060**	**1.444**	**0.373**	**1.599**	1.381
Ethnic group (Base: White)						
Mixed	0.987	1.380	0.696	0.827	0.650	0.199
Indian	1.176	0.984	0.091	0.840	1.021	0.405
Pakistani	1.113	1.329	0.000	0.555	0.995	0.228
Bangladeshi	2.050	0.844	0.000	0.153	0.437	0.187
Black Caribbean	**2.187**	0.591	0.093	**0.141**	0.711	0.125
Black African	1.546	1.246	0.079	0.173	0.969	0.012
Other	0.897	1.805	0.041	0.458	0.502	0.226
Importance of religion	1.024	0.975	1.065	**0.859**	0.984	1.044
Disabled	0.867	1.225	0.752	1.038	1.534	0.840
Special educational needs	**0.707**	0.900	1.171	0.896	**3.826**	2.101
Carer	0.902	1.082	0.854	0.785	1.016	1.594
Bullied	**0.553**	**2.151**	**1.519**	**2.038**	1.450	1.499
Been in care	0.630	1.511	1.588	1.553	2.087	4.191
Changed school	0.672	1.451	1.069	0.805	**2.990**	2.118
Eligible for free school meals	0.961	0.750	0.933	1.365	0.829	1.605
Parental social class (Base: Professional and managerial)						
Intermediate	1.010	1.007	0.862	1.046	0.933	0.968
Routine and manual	0.946	1.077	0.949	1.150	0.877	0.880
Never worked/long term unemployed	0.916	1.257	0.859	0.878	0.749	1.238
Household size	0.958	1.012	1.002	0.953	**1.358**	1.181
Single parent family	0.972	0.948	0.955	1.158	**1.666**	**2.004**
Mother's education	1.010	1.049	0.987	0.982	**0.753**	**0.865**
Poor parental health	0.913	1.066	1.208	1.200	**1.276**	**1.487**
BLOCK 2: BEHAVIOURS AND ATTITUDES						
Attitude to school	**1.093**	**0.955**	**0.856**	**0.902**	**0.855**	**0.869**
Aspirations (Base: Staying in education)						
Work based training or part-time education	**0.714**	**0.396**	1.074	0.998	**4.323**	**3.291**

Base: All young people present at Wave 4 of LSYPE

Full-time work	0.881	0.345	1.071	0.671	1.550	**3.310**
Something else	1.390	0.394	0.237	0.035	1.854	4.772
Don't know	0.887	0.827	0.952	1.367	1.460	1.174
What think friends will do (Base: Stay in education)						
Leave education	**0.679**	0.872	**1.771**	1.406	**2.148**	**2.022**
Something else	0.668	1.641	1.925	1.828	1.829	0.808
Whether parents been to parents' evenings	**1.281**	0.847	0.904	1.199	0.659	**0.424**
How involved parents feel in school life	1.031	0.931	0.982	1.013	0.990	1.257
Parental agreement that leaving school at 16 limits opportunities	0.932	**1.171**	1.005	0.882	**0.838**	1.071
Whether spend evening as a family at least once a week	0.846	1.094	1.321	1.167	**2.262**	1.668
Whether go out as a family at least 2-3 times a month	1.021	1.126	1.002	0.872	0.917	0.684
Truancy (Base: None)						
Odd day or lesson	**0.571**	**1.362**	**2.297**	**4.121**	0.819	**2.638**
Particular lessons	**0.596**	0.693	1.421	**7.795**	1.045	1.581
Weeks/days at a time	**0.261**	2.441	**4.132**	**8.890**	**9.973**	3.831
Been suspended	**0.553**	1.212	**2.827**	**2.224**	1.500	2.184
How often been out with friends in last week	0.959	**0.901**	**1.319**	**1.401**	1.145	1.087
Frequency of reading for pleasure	0.990	1.033	0.943	1.099	**0.865**	1.049
Whether been to community centre	1.017	1.201	0.870	0.628	0.724	0.401
Frequency of taking part in sport	**1.054**	0.950	0.950	0.967	1.022	0.896
First sexual contact under 16	**0.562**	**1.477**	**2.657**	**3.114**	1.074	1.374
BLOCK 3: SCHOOL CHARACTERISTICS						
Pupil to teacher ratio	1.018	1.020	1.026	0.925	0.966	1.091
% eligible for free school meals*	1.004	1.093	1.173	0.945	**0.693**	1.043
% with special educational needs*	**0.839**	0.969	0.797	1.156	**2.167**	**1.518**
% who have played truant*	1.069	**0.860**	1.100	0.838	1.123	1.195
% with English as a second language*	**0.884**	1.139	1.114	1.277	1.063	1.390
Teachers' level of discipline	**1.036**	**0.943**	0.961	**0.919**	1.067	0.989
How unfairly treated YP feels by teachers	0.955	1.015	1.089	**1.207**	1.034	1.037

BLOCK 4: AREA CHARACTERISTICS						
Rural area	0.868	1.157	**1.569**	1.133	0.964	1.509
IDACI score[1]	0.630	0.773	2.674	2.748	**9.785**	1.039
Bases	*4,646*	*3,543*	*3,073*	*3,089*	*3,032*	*2,925*

* School level proportions have been standardised so that Odds Ratios refer to the odds associated with a 1 standard deviation increase in the proportion of pupils in the school with each characteristic compared to the mean.
[1] Income Deprivation Affecting Children Index is a number between 0 and 1 which represents the proportion of children aged less than 16 in their super output area (effectively the first part of their post code) that are living in families that are income deprived. Scores closer to zero are less deprived while those closer to 1 are more deprived.

Appendix F   Identifying young people most likely to be in each group: descriptive statistics

Table F1 presents the percentage of young people in each group that have particular characteristics. For example, 48.5 per cent of young people in the *non-vulnerable group* were female compared with 67.1 per cent from the *emotional health concerns group*. Please note that most of the relationships between young people's characteristics and their group membership mirror the odds ratios presented in the main report (and tabulated in Appendix E). In a few instances this is not the case, simply because the logistic regression analyses used to calculate the odds ratios adjusts the relationship for the presence of other factors, whereas Table F1 does not.

Table F1 is also useful for gauge the size of the young people with each characteristic in each group. Where sample sizes are small, for example most of the non-white ethnic groups or young people who had been in care, the analysis is likely to be less robust (hence we do not report on these small sub-groups) and differences are also less likely to be significant in the multivariate analysis.

Table F.1	Key characteristics of young people according to group					

Base: All young people present at Wave 4 of LSYPE

| Characteristics | Percentage in each group | | | | | |
	Non-vulnerable	Emotional health concerns	Substance misuse	Risky behaviours	Low attainment only	Socially excluded
Gender (female)	48.5%	67.1%	52.5%	27.6%	41.2%	51.3%
Ethnic group (white)	86.0%	82.1%	96.0%	89.0%	83.9%	90.3%
Mixed	2.2%	3.8%	1.8%	4.0%	1.8%	1.6%
Indian	3.1%	2.8%	0.5%	1.2%	1.9%	1.1%
Pakistani	2.3%	2.6%	0.1%	1.2%	3.4%	2.7%
Bangladeshi	1.0%	1.1%	0.4%	0.5%	1.4%	0.5%
Black Caribbean	1.3%	1.3%	0.3%	1.7%	2.4%	1.1%
Black African	2.0%	2.3%	0.1%	1.2%	2.6%	0.5%
Other	2.1%	4.1%	0.8%	1.1%	2.8%	2.2%
Disabled	11.9%	12.6%	13.7%	18.6%	27.8%	20.1%
SEN	5.9%	5.8%	12.4%	12.8%	34.9%	21.9%
Carer	4.5%	5.4%	5.4%	6.9%	5.5%	6.0%
Been in care	0.8%	0.8%	2.0%	2.4%	4.0%	3.1%
Eligible for free meals	9.6%	10.2%	14.5%	19.3%	30.1%	34.0%
Parental social class (prof and managerial)	33.2%	32.4%	32.5%	32.2%	32.3%	29.7%
Intermediate	25.9%	26.4%	28.0%	26.2%	24.9%	26.6%
Routine and manual	19.1%	18.6%	17.1%	18.7%	19.5%	19.1%
Never worked/long term unemployed	21.7%	22.5%	22.3%	22.9%	23.5%	24.6%
Single parent family	18.0%	18.8%	28.5%	32.2%	31.1%	37.0%
Bases	*5,339*	*1519*	*733*	*749*	*799*	*556*

Appendix G   Sample attrition and weighting

As with all longitudinal surveys, LSYPE suffers from attrition. As Table G1 shows, four of the five disadvantaged groups experienced higher than average attrition from Wave 4 to Wave 6 of LSYPE. The highest attrition was experienced by the *socially excluded* group, of whom nearly a third were no longer participating in the study at Wave 6. The *low attainment only, risky behaviours* and *substance misuse* groups were also more likely to have dropped out of the study. This is likely to be because disadvantaged young people are harder to trace than other young people – they may be more likely to have left school or to have changed their address multiple times. There may also be a decreased willingness to take part in the study among disadvantaged young people, particularly those who may have been involved in criminal behaviour and who may subsequently be concerned about taking part in a survey, even anonymously. Interestingly, the *emotional health concerns* group were the least likely to have dropped out of the study, and this group was also the least likely to have experienced negative outcomes at Wave 6. This provides further evidence that these young people are qualitatively different in terms of outcomes from the other groups of disadvantaged young people identified by this study.

Table G1	Attrition from Wave 4 to Wave 6 in different groups						
Base: All young people present at Wave 4 of LSYPE not missing on any indicators of disadvantage							
		Non-vulnerable	Emotional health concerns	Substance misuse	Risky behaviours	Low attainment only	Socially excluded	Total
Number of individuals present at Wave 4 (unweighted)	5,711	1,796	628	710	745	478	10,068*
Number of individuals present at Wave 6 (unweighted)	5,032	1,602	496	535	573	334	8,572
Percentage who dropped out of the study (weighted)	12.0%	11.3%	*21.6%*	*25.3%*	22.4%	*31.3%*	*15.6%*

*This number is different from the total number of cases in the dataset (10067) due to rounding in the table.

The LSYPE dataset contains weights that account for non-response in a particular wave and for respondents dropping out from one wave to the next. These weights were applied during our analyses.