Risky Behaviour and Social Activities

Andreas Cebulla and Wojtek Tomaszewski

National Centre for Social Research

department for
children, schools and families

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EXECUTIVE SUMMARY

The risky and risk-seeking behaviour of young people has long been of concern to policy makers given the influence it can have on young people's education and other longer-term outcomes (Lindberg et al. 2000, DfES 2005, ACMD, 2006). More recently the topic has gained added attention in the light of increased reporting of young people's anti-social behaviour (Cabinet Office 2007; House of Commons 2007; DCSF 2007). However, there is still a lack of robust quantitative evidence on patterns of risky behaviours among young people and how such behaviours impact on young people's outcomes both during and after compulsory education.

This study explored young people's involvement in risky behaviour during secondary school. It also looked at social activities that young people engage in, and how these may prevent or reduce risky behaviour. It was not possible to analyse the effect of activities that are considered to be 'positive' from a policy perspective (DCLG 2008/09). These are 'organised and structured group activities led by an adult outside school lessons, such as sports, arts or a youth group'. This is because the LSYPE does not elicit the necessary, detailed information about the delivery and content of young people's activities. As a result we have been constrained in the extent to which we have been able to identify activities that could be termed 'positive' in a policy sense, and care should be taken when considering the implications of findings in this respect.

The research examined how young people who engaged in risky behaviours performed at school and the decisions that they made after completing compulsory education.

The research was commissioned by the Department for Children, Schools and Families (DCSF), and was carried out by Andreas Cebulla and Wojtek Tomaszewski of the National Centre for Social Research (NatCen). This summary presents key results of the study; full findings are presented in the main report.

How do we measure risky behaviours?

The research uses data from the Longitudinal Study of Young People in England (LSYPE), a nationally representative survey designed to follow a single cohort of young people from the age of 14 to 25. These young people were first interviewed in 2004 and are tracked and re-interviewed every year. The first three years of data is used to explore young people's behaviour from the age of 14 to 16.

The study measured risky behaviour using seven indicators from LSYPE. Initial analysis of interrelations between the indicators suggested that they may be usefully combined into two indices, representing two different types of risky behaviours - *internalising* and *externalising*:

Internalising risky behaviours, which describe activities that harm the young person, namely:

- playing truant;

- smoking cigarettes; and

- drinking "a proper alcoholic drink".

Externalising risky behaviours, which describe activities directed against property and other people, namely:[1]

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[1] These activities are illegal regardless of age.

- graffiti;

- vandalism of a public property;

- shoplifting; and

- fighting or taking part in a public disturbance.

How many young people engage in risky behaviours?

A substantial proportion of young people were found to engage in some form of risky behaviour:

- Four in ten young people engaged in at least one of the seven risky behaviours at age 14; this increased to five in ten by age 16.

More young people engaged in internalising risky behaviours as they got older.

- Two in ten young people displayed internalising risky behaviours at age 14, which increased to five in ten at age 16.

However, fewer young people engaged in externalising risky behaviours as they got older:

- Three in ten young people displayed externalising risky behaviours at 14. This decreased to two in ten by the age of 16.

A small but considerable proportion of young people engaged in multiple forms of risky behaviour at age 16.

- 4 percent of young people engaged in *all three internalising* risky behaviours (age 14: 1 percent).

- 3 percent of young people engaged in *three or four externalising* risky behaviours (age 14: 5 percent).

- 5 percent of young people engaged in at least two *internalising* and at least two *externalising* risky behaviours (age 14: 3 percent).

Patterns of risky behaviour change as young people get older.

- The study found that fewer 16 year olds who engaged in internalising risky behaviours also engaged in externalising risky behaviours than was the case among 14- and 15-year olds. This suggested that internalising risky behaviour was not necessarily a prelude to other risky behaviours.

- The same, however, was not true for 16-year olds who engaged in externalising risky behaviours. This group included more young people who also engaged in internalising risky behaviours than was the case among 14- and 15-year olds. This suggests an increased prevalence of multiple risky behaviours among young people highly engaged in externalising risky behaviours at age 16.

Which young people are most likely to engage in risky behaviours?

Young people most likely to engage in both internalising and externalising risky behaviours tended to:

- Have negative attitudes towards school and have peers with similar attitudes;

- Experience bullying;

- Have poor relations with parents, and;

- Live in single-parent families.

Additionally, certain young people were more likely to engage in one form of risky behaviour over another:

- Young people from a white ethnic background were more likely to engage in internalising risky behaviours, as were girls aged 15 or younger.

- Boys were more likely to take up externalising risky behaviours, as were young people aged 15 or less from ethnic minority groups.

What is the link between risky behaviours and social activities?

An important objective of the study was to explore whether risky behaviour was reinforced or counterbalanced by various types of social (and individual) activities. A broad spectrum of such activities were investigated and categorised into two groups on the basis of their association with risky behaviour.[2] This association was measured as the ratio of the number of risky behaviours of young people who did and of young people who did not engage in a given social activity. Thus, two groups of social activities with different, but strong (positive or negative) associations with risky behaviour were identified. They were labelled socialising activities and self-development activities.

Socialising activities, which describe activities that involve engaging with a group of peers, were typically more prevalent among young people who also engaged in risky behaviour. They included:

- hanging around in town / centre;

- going out with friends;

- going to parties;

- going to pubs; and

- going to an amusement arcade.

Self-development activities, which describe activities oriented towards learning or practising certain skills, were more prevalent among young people who abstained from risky behaviour. They included:

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[2] For purposes of brevity, we hereafter use the term 'social activity' to describe activities that may be carried out with others or individually.

- playing a musical instrument;

- doing community work;

- attending religious classes; and

- reading for pleasure.

As previously noted, the LSYPE data relating to young people's activities cannot be precisely matched to those (derived from the Tellus survey[3]) that provide a measure of 'positive' activities. LSYPE does not ask young people if they attend art and craft-related activities (although it asks about playing a musical instrument). It does, however, ask young people about their participation in sport activities, although it is not clear whether this participation is through sport organisations, schools, or informal game playing. In addition, LSYPE records whether young people attend youth clubs. Again, we have no detail about the organisation and degree of adult involvement this entails. Analysis showed both activities to be weakly associated with a higher prevalence of risky behaviour, except for sport activities at age 14, which was weakly associated with a lower prevalence of risky behaviour. Because their relationships with risky behaviour were only weak and much weaker than for other social activities, neither was included in the list of socialising or self-development activities. However despite the lack of detail about these activities, their role in encouraging or discouraging risky behaviour has been explored separately in recognition of their particular relevance to policy.

Which young people are most likely to engage in social activities?

The young people most likely to engage in socialising activities were those:

- from a white ethnic background;

- with negative attitudes to school;

- living in single- or step-parent families, and

- from families that spent comparatively little time together or reported frequent arguing.

Conversely, young people with special educational needs and those with disabilities affecting school were less likely to participate in these types of socialising activities.

A different profile of young people took part in self-development activities. These young people tended to

- be from ethnic minorities;

- have positive attitudes towards school;

- have parents with professional jobs;

- have parents who were highly involved with matters related to the young person's schooling; and

- come from families that spent much time together and argued little among themselves.

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[3] The Tellus survey is an annual survey of school pupils in England, commissioned by Ofsted. The survey asks pupils about their behaviours, attitudes and experiences, covering, among others, smoking, drinking and drug taking, bullying, group activities, and personal aspirations.

These young people were also more likely to have a disability not affecting school and to have been bullied. Conversely, young people with special educational needs and those living in single- or step-parent families were less likely to take up self-development activities.

How are risky behaviour and social activities related over time?

One of the important goals of the study was to investigate how *changes* in risky behaviours were related to young peoples' engagement in socialising and self-development activities. The research found that, after controlling for the main socio-demographic and attitudinal characteristics of young people and their parents, higher involvement in socialising activities was related to an increase in both internalising and externalising risky behaviours as young people got older.

Although the evidence suggested that taking up new socialising activities normally increased the likelihood of taking up new risky behaviours, giving up socialising activities, or engaging in self-development activities, did not typically lead to giving up risky behaviour. This also applied to participation in sports and attending youth clubs. However, there was evidence of an increased engagement in internalising risky behaviours among young people who stopped participating in a sport when compared to young people who never or always participated in a sport.

How is engaging in risky behaviours associated with educational attainment and longer-term outcomes?

Data from the National Pupil Database (NPD) and the fourth year of LSYPE were used to investigate possible links between risky behaviour and young people's educational attainment and post-school decisions. The analysis compared young people who engaged in different types of activities, controlling for the effect of their background characteristics.

The research found:

- 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 the externalising risky behaviours (shoplifting, fighting, vandalism or graffitiing).

- Conversely, young people who engaged in self-development activities, including sport activities, but not attending youth clubs, achieved, on average, 10 to 20 percent higher GCSE point scores than young people who did not participate in these activities.

The association with economic status at age 16/17 was weaker than with educational attainment. The evidence suggests however that high involvement in, and taking up new, social activities, as well as taking up new internalising risky behaviours, was associated with a higher likelihood of the young person being NEET.

What are the implications for policy?

The evidence gathered in this study suggests that risky behaviours evolve as young people grow older. Although changes in the nature of social activities that young people get involved in appear to impact on risky behaviour, it is to increase participation in or reinforce this behaviour, rather than to reduce it. That is, there appear to be certain activities that accelerate or stabilise participation in a range of risky behaviours, and this process may be difficult to reverse by engaging people in what might be considered 'positive' social activities. Engaging young people in such activities may possibly prevent additional risky behaviours being taken up but it is unlikely to decrease participation.

There was no evidence that participation in a sport would reduce engagement in risky behaviour, although stopping participation in a sport did increase the likelihood of young people engaging in internalising risky behaviour. The circumstances that led young people to stop participation in a sport, however, remained unclear.

It is important to stress again that the data did not allow identification of the kinds of *structured and supervised* 'positive activities' promoted by public policy, among other reasons, to reduce risky behaviours. The study, therefore, could not test the effectiveness of activities that meet these conditions. The absence of additional detail about the delivery of social activities may explain why many of them lacked any association with risky behaviour. It may also explain why those few activities that appeared to be inherently 'positive' (e.g. playing a musical instrument, doing community work) did little to change risky behaviour.

The results of the research indicate that other factors may have a much stronger influence on risky behaviour than engagement in 'positive' social activities - in particular the young people's attitudes to their school and schooling in general, their relationships with their parents and the influence of their peers. These may be the most important anchor points of effective policy intervention.

Importantly however, policy needs to be specific. The research suggests that not all risky behaviours are equally likely to lead to the adoption of additional risky behaviours over time and that risky behaviour is not necessarily sustained for long periods. Policy needs to target those young people that are most likely to engage in multiple and sustained risky behaviours. The results of the study suggest that the two main areas of improvement where policy interventions might lead to greatest changes in such risky behaviours are in improving family relationships and understanding and addressing young people's (and their peers') unease with going to school.

1   Introduction

The risky and risk-seeking behaviour of young people has recently gained added attention and interest in the light of increased reporting of anti-social behaviour, and continued concern about young people's health (Cabinet Office 2007; House of Commons 2007; DfES 2005; DCSF 2007). However, neither reporting nor concern has always been grounded on solid evidence. This project aims to contribute to future policy development by systematically exploring the relationships between risky behaviours and what we have termed 'social' activities, and their changes over time, among young people aged between 14 and 16. The study also investigates the links between the behaviours and activities of young people and their educational attainment, as well as their longer-term educational or labour market choices.

1.1   Background

Young people are known to be more prone to engaging in risky behaviour than adults and there are many possible explanations for this. Risky behaviour is not only an expression of personal preference, but also has a symbolic meaning and may be a source of personal gratification and enjoyment. Risky behaviour as enjoyment has originally been studied in the context of extreme sports, but the perspective has since evolved to cover everyday activities and decisions, such as occupational choices and drug taking (Lyng 2004). From this perspective, risky behaviour is driven by the need for excitement in light of an otherwise routine life, which offers little gratification outside self-constructed leisure time.

Another perspective is that of risky behaviour as a source of social prestige and recognition. Social recognition has long been considered to be an essential aspect of risky behaviour among young people who are seeking acceptance by their peers and / or integration into peer groups. Most notably, the importance of imitative behaviour in response to peer group pressure has been the focus of youth gang crime research (Coleman and Cater 2005; Pitts 2007). Peer group-compliant risky behaviour helps to create personal identity through recognition by the group, and builds the image and perception of self, and the group, in society.

Current large-scale social and economic changes, associated with globalisation and the individualisation of late-modern society, are putting new pressures on young people to construct their own (career) biographies and personal identities (Kelly 2001). Social contexts, such as peer groups and family relationships, play as much of a role in this process as young people's values and their ability to achieve personal objectives (Gutman and Brown 2008, Jones 2005). Public service structures have been slow to adapt to these changes and are not always providing the kind and quality of support that young people require to make successful transitions into mature adulthood (ODPM 2005). Feeling increasingly lost in the chaotic modern world, uncertain about the future, and exposed to peer pressure, many young people may choose to engage in risky behaviours.[4]

Risky behaviours may be affected by personal factors, local socio-economic context and wider societal conditions. There is a growing concern for exploring and understanding the forces behind young people's risky behaviour and identifying means for preventing or diverting young people away from these behaviours. The flagship programme among the proposed preventive measures has been the *Positive Activities for Young People* programme aimed at 8-19-year-olds who are at risk of social exclusion and community crime. The

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[4] As our introductory comments suggest, young people do not necessarily consider these behaviours as 'risky', but may deny or be unaware that their behaviour can cause damage to themselves or others, and bear costs to society.

programme ran from April 2003 to March 2006 and provided diversionary and developmental activities during school holidays for over 290,000 young people (CRG, 2006).

Positive Activities also lie at the heart of the PSA Delivery Agreement 14, which encourages public sector institutions to promote participation in a range of activities that are considered to benefit social cohesion and individual development. The link between Positive Activities and risky behaviours is made explicit in PSA 14:

> '*Through participation [in Positive Activities], young people develop socially and emotionally, building communication skills and improving self confidence and esteem. This in turn increases their resilience, helping them avoid risks such as experimenting with drugs, having unprotected sex, or being involved in crime, as well as contributing to better attendance and higher attainment at school*' (HMT, 2008)[5].

However, there is relatively little empirical evidence about which activities are indeed 'positive' in the sense of reducing risky behaviour or inducing socially agreed or morally good behaviour, which would justify their selection. It should be recognised that such activities, which may appear positive and desirable, may occasionally induce risky behaviours, even if this is not intended. For instance, going to a youth club may coincide with the consumption of alcoholic drinks, smoking or violent behaviour, or the observation of such behaviour, even if it is not tolerated by and within the club. Moreover, it has been pointed out that participation *per se* does not guarantee a beneficial outcome. Whether attending a youth club has a positive effect on the young person depends on the type, quality and delivery of social activities that take place at the club (Feinstein et al, 2005). For this reason, public policy seeks to promote positive activities that are *structured* and *supervised*, and progress against this objective is measured in terms of participation in 'organised and structured group activities led by an adult outside school lessons, such as sports, arts or a youth group' (National Indicator (NI) 110, DCLG 2008/09)

1.2 Aims of the Project

The primary objective of the research is to explore whether and how risky behaviour among young people is connected to their engagement in certain social activities. In particular the research is interested in whether it is possible to identify activities that prevent or reduce risky behaviour. Engaging in positive activities and abstaining from risky behaviours have also been linked to positive educational outcomes (DCSF 2007; Feinstein et al. 2005). This latter connection is a further focus of the study, which examines how young people who had engaged in risky behaviours performed at school compared to those who had abstained from risky behaviours. Finally, the research investigates some of the possible longer-term effects of risky behaviours by exploring young people's labour market and educational decisions.

We should draw readers' attention to the fact that it has not been possible to match the 'social' activities derived from the LSYPE to those derived from the Tellus survey[6], which provides data for measuring progress against NI 110. This is because the LSYPE does not elicit the necessary detailed information about the delivery and content of young people's activities. As a result we have been constrained in the extent to which we have been able to identify activities, which can be termed 'positive' in a policy sense. Care should be taken when considering the implications of findings for current policy on specific positive activities.

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[5] http://www.hm-treasury.gov.uk/d/pbr_csr07_psa14.pdf
[6] [6] The Tellus survey is an annual survey of school pupils in England, commissioned by Ofsted. The survey asks pupils about their behaviours, attitudes and experiences, covering, among others, smoking, drinking and drug taking, bullying, group activities, and personal aspirations. The survey was first conducted in 2006.

There are a number of research questions that the research aims to answer and they can be grouped into three main categories:

Patterns of risky behaviour and social activities

- How prevalent are risky behaviours among young people?

- At what ages do young people get involved in risky behaviour?

- How are social activities related to risky behaviour?

- How do behaviours and activities change as young people get older?

Drivers of risky behaviours and other social activities

- What are the factors associated with becoming involved in risky behaviour and social activities?

- Which young people tend to participate in both risky behaviours and social activities?

- Who are likely to refrain from risky behaviours?

- Which social activities offer protection from risky behaviours?

Effect of risky behaviour on outcomes

- Do educational outcomes differ depending on participation in risky behaviours and social activities?

- How does the young people's economic and educational status after leaving compulsory education depend on earlier engagement in risky behaviour and social activities?

1.3 The Longitudinal Study of Young People in England (LSYPE)

The project uses data from the Longitudinal Study of Young People in England (LSYPE), which is a nationally representative survey designed to follow a single cohort of young people from the age of 14 to 25.[7] The original sample drawn for the first wave of the study was designed to be representative of all 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). Achieved sample sizes, on which the analyses in the project are based, were 15770 for the first year, 13539 for the second year, 12439 for the third year and 11802 for the fourth year of the survey[8].

LSYPE tracks and re-interviews the young people every year, and the study is currently in its sixth wave of interviews, with the respondents now aged 19. Because LSYPE is a longitudinal study, following the same young people over time, it is possible to link data between years and explore young people's transitions, attitudes and behaviours as they grow older.

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[7] At the point of sampling, some young people were aged 13 rather than 14, turning 14 (rather than 15) at the point of the second LSYPE wave, and so on. For reasons of clarity and by way of shorthand, the report will refer only to the main age group when describing young people participating in the various LSYPE waves (i.e. 14 rather 13/14, and so on).
[8] All results presented in this report are based on weighted data. More information about sampling and weighting in LSYPE can be found in Appendix 4.

LSYPE is managed by the Department for Children, Schools and Families (DCSF). It is a highly detailed and in-depth survey, and the data are publicly available from the UK Data Archive. At the time of the present study only the first three years of survey data were publicly available, although an extract of information from the fourth year was made available by DCSF to analyse young people's main activity at the age of 17.

The crux of information collected by LSYPE is from young people themselves, covering issues such as school subject choices, discipline at school, homework, future plans and use of leisure time. LSYPE also includes a self-completion questionnaire to collect more sensitive information from the young person, such as relationships with parents, attitudes to school, and drinking and smoking behaviour. As well as interviews with the sampled young people, LSYPE includes interviews with parents. This covers information on family background, parents' education and employment history, and parents' expectations and aspirations for their children.

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.

1.4 Report Structure

Our analytical approach is illustrated in Figure 1.1. At the centre of our investigation are risky behaviours and social activities, and how they might coincide and interact. We will establish the socio-demographic, experiential and attitudinal factors that may trigger risky behaviour and/or social activities. Furthermore, we will explore the effect of risky behaviour and social activities on the educational and post-educational outcomes of young people. The main chapters of the report mirror the main stages of analysis; that is, investigating the drivers of risky behaviours and social activities, and assessing their effects on longer-term educational and economic outcomes.

Chapter 2 focuses on defining and understanding risky behaviour. It begins by describing the prevalence of risky behaviour among young people and the types of young people most likely to participate in this type of behaviour. The chapter concludes by exploring the key factors used to classify the kinds of young people who engage in risky behaviour.

In the next stage of analysis, described in Chapter 3, we investigate the relationship between social activities and risky behaviours over time. In particular, we were interested in assessing the role of different types of social activities in preventing or reinforcing young people's engagement in risky behaviours. Based on the findings of the previous chapter, the analysis takes account of the potentially confounding effects of young people's social and personal background when untangling the links between social activities and risky behaviour.

In Chapter 4 we examine how risky behaviours and social activities may affect young people's educational attainment and other longer-term outcomes. Again, the analysis takes account of background factors to pinpoint the impact of behaviour on these outcomes.

Finally, Chapter 5 summarises the research findings and explores some of their policy implications.

Figure 1.1 - Approach to Analysing Risky Behaviour and Social Activities

Parents' socio-economic / demographic background	
Parents' involvement with child / school	
Parent-child Relationship	Risky behaviour
Young person's health, Special Educational Needs	
Young person's health, Special Educational Needs	Social activities
Young person's experience of school	
Young person's plans for the future / attitudes to work	

Risky behaviour → Educational outcomes → Post-compulsory education activities

Social activities →

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2   Prevalence and Patterns of Risky Behaviour

Overview

This chapter identifies two forms of risky behaviour - *internalising behaviour* and *externalizing behaviour* - and explores the prevalence and patterns of such behaviours for young people aged 14 to 16 years. Multivariate analysis is used to unravel the factors associated with young people who engage in risky behaviour. The chapter finds that young people's attitudes towards schooling, their experience with school and their relations with parents are the factors most strongly affecting their propensity to engage in risky behaviour.

2.1   Defining Risky Behaviours

LSYPE contains a number of measures that may be considered as describing risky behaviours. This study focuses on seven of these, all of which are self-reported by the young people, namely:

- playing truant (more than just 'the odd day or lesson');

- smoking cigarettes (at least "sometimes");

- drinking a 'proper' alcoholic drink (more often than once a month);

- graffitiing;

- vandalism of a public property;

- shoplifting; and

- taking part in fighting or a public disturbance.

Each young person was asked if they had done any of these things in the last 12 months. They were also asked how often they played truant, smoked and drank alcohol. Only regular partaking in these activities was categorised as risky behaviour, thereby excluding only sporadic or discontinued participation.[9]

Although we know whether young people took part in these behaviours, further contextual information was not available from the survey. For example, although LSYPE asks whether the young person took part in a fight or public disturbance, it does not ask whether the young person was the perpetrator or the victim. Likewise, although we can identify whether a young person had an alcoholic drink, we do not know the quantity of alcohol consumed.

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[9] A number of additional measures of risky behaviour were rejected for conceptual reasons, for example because they reflected possible outcomes of risky behaviours rather than the behaviours themselves. These included school exclusions, suspensions and expulsions; contact with social and educational services; and contact with the police. Smoking cannabis was also rejected as risky behaviour because of its very high statistical correlation with smoking.

2.2 Prevalence of Risky Behaviours among Young People

Figure 2.1 shows the prevalence of risky behaviours among young people at ages 14, 15 and 16.[10] We have divided the presentation of risky behaviours into two groups, reflecting different types of behaviours, displayed with varying frequency and with contrasting trends over time. Risky behaviours in the first group - truancy, smoking and drinking - all increased from the age of 14 to the age of 16. Conversely, risky behaviours in the second group - graffitiing, vandalism, shoplifting and fighting - all decreased as young people got older. Different directions of change suggest that these two groups of behaviours might best be considered and analysed separately. This issue will be discussed further later in this chapter.

Overall, drinking and fighting are the risky behaviours most frequently reported at age 14. Almost one in five (17 per cent) young people reported having had an alcoholic drink at age 14 and a similar proportion (19 per cent) admitted to having been involved in a fight. This pattern changes by age 16, when drinking alcohol (39 per cent) and smoking[11] (22 per cent) were the most prevalent behaviours. At this age, prevalence of being involved in a fight or public disturbance had reduced slightly to 16 per cent. These results are broadly consistent with evidence from other sources (Bates et al. 2006, Roe and Ashe 2008).[12]

Figure 2.1 - Prevalence of Risky Behaviours, by Age
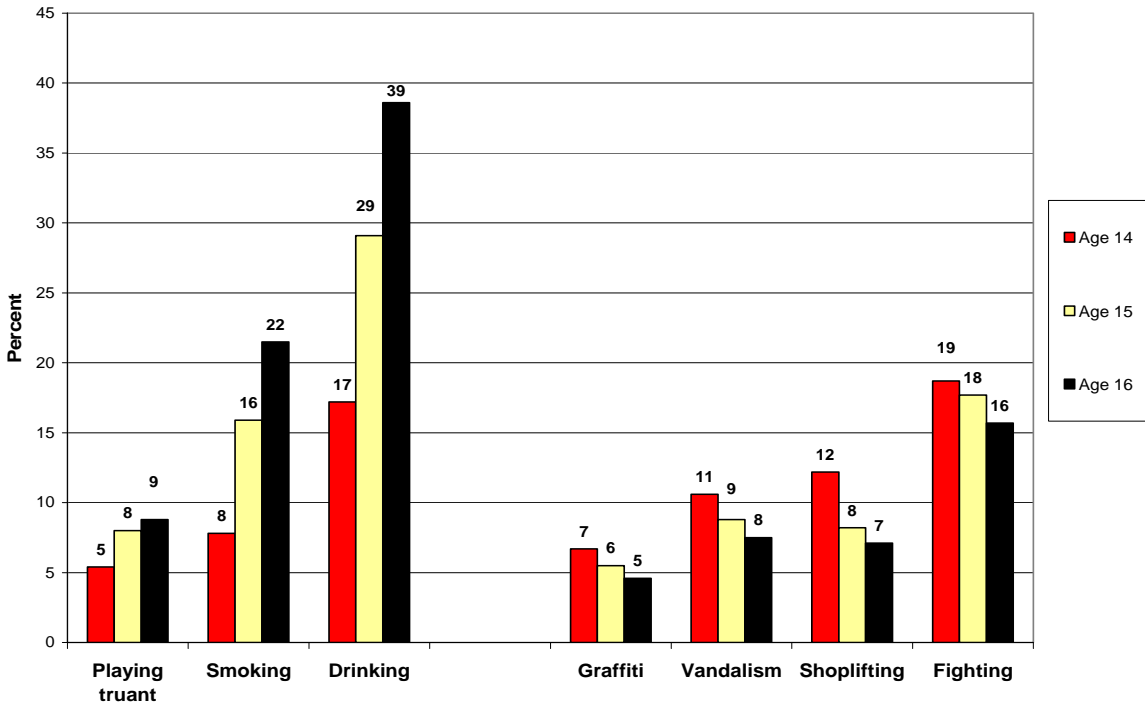
In Figure 2.2 we look across these different forms of behaviour to identify whether young people engage in risky behaviour or not - and if they do, how many forms of risky behaviour they participate in. Two in five (38 per cent) young people engaged in at least one form of risky behaviour at age 14; this increased to just over half (52 per cent) at age 16.

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[10] Since the activities recorded in LSYPE are self-reported, they do not necessarily align to the statistics collected using other methods or sources. For example, truancy rates reported here may be different from those based on data recorded by schools.

[11] The raising of the legal minimum smoking age, from 16 to 18 years, was introduced in October 2007. These LSYPE respondents were 17 at the time and hence the legislation would not have impacted on the results presented here.

[12] Due to differences in the format of questions being asked, it is difficult to precisely compare evidence from different sources.

Relatively few young people engaged in four or more risky behaviours: five percent at age 14, and 7 percent at ages 15 and 16. The most substantial increase occurred among those engaging in one or two risky behaviours. As young people grew older, they became more likely to participate in risky behaviour. Between the ages of 14 and 16, the proportion of young people who abstained from risky behaviour altogether decreased from 62 percent to 48 percent. The average number of risky behaviours in which young people engaged rose from 0.7 at the age of 14 to 1.0 at the age of 16.

Figure 2.2 - Number of Risky Behaviours Participated in, by Age
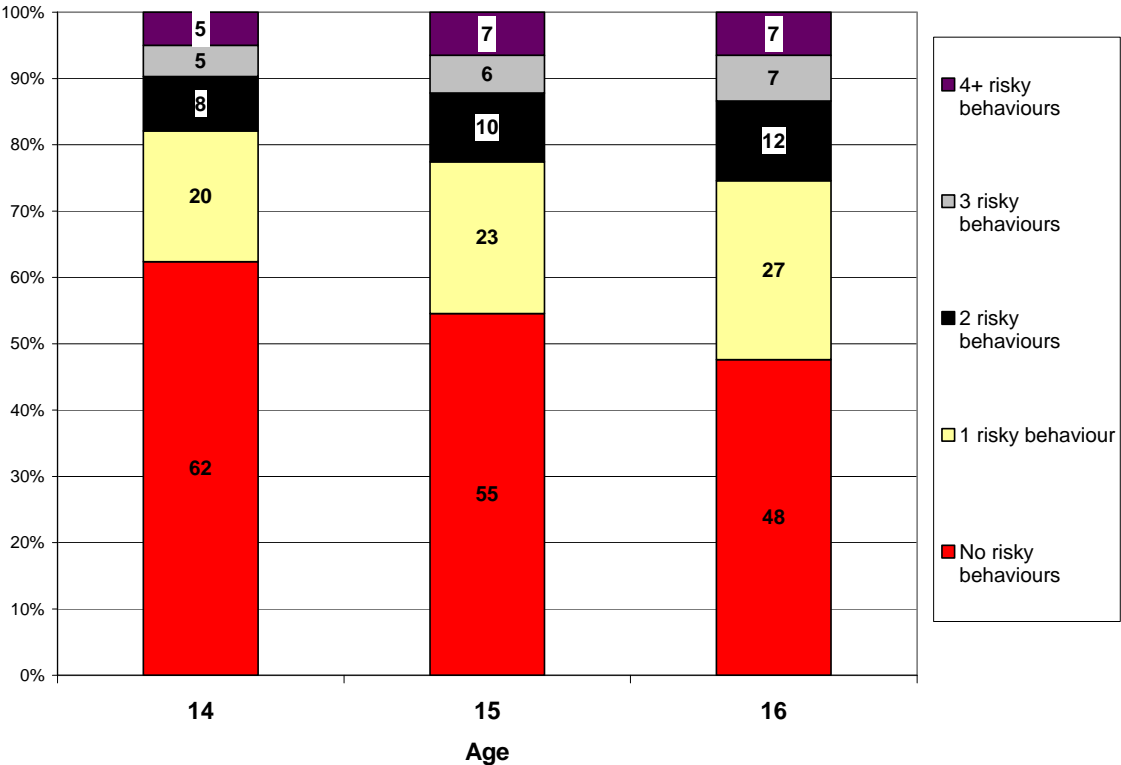
Note: Figures may not add to 100 due to rounding.

Figure 2.3 shows the net change in the number of risky behaviours young people experienced as they got older - represented as the number of risky behaviours a young person participated in at age 16 minus the number participated in at age 14.[13] Most (51 per cent) young people did not change the number of risky behaviours they participated in over the two years[14]. Of those who did, the majority only reported one more or one fewer risky behaviour at age 16[15]. Approximately twice as many young people increased the number of risky behaviours (the right-hand side of Figure 2.3) as reduced them (left-hand side). This accounts for the overall net increase in prevalence of risky behaviour as young people get older. The statistics also demonstrate that more young people changed their behaviour (increasing or decreasing risky behaviours) as they got older than the aggregate statistics of Figure 2.1 may suggest.

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[13] Table A3.1 in Appendix 3 gives additional details by also presenting the changes between the age of 14 and 15, as well as the changes between the age of 15 and 16.
[14] It is possible that some young people 'exchanged' risky behaviours, that is, giving up one and taking up another. This would still be recorded as a zero (0) change in Figure 2.3.
[15] Again, this is a net estimation. Some young people may have given up two, but taken up three different risky behaviours, giving a net increase of one risky behaviour. However, this would have been the case for only a small proportion of young people, since very few recorded two or more risky behaviours in the first instance.

Figure 2.3 - Changes in the Number of Risky Behaviours between the Age of 14 and 16
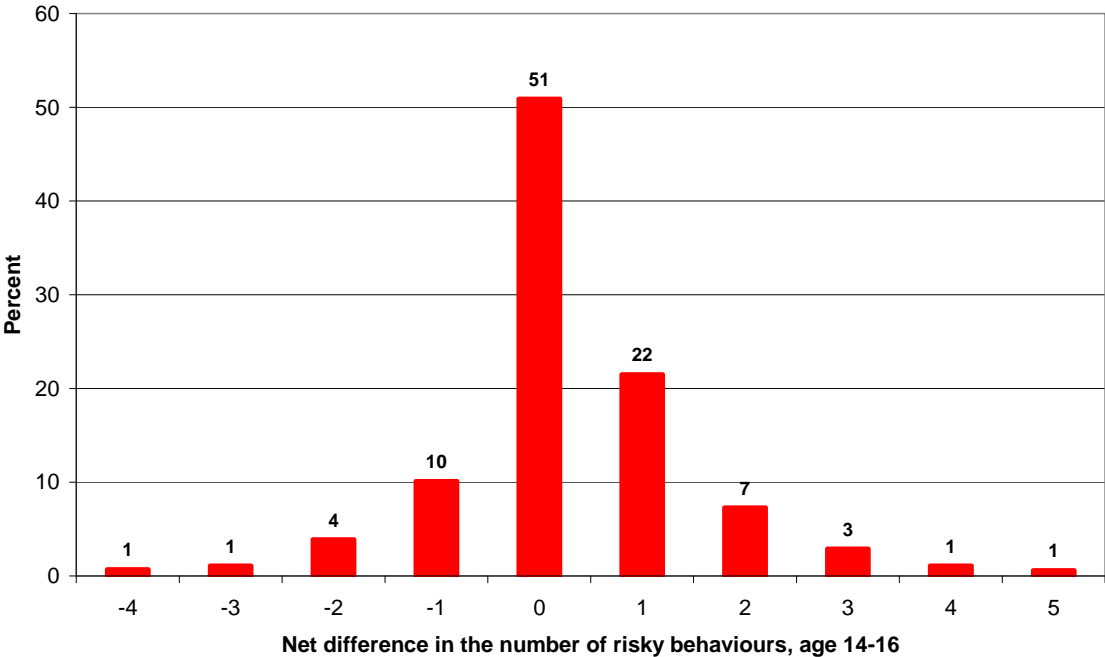
Table 2.1 focuses further on the dynamics of risky behaviour by profiling young people's participation in individual behaviours over the three-year period under investigation. We have identified three groups of patterns over time: stable profiles, exits and entries.

- *Stable profiles* indicate the presence, or absence, of each risky behaviour in all three years of data collection.

- *Exits* describe instances where a young person ceased to participate in a risky behaviour.

- *Entries* indicate where a young person began to participate in a risky behaviour.

Where possible, exits and entries have been further divided into 'temporary' and 'sustained'.

- *Temporary entry / exit*, depicts a one-year change in behaviour. For example, a temporary exit at the age of 15 would indicate the situation where the young person participated in a given risky behaviour at the age of 14, then ceased to participate in it at the age of 15 (hence 'exit'), but then took it up again at the age of 16 - hence the exit turned out to be only temporary.

- *Sustained entry / exit*, depicts a change that lasts for two-years (at least[16]). Taking the scenario above, a sustained exit would indicate the situation where the young person participated in a given risky behaviour at the age of 14, then ceased to participate in it at the age of 15 (hence 'exit'), and still did not participate in it at age 16 - hence the exit turned out to be sustained.

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[16] Obviously, such classification is only valid within the three-year period under investigation. For, instance we cannot know whether an exit that was sustained at the age of 16, was still sustained at the age of 17. For the same reason, we cannot tell whether an entry or exit observed in the last year of the survey (i.e. at the age of 16) was temporary or sustained.

Table 2.1 - Sequences of Risky Behaviours over Three Years

Base: all							*LSYPE*
				Risky Behaviour			
	Playing Truant	Smoking	Drinking	Graffiti	Vandalism	Shoplifting	Fighting
Risky Behaviour Sequence	Column %	Column %	Column %	Column %	Column %	Column %	Column %
Stable profiles							
Continuously abstained from	85	77	52	89	83	82	70
Continuously engaged in	1	**5**	**11**	1	2	2	**5**
Exits							
Age 15: Temporary exit	1	1	3	0	1	1	2
Age 15: Sustained exit	2	1	2	**4**	**5**	**7**	**7**
Age 16 exit	1	1	2	1	2	2	3
Entries							
Age 15: Temporary entry	4	2	5	**2**	**3**	**3**	**5**
Age 15: Sustained entry	**2**	**7**	**12**	1	2	2	3
Age 16 entry	**5**	**7**	**14**	2	3	2	5
Bases	10,390	10,916	10,853	11,461	11,218	11,291	11,140

This analysis will, importantly, help us to understand at which age young people are most likely to start engaging in risky behaviour (or disengaging from it) and whether participation is likely to continue or be just a temporary activity. To aid interpretation, the most important patterns have been highlighted in the table.

Drinking, followed by fighting and smoking, were the most persistent risky behaviours with one in ten young people (11 per cent) continuously engaged in drinking from the age of 14 to 16, and one in twenty (5 per cent) continuously participating in smoking or fighting.

Exits were more likely to be sustained than temporary, with more young people ceasing to take part in risky behaviours against other people or property (i.e. graffiting, vandalism, shoplifting or fighting) at the age of 15 than at the age of 16. This suggests that most young people who engage in these types of activities do so at an early age (confirmed by the 'entry' analysis), and are likely to give them up around the age of 15 and not to take them up again by age 16. This was not the case for truancy, smoking and drinking, which, as explained above, were more likely to be sustained activities.

A similar picture emerges when focusing on entries, yet, conversely, young people were more likely to start participating in drinking, smoking and, to a lesser extent, truancy, at the age of 16, rather than 15. However, those who had started at 15 were more likely to continue participating, rather than give it up at the age of 16. This may indicate that, especially in the case of smoking and drinking, these behaviours are perceived as attributes of adulthood and therefore, once taken up, are likely to be sustained by young people. However, it is also likely that the addictive nature of these behaviours may contribute to the sustained participation.

2.3 Categorising Risky Behaviour

The previous sections clearly demonstrate two subgroups of risky behaviour; one consisting of drinking, smoking and truancy; the second including vandalism, shoplifting, fighting and graffitiing. We subsequently undertook additional analyses to confirm these groupings[17]. This analysis also confirmed that risky behaviours of the first type were only associated with risky behaviours of the second type to a limited degree.

Also, from a conceptual point of view, there are clear differences between the two types of risky behaviour. Behaviours in the first group (truancy, smoking and drinking) mainly concern and affect the young people themselves, whilst those in the second group (graffitiing, vandalism, shoplifting and fighting) are typically directed against third parties or property. Based on this distinction, we will be calling indicators in the first group *internalising risky behaviours* and those in the second group *externalising risky behaviours*. It needs to be stressed that these labels should only be understood within the context of this study; they do not aim to imply any other meanings or associations, in particular, those used in the psychology literature. Box 2.1 presents the classification of risky behaviours, which will be used throughout the report.

Box 2.1 - Two types of risky behaviour

Internalising Risky Behaviour	*Externalising Risky Behaviour*
- playing truant;	- graffitiing on walls;
- smoking cigarettes;	- vandalism of a public property;
- drinking "a proper alcoholic drink".	- shoplifting;
	- taking part in fighting or a public disturbance

For each type of risky behaviour we derive an index that summarises the 'intensity' of participation. The index sums the number of risky behaviours that young people engage in, ranging from zero to three for internalising risky behaviour and from zero to four for externalising risky behaviour[18]. Figure 2.4 presents the proportion of young people participating in internalising and externalising risky behaviours by age and intensity of participation.

More young people engaged in internalising risky behaviour as they got older. Two in ten (23 percent) young people displayed internalising risky behaviours at age 14, which increased to five in ten (48 percent) at age 16. Similarly, 4 percent of young people engaged in all three internalising risky behaviours at age 16, an increase from 1 percent at the age of 14.

Conversely, fewer young people engaged in externalising risky behaviour as they got older. Three in ten (28 percent) young people took part in externalising risky behaviours at 14, which decreased to two in ten (21 per cent) by the age of 16. Also, 3 percent of young people engaged in three or four externalising risky behaviours at 16, down from 5 percent at the age of 14.

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[17] These analyses included testing Pearson's correlations and tetrachoric correlations among the variables. Additionally, simple factor analysis was run to confirm the two-group solution.

[18] We also constructed a weighted version of the indices, which weighted individual behaviours according to their prevalence in the population - a method frequently used to derive relative deprivation indices. Since analyses performed using weighted and the simple-sum indices produced very similar results, we have decided to report findings based on the simple-sum approach for ease of interpretation.

Figure 2.4 - Proportion of Young People Engaging in Internalising or Externalising Risky Behaviours, by Age and Intensity of Participation
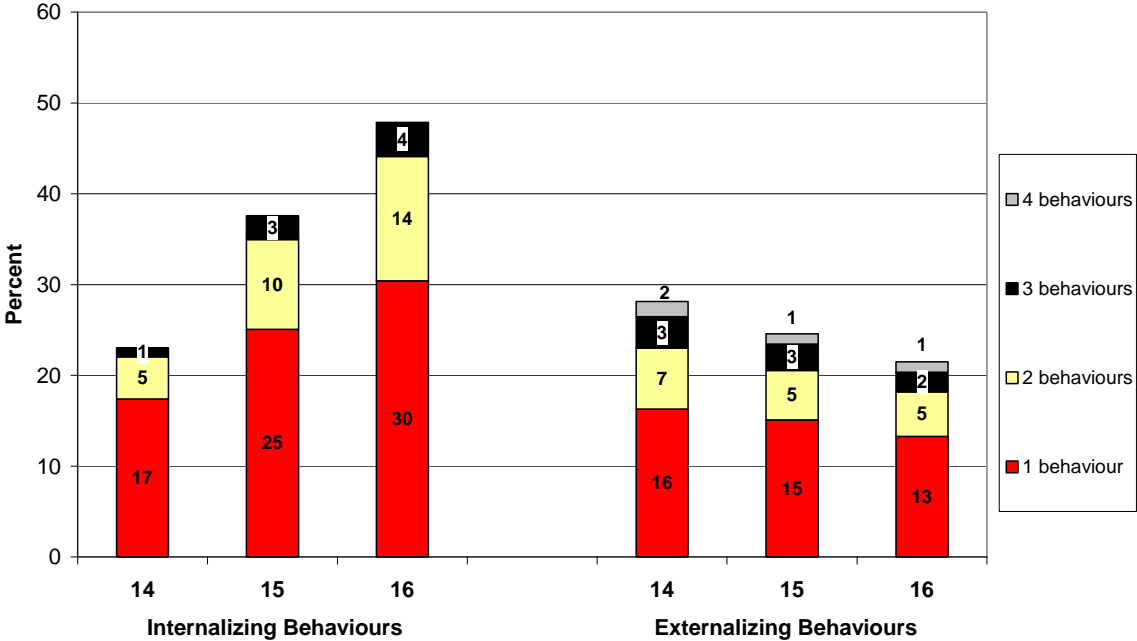
We also explored the degree of the overlap between the two types of risky behaviours, to see how many young people took part in both internalising and externalising risky behaviours. Figure 2.5 presents the proportion of young people who engaged in at least one risky behaviour (left-hand bars) or at least two risky behaviours (right-hand bars) of each type - internalising and externalising. The proportion of young people participating in at least one internalising *and* one externalising risky behaviour increased from 12 percent at age 14 to 17 percent at age 16. The proportion of young people engaging in at least two behaviours of each type increased from 3 percent at age 14 to 5 percent at ages 15 and 16. Thus, although the size of the group of young people engaging in a high level of risky behaviour increased, it remained comparatively small. However, as will be shown in Chapter 4, these young people faced an increased risk of experiencing adverse educational and labour market outcomes at age 16 and 17.

Figure 2.5 - Proportion of Young People Engaging in Both Internalising and Externalising Risky Behaviours, by Age
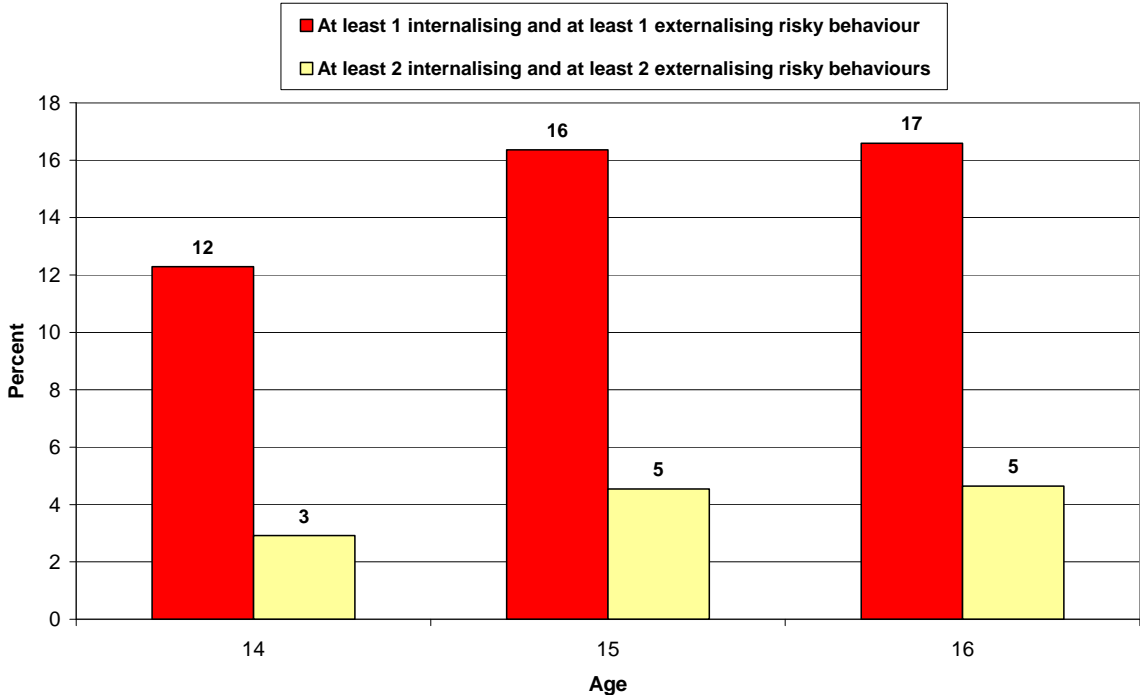
In the final step of analysis in this section, we explored the propensity of young people who continued to engage in risky behaviour of one type also to engage in risky behaviour of the other type. Figure 2.6 shows selected results from this analysis, focusing on young people who *highly* engaged in risky behaviour of a given type.[19] For the purpose of this analysis, we defined the young person as *highly engaging* in risky behaviour if they engaged in three out of three internalising risky behaviours, or, in three or four out of four externalising risky behaviours.

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[19] Tables A3.2 and A3.3 in Appendix 3 provide full results of this analysis.

Figure 2.6 - Overlap between High Participation in Internalising and Externalising Risky Behaviours, by Age
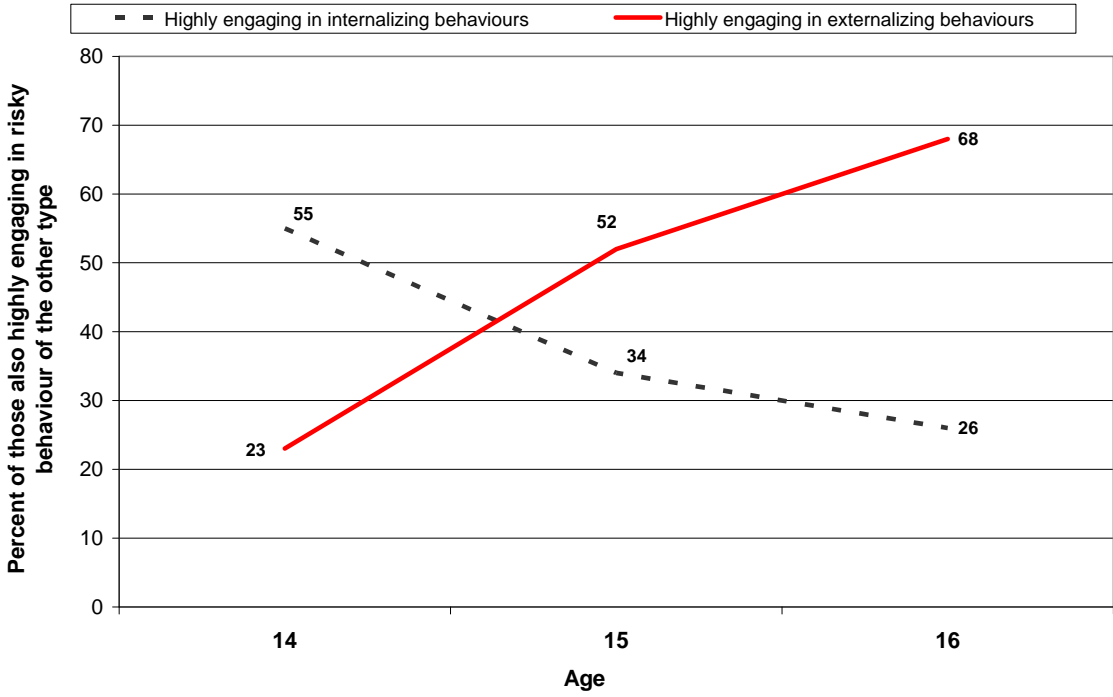
The continuous line in Figure 2.6 shows the proportion of young people highly engaging in externalising risky behaviour who also highly engaged in internalising risky behaviour, while the dotted line presents, conversely, the proportion of young people highly engaging in internalising risky behaviour who also highly engaged in externalising risky behaviour.

The dotted line indicates a decline, year on year, in the proportion of young people highly engaging in internalising risky behaviours who also highly engaged in externalising risky behaviours. Thus, 55 percent of 14-year olds highly engaging in all three internalising risky behaviours also engaged in at least three externalising risky behaviours. However, this more than halved to 26 per cent among 16-year olds. This pattern suggests that while more young people drank, smoked or played truant at age 16 than at age 14 (as seen in Figure 2.1), comparatively fewer also engaged in behaviours directed against other people or property.

However, the pattern is reversed in the case of the continuous line: the proportion of young people who had engaged in three or four externalising risky behaviours and who also highly engaged in internalising risky behaviours rose from 23 percent among 14-year olds to 68 percent among 16-year olds. In other words, a greater number of young people in the older age group who highly engaged in externalising risky behaviour also adopted internalising risky behaviours.[20] This group included a core of young people adopting multiple, often all seven, risky behaviours at the same time.

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[20] Moreover, as illustrated in Table A3.3 in Appendix 3, this increase was significantly more marked than the overall increase in prevalence of internalising risky behaviours observed in the total population as young people grew older.

2.4 Young People Who Engage in Risky Behaviour

In this final section we explore the characteristics of young people who engaged in risky behaviour. We also investigate which young people changed their involvement with risky behaviours over that time.

Identifying key factors associated with young people's risky behaviour

Multivariate analysis is used in this section to isolate the key factors, such as socio-demographic characteristics, associated with young people's risky behaviour. The key feature of multivariate regression analysis is that the relationship of each characteristic to risky behaviour takes into account any possible confounding influence of other characteristics. For example, descriptive analyses may suggest that the incidence of risky behaviour is higher among young people in single-parent families and families with no parent in work. Given that we know that single-parent families are more likely to have no parent in work, the key issue is whether it is living in a single-parent family or work status (or both) that is driving the relationship with risky behaviour. The regression analysis will allow us to unravel whether work status continues to be associated with a greater propensity for risky behaviour once we control for family type. However, it is important to note that the analysis presents significant *relationships* between the characteristics of young people and their families and the risk of risky behaviour - the analysis does not necessarily unravel *the cause and effect* in the relationship. Further details on the methods of analysis and statistical techniques can be found in Appendix 2.

The analysis incorporates a range of socio-economic characteristics as well as a small number of derived indices capturing attitudinal concepts[21]. These are grouped into four categories - personal characteristics of young people, their family background, family relationships and school environment - and listed below.

Personal characteristics of young person:

- Gender;

- Ethnicity;

- English as a first language;

- Special Educational Needs;

- Disability.

Family social background:

- Family type;

- Number of siblings;

- Child in receipt of Free School Meals;

- Father's socio-economic class;[22]

- Child living in a workless household.

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[21] Detailed definitions of the above indices, as well as description of all the other variables included in the analyses, can be found in Appendix 1.
[22] Mother's socio-economic class if father not present.

Family relationships:

- Parental Involvement Score, describing parental involvement with matters related to the young person's schooling;

- Parental Attitudes Score, describing parental attitudes towards education;

- Family Cohesion Score, measured both from the perspective of the young person (YP) and the main parent (MP) and describing relations between parents and children.

School environment:

- Young person is being bullied;

- Young person's attitude to school;

- Young person wants to leave full time education (FTE);

- Young person's friends want to leave FTE;

Definitions of the Parental Involvement Score, the Parental Attitudes Score and the Family Cohesion Scores as well as all other variables can be found in Appendix 1.

Table 2.2 presents the most important characteristics associated with participation in risky behaviour at age 14 and 16. A plus sign (+) indicates where a characteristic is associated with a greater engagement in risky behaviour, whereas a minus sign (-) indicates less engagement. The number of pluses/minuses indicates the strength of statistical association, with more +/- signs meaning a stronger relationship.[23]

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[23] Full results, containing statistical details and covering all three years of the survey can be found in Table A3.4 In Appendix 3.

Table 2.2 - Logistic Regression Results of a Young Person's Propensity to Engage in Risky Behaviour (simplified)

	Internalising Risky Behaviour (drinking, smoking, playing truant)		Externalising Risky Behaviour (shoplifting, fighting, vandalism, graffitiing)	
	Age 14	Age 16	Age 14	Age 16
Personal characteristics				
Gender (male)	–		+ + +	+ + +
Ethnicity (not White)	– – –	– – –	+	
Special Educational Need (yes)		– – –	+ +	–
Family background				
Free School Meals (yes)	+		+	
Main parent never worked/long term unemployed		–	+	
Family Type (2-Parent)				
Step Parent		+	+	
Single Parent	+ + +	+ + +	+ + +	+ +
Family environment				
Parental Involvement Score	+ + +		+	+ +
Family Cohesion Score (YP)	– – –	– – –	– – –	– – –
Family Cohesion Score (MP)	– – –	– –	– – –	–
School environment				
YP is being bullied (yes)	+ + +	+ + +	+ + +	+ + +
Attitude to School Score (YP)	– – –	– – –	– – –	– – –
YP wants to leave FTE (yes)		+ + +		+ +
YP's friends want to leave FTE (yes)	+ + +	+ +	+	

Note:+ positive association, - negative association. +++/--- statistically significant at the 0.1% level; ++/-- statistically significant at the 1% level; +/- statistically significant at the 5% level. YP = Young Person; MP = Main Parent.

The analysis reveals that, overall, it is school and family environment, rather than personal or family background, that is associated with whether young people engage with risky behaviours or not. More specifically, positive personal attitudes towards school were strongly associated with lower engagement in both internalising and externalising risky behaviour, as were good relations with parents, as indicated by the statistically significant effects of *both* Family Cohesion Scores. Conversely, desire to leave full-time education, both expressed by young people as well as their peers, was associated with higher involvement in risky behaviour, particularly internalising risky behaviour. Also, the experience of being bullied was strongly associated with higher involvement in risky behaviour of both types.

Unexpectedly, higher parental involvement with school is associated with an increased propensity for the young person to engage in risky behaviour. It may be the case that parents of young people who engage in risky behaviour may want (or indeed have to) be more involved with monitoring their children's progress at school. Unfortunately LSYPE does not provide information on whether the involvement with school was initiated by parents or by the school itself.

Other key findings are that family formation seems to play an important role in young people's propensity to engage in both internalising and externalising risky behaviour.

Specifically, it is young people in single-parent families that were more likely to engage in risky behaviour. The effect was smaller, albeit still present, in the case of step-parent families.

Young people from ethnic minorities were much less likely than their peers from a white background to engage in internalising risky behaviours. They were somewhat more likely than white young people to engage in externalising risky behaviour at a younger age (at 14 and 15), but the difference disappeared by the age of 16. Similarly, girls of a younger age (at 14 and 15) were more likely than boys to engage in internalising risky behaviour but there was no difference between the genders at the age of 16. Boys were continuously more likely to participate in externalising risky behaviours and this difference did not disappear with age.

The relationship between Special Educational Needs (SEN) and risky behaviour seems to be more complex. At age 14, SEN was strongly positively associated with a young person engaging in externalising - and only externalising - risky behaviour. By age 16, the effect had reversed as these young people became less likely to engage in externalising risky behaviour. On the other hand, SEN at age 16 was strongly inversely related to internalising risky behaviour; that is, young people of that age were unlikely to smoke, drink or play truant. In sum, it appears that as young people with SEN got older, they were increasingly less likely to engage in risky behaviour of any kind.[24]

Less important influences were those associated with socio-economic position of the family. Again, the picture seems to be rather complex. Although young people entitled to free school meals appeared to be somewhat more likely to engage in risky behaviour when they were younger, the effect disappears with age. Moreover, there was some indication of young people with unemployed parents (or parents with lower socio-economic background) being less likely to engage in internalising risky behaviour but more likely to engage in externalising risky behaviour than young people with parents of a high socio-economic status.[25]

Identifying which young people change their risky behaviour as they get older

In the final step of analysis, we investigated which young people change their risky behaviour as they get older. This analysis makes use of the fact that LSYPE collects information from the same young people year after year and allows us to identify potential triggers of behavioural change.

The analysis was conducted using multinomial logistic regression, which compared young people whose risky behaviour scores had either decreased or increased over the three- year period, with young people whose risky behaviour had remained unchanged. We modelled the changes using the same characteristics of young people and their families as in the previous section and, additionally, recorded any changes to these characteristics that occurred over the three years - for example, changes in young people's desire to stay in full-time education.[26]

Overall, the analysis supports what was presented in the previous section. The results show strong statistical effects of changes in the school-related variables on changes in risky behaviours of both types. Importantly, changes in these variables were far more likely to *prevent increases* in risky behaviour, than actually *trigger reductions*. Specifically, young people who increased their desire to leave full-time education also took up new risky behaviours (there was an increase in the number of both internalising and externalising risky

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[24] A similar pattern, although of a lesser statistical power, can be observed in the case of the disability indicator; see Table A3.4 in Appendix 3 for full details.
[25] See Table A3.4 in Appendix 3 for the details.
[26] Full results of this analysis can be found in Table A3.5 in Appendix 3.

behaviours) as did young people who began experiencing bullying between the age of 14 and 16. Furthermore, young people living in households that became jobless over the three-year period were more likely to take up new externalising risky behaviours, as were young people whose friends became willing to leave full-time education. Conversely, young people whose attitudes to school improved were less likely to take up new risky behaviours. [27]

All the effects listed above describe changes that might have prevented young people increasing their participation in risky behaviour. When we turn our attention to those changes that might have triggered reductions in risky behaviours, we find much fewer of them. Specifically, only in the case of young people with positive attitudes to school, or those who improved their attitudes to school over the three years, did we find statistically significant associations with a reduction in the number of risky behaviours. Additionally, young people who began being bullied between ages 14 and 16 were *less likely* to decrease their risky behaviour than other young people.

2.5   Conclusions

The study focused on seven indicators of risky behaviour taken from the LSYPE dataset. Initial analysis of interrelations between the indicators identified two types of risky behaviour: *internalising risky behaviours*, which included playing truant; smoking and drinking and *externalising risky* behaviours, which included graffitiing, vandalism, shoplifting and fighting.

More young people engaged in internalising risky behaviours, and fewer young people engaged in externalising risky behaviours, as they got older. Engaging in internalising risky behaviours did not appear to be a prelude to engaging in more and sustained externalising risky behaviour at the ages covered in this analysis. The growing proportion of 'internalising risk-takers' included proportionately fewer 'externalised risk-takers'. However, the group of young people who engaged in externalised risky behaviour at age 16 included a much larger proportion of those who also engaged in internalising risky behaviour than had been the case at ages 14 and 15. This suggests that with each successive year, externalising risky behaviour increasingly coincides with internalising risky behaviour.

Participation in each of the two types of behaviour also differed to a certain extent with respect to the characteristics of young people and their families. Notably, young people from a white ethnic background were more likely to engage in internalising risky behaviours, as were younger girls. Boys were more likely to take up externalising risky behaviours, as were younger people from ethnic minority groups.

The analyses also identified a set of factors that seemed particularly likely to drive young people's participation in both types of risky behaviour. These were: negative attitudes towards school and having peers with similar attitudes; experience of bullying; poor relations with parents, and living in single-parent families. All five factors are areas in which early intervention might make a difference and reduce the risk of young people engaging in risky behaviour. Interventions should, however, take into account that not all risky behaviours bear the same risk of growing or being sustained over time. Nor do all risky behaviours bear the same consequences to the young person or others. Therefore, any intervention ought to be targeted - or 'personalised' - to ensure it reaches young people through appropriate means, in particular those young people whose complex personal and social environments promote and entrench participation in risky behaviour.

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[27] We have no information as to whether these were the same friends who had changed their attitudes, or whether the young person found new friends with different attitudes towards schooling.

3 Prevalence and Patterns of Social Activities

> ## Overview
>
> This chapter empirically tests the link between young people's participation in social activities and their engagement with risky behaviour. We focus on *socializing activities*, linked to an increased likelihood of risky behaviour, and *self-development activities*, which may act as a protector against risky behaviour, and find links with young people's family and school environment. We find that high involvement in socializing activities significantly increases the likelihood of young people increasing their engagement in both internalising and externalising risky behaviours.

3.1 Introduction

As discussed in the introductory chapter, certain 'social' activities are often assumed to have a positive effect on young people, reducing, among other things, their propensity to engage in risky behaviour. However there is still relatively little empirical evidence that assesses whether such activities are indeed 'positive' and have the ability to reduce risky behaviour. This chapter aims to put a number of social activities to an empirical test, investigating whether any such activities as defined and considered in this study offer a protection against risky behaviour (Note that we use the term 'social activities' to describe pastimes in which young people may be engaging as part of a group or alone.)

As already noted LSYPE data relating to young people's activities cannot be precisely matched to those (derived from the Tellus survey) that provide a measure of 'positive' activities identified by policy. National Indicator 110 relates to organised and structured delivery of activities, typically outside the school environment, specifically 'organised and structured group activities led by an adult outside school lessons, such as sports, arts or a youth group' (DCLG 2008/09).

LSYPE does not ask young people if they attend art and craft-related activities (although it asks about playing a musical instrument). It does, however, ask young people about their participation in sport activities, although it is not clear whether this participation is through sport organisations, schools, or informal game playing. In addition, LSYPE records whether young people attend youth clubs. Again, we have no detail about the organisation and degree of adult involvement this entails. Analysis showed both activities to be weakly associated with a higher prevalence of risky behaviour, except for sport activities at age 14, which was weakly associated with a lower prevalence of risky behaviour. Because their relationships with risky behaviour were only weak and much weaker than for other social activities, neither was included in the list of socialising or self-development activities described below. However despite the lack of detail about these activities, their role in encouraging or discouraging risky behaviour has been explored separately in recognition of their particular relevance to policy.

In order to identify social activities that could have a bearing on risky behaviour, it hence became necessary to develop an approach that did not rely on matching LSYPE social activities with 'positive activities' as defined in NI 110. This approach involved observing the statistical relationship between individual social activities and young people adopting risky behaviours.

3.2 Prevalence of Social Activities among Young People

In total, we identified 22 social activities that young people were asked about in the first two years of LSYPE[28]. As in the case of risky behaviours, young people were asked if they had engaged in any of these activities during a given period of time, which ranged from seven days to 12 months. In some instances, young people were asked how often they typically engaged in the activity. In such cases we identified young people with high levels of engagement, for example watching television for four or more hours per day. Table 3.1 shows the prevalence of these activities among young people at age 14 and 15 (sorted by the frequency of participation at age 14).

Table 3-1 - Prevalence of Young Persons' Activities

Base: all		*LSYPE*
Activity	**Age 14**	**Age 15**
	%	%
Reads for pleasure	83.6	82.0
Gone out with a friend (last 7 days)	79.7	81.8
Having a friend at home (last 7 days)	62.4	62.0
Took part in a sport (last 4 weeks)	57.9	52.7
Just hung out near home (last 4 weeks)	55.3	54.2
Gone to cinema (last 4 weeks)	49.3	50.7
Just hung around in town / centre (last 4 weeks)	29.5	32.8
Gone to a party (last 4 weeks)	27.6	35.1
Played snooker (last 4 weeks)	26.3	27.7
Household chores 3+ hours per week	23.5	23.3
Played a musical instrument (last 4 weeks)	23.4	20.3
Had a paid job during term time	22.4	28.1
Gone to a youth club (last 4 weeks)	20.4	16.9
Gone to see a football match or other (last 4 weeks)	19.6	18.6
Watches TV 4+ hours per day	18.0	16.1
Gone to an amusement arcade (last 4 weeks)	16.7	14.9
Gone to a pub (last 4 weeks)	15.0	18.6
Plays computer games 2+ hours per day	11.6	12.1
Attended religious classes or courses (last 12 months)	10.9	9.2
Has caring responsibility	4.5	5.2
Done community work (last 4 weeks)	4.3	6.0
Gone to a political meeting (last 4 weeks)	1.3	1.9
Bases	*13877*	*13313*

Many of the social activities recorded in LSYPE are leisure activities and few of them are intrinsically positive in the sense of being benevolent or charitable activities. Also, they are not necessarily activities undertaken with others, including friends.[29] Moreover, the survey rarely records the frequency of participation in such activities, but instead, asks participants

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[28] Young people were not asked about these activities in the third year of the survey.
[29] For this reason, some of the activities may be seen as not being 'social' in the sense of involving interactions with other people. It is then important to remember that we use the term 'social' as a generic term describing any of the activities in Table 3.1, regardless of whether they need to involve participation of other people or not.

whether they had participated in these activities within a given period of time prior to the interview. Consequently, we need to assume that this time period captures a typical pattern of the individuals' social activities. Fortunately, the survey is carried out at a similar time each year to aid such comparisons.

At age 14, the majority of young people met with friends either inside (62 per cent) or outside (80 per cent) their own home, took part in sports (58 per cent) and, at least occasionally, read for pleasure (84 per cent).[30] Around one half of young people reported having gone to a cinema (49 per cent) or having "just hung around" near their home (55 per cent), while a little over a quarter (30 per cent) of young people had "hung around" the centre of their town or city.

Going to parties, playing snooker or playing a musical instrument were other activities that a significant proportion of young people did - about a quarter of the young people engaged in each of them. A smaller proportion of young people pursued other leisure activities, such as going to a youth club (21 percent), attending a football match (20 percent) or going to an amusement arcade (17 percent). One in six young people went to a pub, one in eight played computer games for two or more hours a day, while one in ten attended religious classes or courses. Few young people engaged in community work (4 percent) or went to a political meeting (1 percent).

For most of the activities, the proportion of young people participating in them remained fairly stable for those aged 14 and 15. However, more young people reported going to parties, having a paid job or hanging around their town centre at age 15 than at age 14, while fewer reported going to youth clubs.

3.3   Classifying Social Activities

The list of activities in Table 3.1 tells us little about the nature of them or, more importantly, their relationship with risky behaviour. As mentioned in the introductory section of this chapter, there is little overlap between the set of activities included in LSYPE and the positive activities as defined by NI 110. Therefore, we carried out analysis to enable us to group social activities together, with the overall aim of identifying activities that may counter-balance participation in risky behaviours.

To understand how each social activity relates to internalising risky behaviour, we counted the number of internalising risky behaviours undertaken by each young person, and divided the average for those who engaged in a given social activity by the average for those who did not. This calculation was the same for externalising risky behaviours. In other words, the likelihood of young people who 'had a friend at home in the last 7 days' taking part in internalising risky behaviours was calculated as:

Mean number of internalising risky behaviours of those who 'had a friend at home in the last 7 days'

divided by

Mean number of internalising risky behaviours of those who <u>did not</u> 'have a friend at home in the last 7 days'

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[30] We excluded those young people who reported 'never' or 'hardly ever' reading. Additional analyses demonstrated that the distinction between those who read, even infrequently, and those who do not, was much more important than the distinction between frequent and infrequent readers.

A ratio higher than 1 indicates that those young people who engaged in a given social activity were also more likely to engage in risky behaviour, compared with young people who did not undertake the activity. A ratio lower than one indicates that those who pursued an activity were less likely to engage in risky behaviour. Therefore, the higher the ratio, the stronger the association is between a given activity and risky behaviour of a given type. Figure 3.1 shows the ratios for each activity with relation to (a) internalising and (b) externalising risky behaviours.[31] Both charts show variable, but ultimately very consistent patterns of participation ratios across both years of the survey and for both types of risky behaviour. We split the charts into three parts, to represents our classification of social activities based on the strength of their association with risky behaviour.

The social activities at the bottom of each chart are those most likely to be associated with a higher propensity towards risky behaviour. Here young people were between 1.4 and 2.6 times more likely to engage in internalising, and externalising, risky behaviours than those who did not participate in these social activities. These activities were hanging around in town/centre, going out with friends, going to parties, going to pubs, hanging around in the neighbourhood, meeting friends at home, and going to an amusement arcade.

The social activities occupying the middle part of the table were much less likely to be associated with risky behaviour.[32] This applied in particular to watching TV, going to a youth club, contributing to household chores, taking part in sport, going to see a football match or other sports, and going to a cinema. Playing computer games for two or more hours a day appeared to lack a clear association with internalising risky behaviour, although it was relatively strongly associated with externalising risky behaviour.

At the top of the charts are those social activities that were associated with a lower propensity towards risky behaviour: playing a musical instrument, doing community work, attending religious classes, and reading for pleasure. Young people participating in these activities engaged in, on average, around half as many (between 0.4 and 0.8 times) risky behaviours as their peers who did not engage in these activities.

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[31] More detailed information, including the mean number of internalising and externalizing risky behaviours associated with each activity can be found in Table A3.6 in Appendix 3.
[32] Two of the activities included in this group were still relatively strongly related to risky behaviour: playing snooker and going to a political meeting. However, we decided not to include them in the top group of activities for two reasons. Firstly, playing snooker was highly correlated with going to a pub and an amusement arcade. Secondly, very few young people went to a political meeting and inclusion of this indicator would have constrained subsequent analyses. Furthermore, by the time the young people were 15, this indicator no longer distinguished between high and low levels of risky behaviour.

Figure 3.1 - Relationship between social activities and risky behaviours

a) Internalising risky behaviours (smoking, drinking, playing truant)
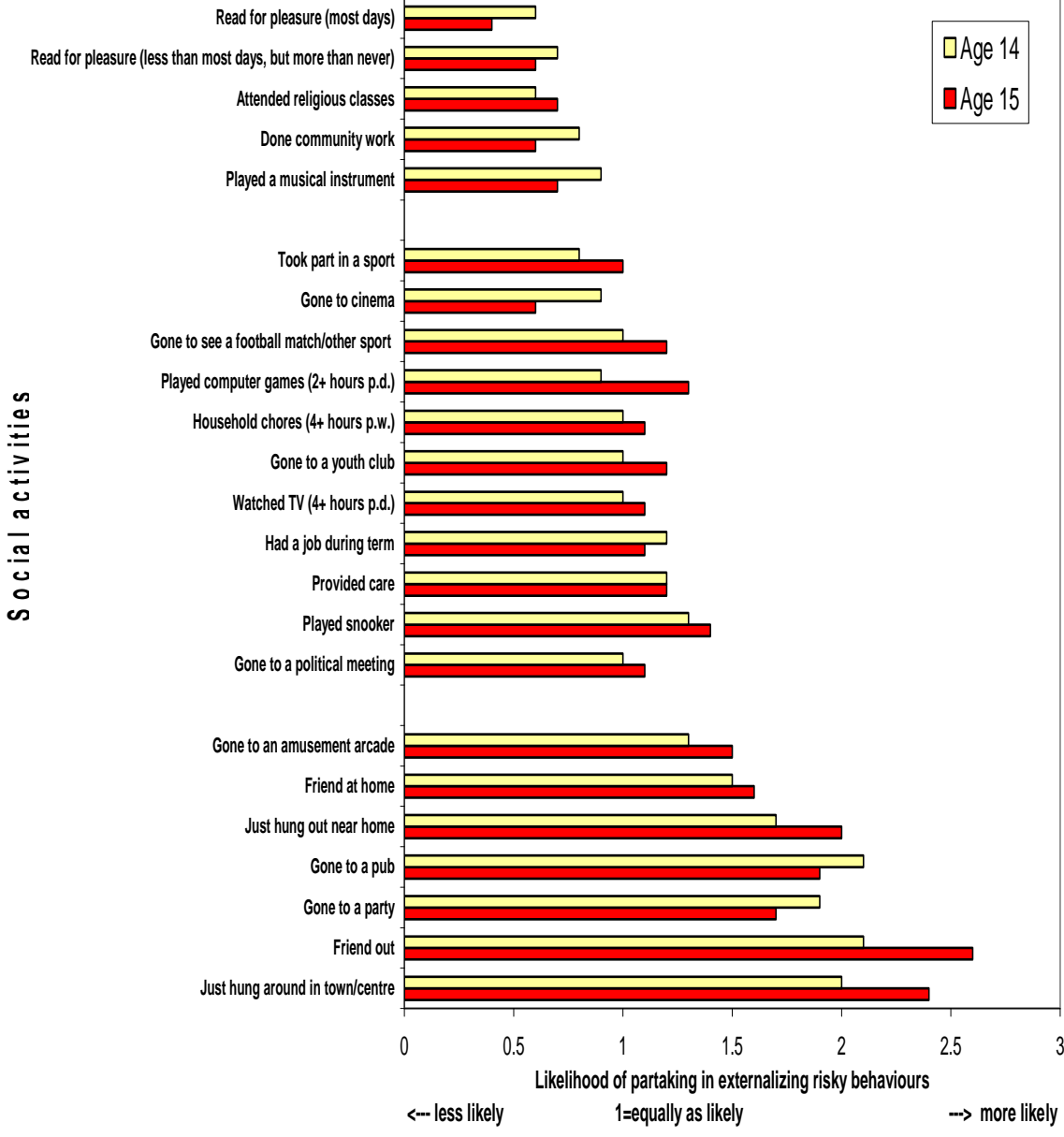
b) Externalising risky behaviours (shoplifting, fighting, vandalism, graffitiing)

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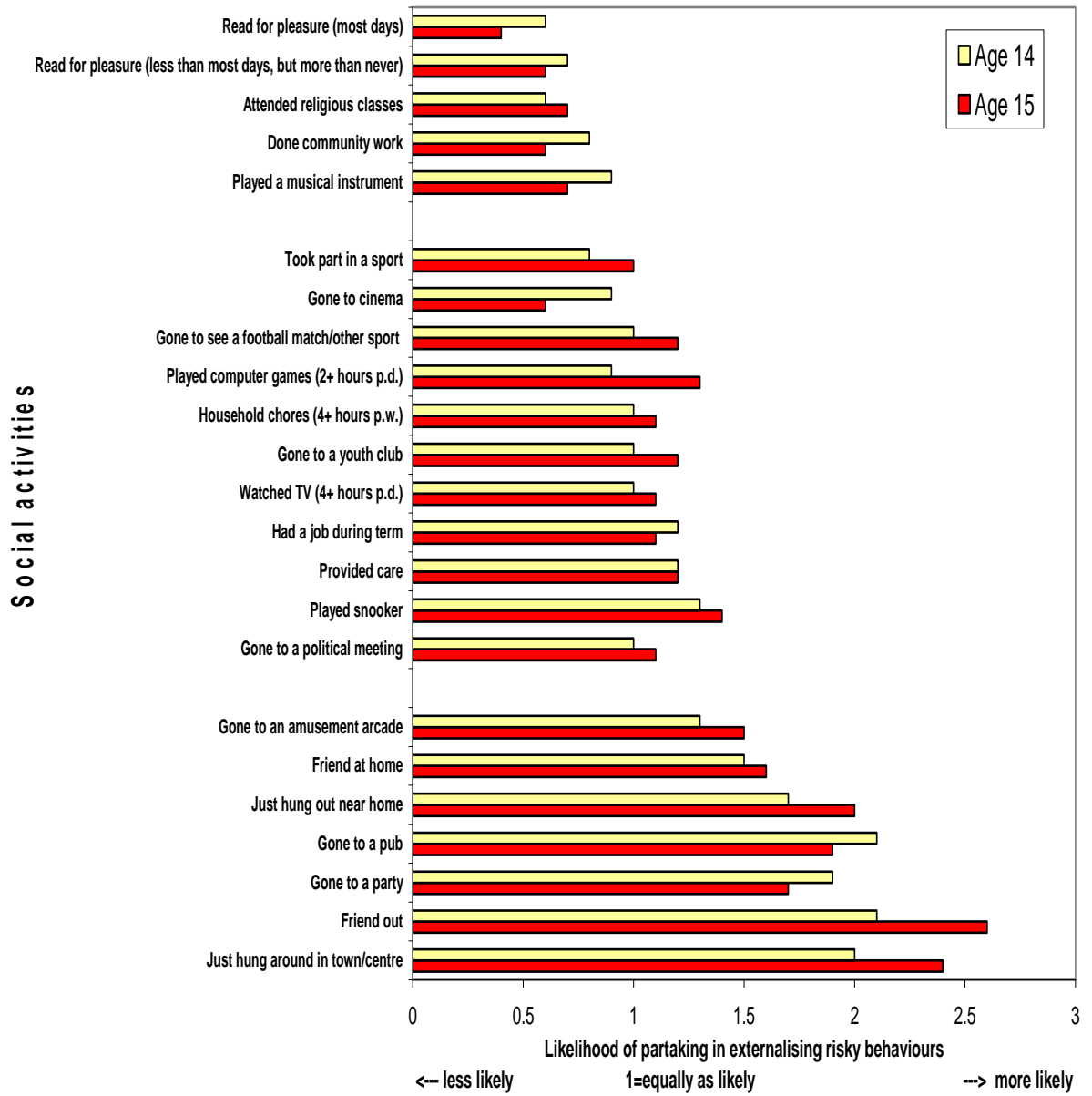
Since our primary goal is to identify those social activities that may prevent, or reinforce, risky behaviour, the top and the bottom groups of activities in Figure 3.1 will be of particular interest. After closer examination, it is apparent that the activities of each group are conceptually different. The bottom group of activities (i.e. those more strongly associated with risky behaviour) typically involve engaging with groups of peers. The activities in the top group (i.e. those weakly associated with risky behaviour) can be seen as oriented towards learning or practising certain skills. Consequently we label the activities from the bottom group *socialising activities* and the activities from the top group *self-development* activities. Box 3.1 presents the final classification of socialising and self-development activities.[33]

Box 3.1 - Two types of social activities

Socialising activities	**Self-development activities**
• Hanging around in town / centre	• Playing a musical instrument
• Meeting friend outside the home	• Doing community work
• Going to a party	• Attending religious classes
• Going to a pub	• Reading for pleasure
• Going to an amusement arcade	

Neither category included participation in a sport or going to a youth club. Both activities were associated with a higher prevalence of risky behaviour, except for participation in sport at age 14, when it was associated with a lower prevalence of risky behaviour. But the associations were weak and much weaker than for other activities.

Many policy interventions designed to reduce risky or anti-social behaviour among young people, however, involve sports or youth club activities, delivered as organised and structured programmes. For this reason and their specific relevance to policy, participation in a sport and going to a youth club were included in this study. They were analysed *separately* for their association with changes in risky behaviour, and the educational and long-term outcomes of young people.

To allow for further analysis, particularly to ease interpretation, we constructed a composite index for each type of activity, counting the number of activities young people participated in - thus, using the same methodology for the index of risky behaviours in the previous chapter.[34] Figure 3.2 shows the relationship between the social activities indices and the indices of risky behaviour. The results highlight a strong positive relationship between socialising activities and both internalising and externalising risky behaviour. In other words, the more socialising activities a young person participates in, the higher the likelihood of engaging in risky behaviours.

This relationship is reversed when we look at self-development activities. The mean number of risky behaviours that a young person engages in decreases the more self-development activities they do. The mean number of risky behaviours changes little, if at all, with each additional neutral activity - although it does increase the chance of engaging in externalising risky behaviours at age 14.

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[33] After additional investigation, some of the activities were excluded from further considerations. 'Hanging around near the home' and 'meeting a friend at home' were excluded because they were highly correlated with responses to 'hanging around in town' and 'going out with friends'.

[34] We also created an index of the activities from the middle part of Figure 3.1, which we call 'neutral activities'. This was done to capture activities that, although largely unrelated to risky behaviour, may prove important for further analysis later in the report. This additional index aims to control for the underlying propensity and opportunities for participation in various activities in general, as opposed to 'doing nothing'. The index included, among others, sport participation and youth club attendance

Figure 3.2 - Relationship between number and type of social activities and risky behaviours

a) Age 14 years
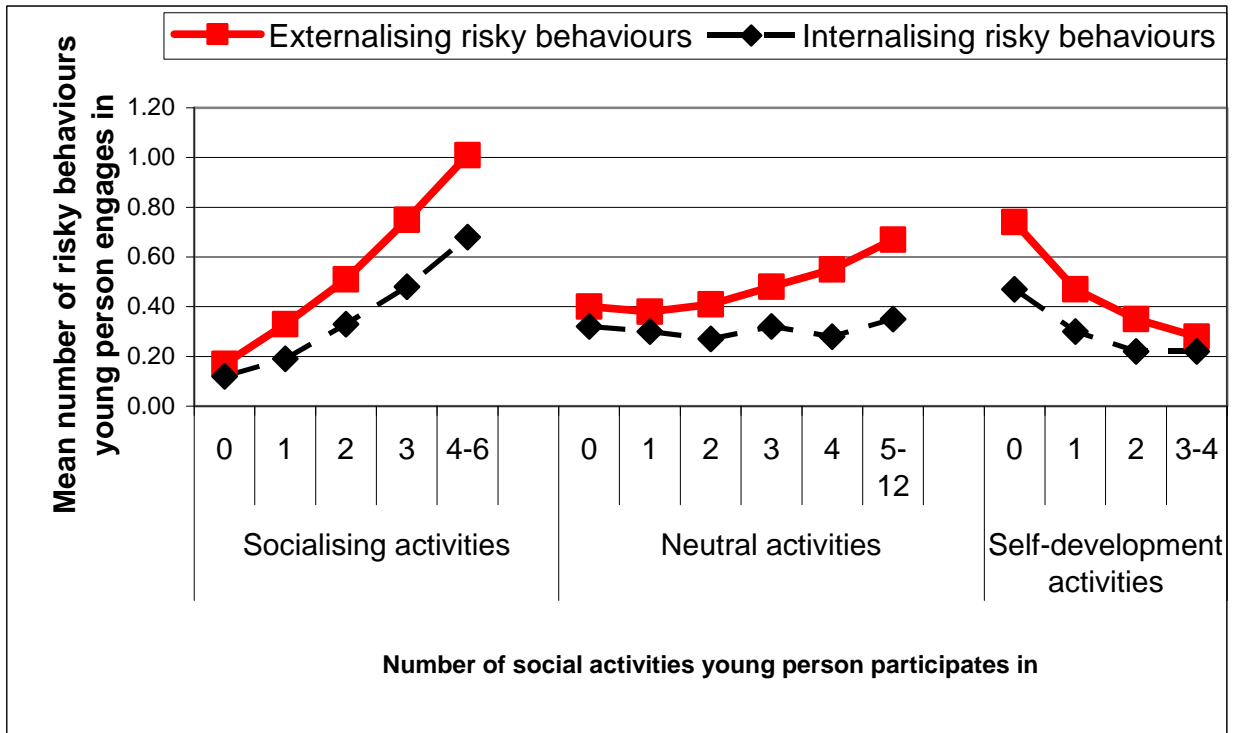
b) Age 15 years
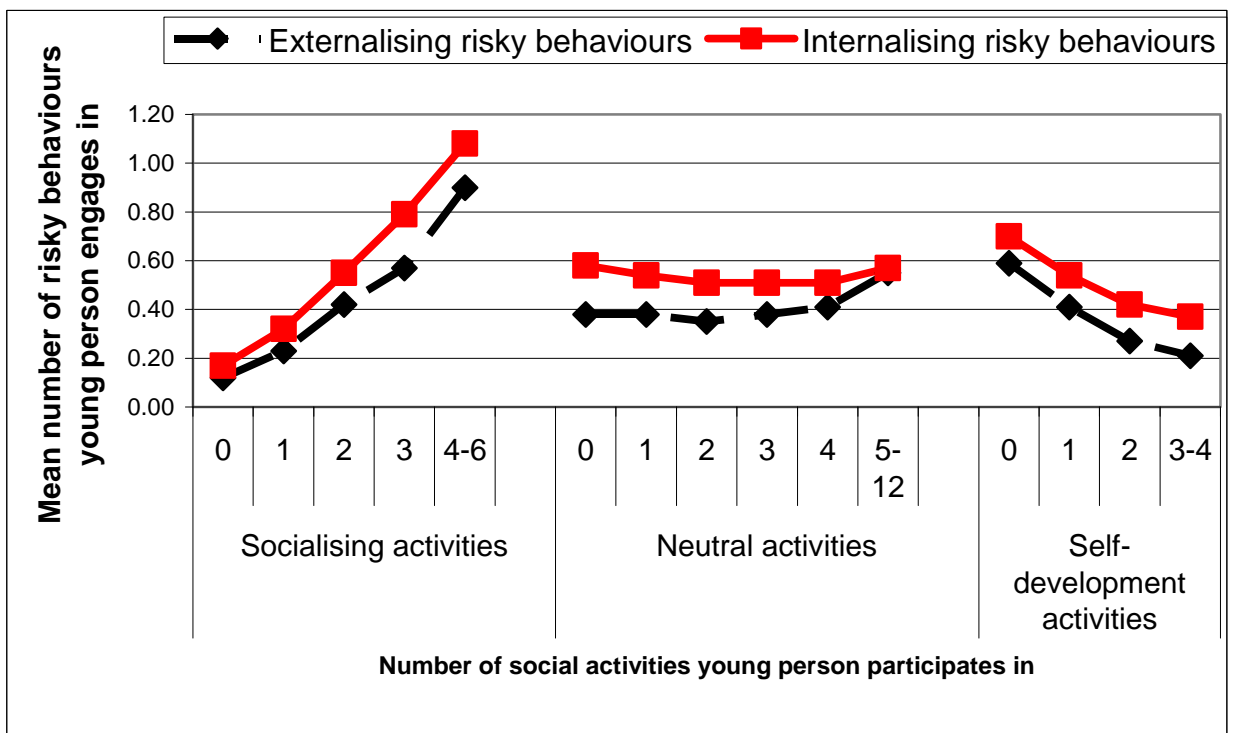
3.4   Young People Who Engage in Social Activities

This section examines the characteristics of young people who engage in the different types of social activities. The analysis reveals that - as was found with risky behaviours - attitudes to schooling, family cohesion, family type and parental involvement in educational matters are most strongly associated with social engagement.

The results of two logistic regression analyses of young people participating in social activities, first, at age 14 and, second, at age 15 are summarised in Table 3.2. As before, symbols are used to indicate statistically significant positive ('+') and negative ('-') relationships between a young person partaking in social activities and a set of personal, family and school characteristics. Our main focus here is on socialising activities, which were earlier found to be associated with increased risky behaviour, and self-development activities, earlier found to be associated with lower engagement in risky behaviour. The detailed results of this analysis can be found in Table A3.7 in Appendix 3, which also contains the regression results for neutral activities. In the same place, Table A3.7a shows the regression results for attending a youth club and participation in a sport.[35]

There was considerable similarity in the factors affecting socialising or self-development activities at both ages, including the direction of their association. Young people most likely to participate in socialising activities included those living with step-parents or a single-parent, and those from lower social classes. At age 15, having friends who wanted to leave full-time education (FTE) was also strongly associated with a young person engaging in socialising activities.

Least likely to participate in socialising activities were young people with SEN or a disability that affected their schooling, or young people from a non-white ethnic background. Strong family cohesion and a positive attitude to schooling were also associated with a lower risk of participation in socialising activities. At age 15, we also found that boys and young people whose first language was not English were disproportionately less likely to engage in socialising behaviours.

Factors linked to higher participation in self-development activities included the young person having positive attitudes to school, better relations with parents and whose parents had a high level of involvement in educational matters. Other characteristics applied to relatively few young people, but were associated with higher participation in self-development activities. These included being bullied, having a disability that did not affect schooling, being from an ethnic minority and not speaking English as a first language (only at age 14).

A comparison of the factors linked to socialising activities or self-development activities highlights the stronger and inverse effect of socio-economic variables on self-development activities, which was comparatively absent from socialising activities. It also shows the effects of family background and young people's attitudes to school that were positively related to self-development activities, but negatively related to socialising activities. Furthermore, self-development activities were statistically significantly associated with a high Family Cohesion Score as seen from the *young person's perspective*, although there was no corresponding effect on socialising activities. Instead, participation in the socialising activities was strongly associated with a low Family Cohesion Score measured from the *parent's perspective*. It is difficult to draw any firm conclusions as to the significance of this finding, other than to note that the type of activities that young people pursue either affects or is

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[35] The factors driving the attendance of youth clubs differed markedly between ages 14 and 15. A common factor, however, was the young person reporting being bullied at school. The young person reporting a good relationship with their parents increased the likelihood of attending a youth club at age 14. Participation in a sport was higher among young people who were male, did not have a disability or special educational need, had good relations with their parents, and, at age 15, had a more positive attitude to school or education.

affected by who in the family expresses the (statistically) stronger opinion as to the quality of the relationship between family members.

Table 3.2 - Logistic Regression Results of a Young Person's Propensity to Participate in Social Activities (simplified)

	Age 14		Age 15	
	Socialising activities	Self-development activities	Socialising activities	Self-development activities
Personal characteristics				
Number of Siblings (4)				
Special Educational Need (yes)	– –	– – –	– – –	– – –
Parent's NS-SEC (Lower managerial and professional)		– –		
Parent's NS-SEC (Intermediate occupations)		– – –		– –
Parent's NS-SEC (Small employers and own account workers)		– – –		– – –
Parent's NS-SEC (Lower supervisory and technical occupations)	+	– – –		– – –
Parent's NS-SEC (Semi-routine occupations)		– – –		– – –
Parent's NS-SEC (Routine occupations)		– – –		– – –
Parent's NS-SEC (Never worked / long term unemployed)		–	–	–
First language not English (yes)		+ +	– –	
Gender (male)			– – –	
Ethnicity (not White)	– – –	+ + +	– – –	+ +
Disability (yes, not affecting school)		+ +		+ +
Disability (yes, affecting school)	–		– – –	
Family background				
Family type (Step Parent)	+ + +	– –	+ + +	– – –
Family type (Single Parent)	+ + +	– – –	+ +	– – –
Free School Meals (yes)		–		
Family environment				
Parental Involvement Score		+ + +		+ + +
Parental Attitude Score	+	+ +	+	+
Family Cohesion Score (YP)		+ + +		+ +
Family Cohesion Score (MP)	– – –		– – –	
School environment				
YP wants to leave FTE (yes)		– – –		– – –
Attitude to School Score (YP)	– – –	+ + +	– – –	+ + +
YP is being bullied (yes)		+ + +	+	+ + +
YP's friends want to leave FTE (yes)		– – –	+ + +	– – –

Note:+ positive association, - negative association. +++/--- statistically significant at the 0.1% level; ++/-- statistically significant at the 1% level; +/- statistically significant at the 5% level. YP = Young Person; MP = Main Parent.

3.5   The Role of Social Activities in Changing Risky Behaviour

In the last section of this chapter, we make use of the longitudinal element of LSYPE to explore whether participation in social activities is likely to trigger an increase or decrease in risky behaviour. We do this by adding indicators of social activities to previously estimated models above. This allows us to identify any net effects of social activities on changes in risky behaviour, while controlling for the possible confounding effects of young people's background characteristics. Figure 3.3 presents findings from this analysis.[36]

Figure 3.3 is divided into two parts. The top half (Figure 3.3a) investigates the factors that may increase participation in risky behaviours, whereas the bottom half (Figure 3.3.b) looks at those factors that may lead to a decrease in such behaviour. Both halves of Figure 3.3 show the effects on internalising and externalising risky behaviour. Along the left-hand side of the chart, we show the number and the change in the number of socialising and self-development activities that young people reported to engage in at the ages of 14 or 15. The chart itself is a graphic representation of the results of a logistic regression analysis, the full details of which can be found in Table A3.8 in Appendix 3. Figure 3.3 presents the estimated odds ratios, which show how engaging in a given number of socialising or self-development activities affected increases or decreases in risky behaviours. The odds are measured against the probability of the named reference category being associated with a given effect. Odds below '1' indicate decreased odds, that is, a factor makes increased or decreased risky behaviour less likely when compared to the reference category. In contrast, odds greater than '1' indicate greater likelihood of increased or decreased risky behaviour compared to the reference category. Odds of exactly '1' indicate no difference to the reference category. Statistically significant associations are represented by filled coloured bars - and only these are discussed.

The analysis revealed that statistical effects were stronger in the case of socialising activities than in the case of self-development activities. High involvement, and increases in involvement, in socialising activities increased the likelihood of the young person increasing their engagement in both internalising and externalising risky behaviours (Figure 3.3a). Moreover, young people who engaged in a number of socialising activities were less likely to reduce their participation in internalising risky behaviour (Figure 3.3b).

However, young people who did not participate in socialising activities, and those who reduced participation as they grew older, were less likely to increase their engagement in risky behaviour of any type (Figure 3.3a). Consequently, low participation in socialising activities may prevent young people from engaging in new risky behaviours, although it is unlikely to reduce engagement in risky behaviours among those who are already participating. The only statistically significant association in relation to self-development activities was the increased engagement in internalising behaviour among young people who decreased their participation in the former.

The separate analysis of young people going to a youth club or participating in a sport revealed no statistically significant effect of changes in either activity on the *reduction* of internalising or externalising risky behaviours. However, ending participation in a sport increased the likelihood of engaging in internalising risky behaviour (odds 1.32), while starting to go to a youth club increased the likelihood of externalising risky behaviour (odds: 1.67). This analysis took account of the same socio-demographic variables as the main analysis, as well as the number, and any changes in the pursuit, of socialising and self-development activities. The comparison groups were young people who, neither at age 14 nor at age 15, indicated they had participated in a sport or attended a youth club.

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[36] Full results can be found in Table A3.8 in Appendix 3.

Figure 3.3 - Relationship between participation in social activities and changes in risky behaviour

a) Increase in risky behaviour
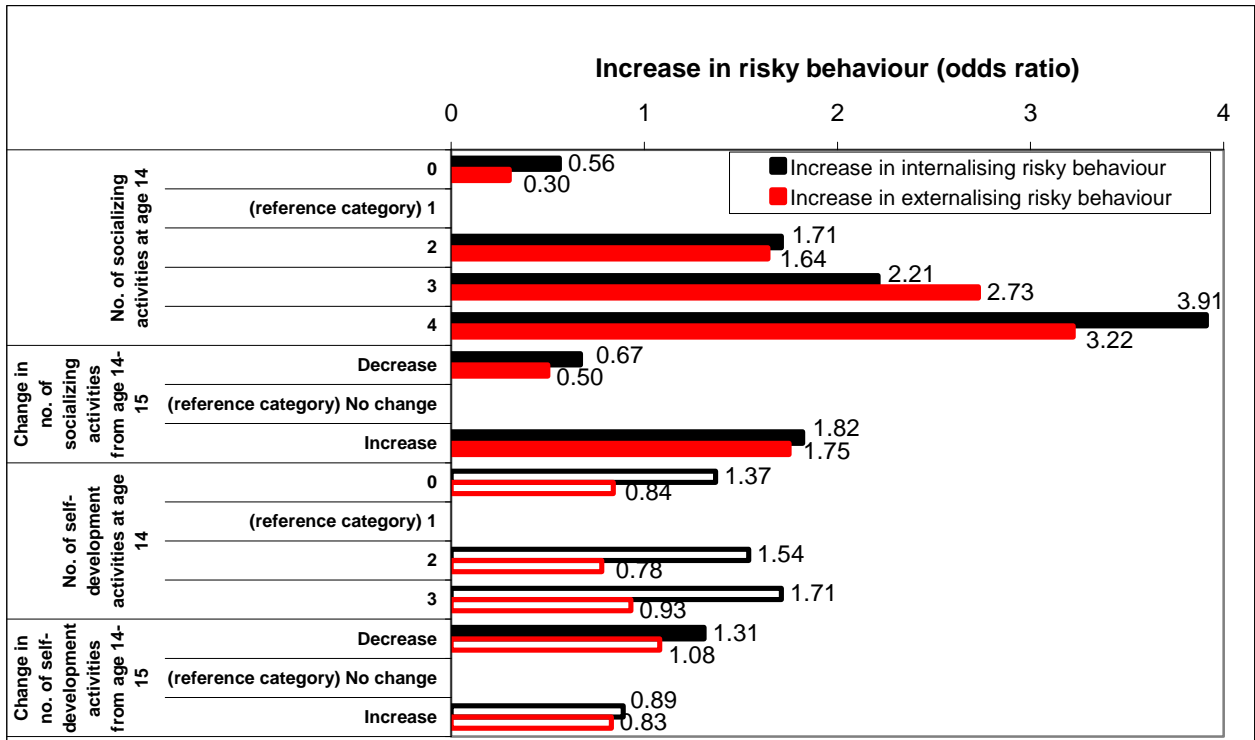
b) Decrease in risky behaviour
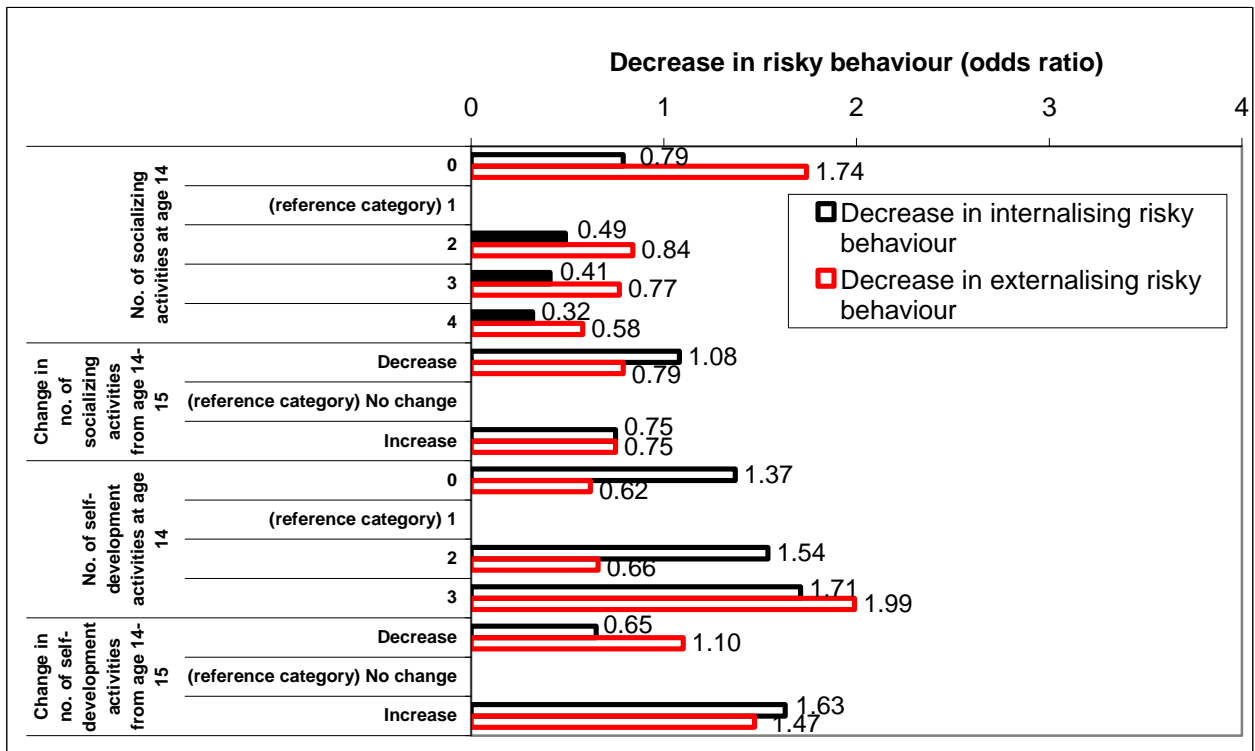
Notes: Coloured in bars represent associations that are statistically significant.
Odds ratio greater than 1 indicates greater chance of the event happening, compared to the reference category.

3.6 Conclusions

This chapter sought to empirically test the link between young people's participation in social activities and their engagement with risky behaviour. Although LSYPE does not specifically identify those 'positive' social activities referred to in existing policy literature, it does collect information on a range of leisure activities - the most prevalent among young people being meeting up with friends, playing sport and reading.

We identified two different types of social activities. Socialising activities were associated with an increased likelihood of risky behaviour, and included activities such as 'hanging around' in town, meeting friends and going to the pub. These types of activities were more prevalent among young people from disadvantaged backgrounds, such as from single-parent families and lower social classes.

Self-development activities on the other hand were associated with a decreased likelihood of risky behaviour, and included activities such as playing a musical instrument, attending religious classes and reading. Young people with positive attitudes to school, better relations with parents and whose parents had a high level of involvement in educational matters were more likely to take part in these kinds of activities.

The number of social activities a young person participates in had an impact on their risky behaviour. For example, the more socialising activities a young person does, the higher the likelihood of engaging in risky behaviours. Conversely, young people who engaged in multiple self-development activities were more likely to avoid risky behaviour.

The design of LSYPE allows us to track young people's behaviour over time. This analysis suggested that participation in social activities was more likely to increase risky behaviour. High involvement, and increases in involvement, in socialising activities significantly increased the likelihood of the young person increasing their engagement in both internalising and externalising risky behaviours.

The findings highlight the importance for public policy of promoting structured alternatives to the socialising activities that are strongly associated with risky behaviours. Importantly, public intervention needs to happen early in a young person's life. We found little evidence to suggest that taking up self-development activities or giving up socialising activities triggered a simultaneous or subsequent reduction in risky behaviour. Other types and qualities of socialising and self-development activities may be more effective in reducing risky behaviour, although it was not possible to identify these using the LSYPE. The findings do, however, emphasise the importance of prevention.

4 Risky Behaviour and Young People's Outcomes

Overview

This chapter focuses on the relationship between risky behaviour and young people's educational outcomes. First we examine young people's school attainment at the age of 16. Next we look at career decisions young people make having completed their compulsory education. Overall, the results demonstrate that it is socio-demographic background and young people's attitudes to schooling that are mostly driving these outcomes. However, a high degree of involvement in risky behaviour, especially if sustained over time, may significantly contribute to lower performance at school and decrease the chances of the young person staying in full-time education beyond the age of 16.

4.1 Risky Behaviour and Educational Outcomes

We first looked to see whether risky behaviour is linked to young people's school attainment at age 16. To do this we linked data from the National Pupil Database (NPD) for 2006 to LSYPE. NPD contains a number of measures of educational attainment, including the new-style GSCE point score, which awards different points for each GCSE grade that a young person achieves, namely:[37]

- 58 points for a GCSE grade A*;

- 52 points for a GCSE grade A;

- 46 points for a GCSE grade B;

- 40 points for a GCSE grade C;

- 34 points for a GCSE grade D;

- 28 points for a GCSE grade E;

- 22 points for a GCSE grade F; and

- 16 points for a GCSE grade G.

For this analysis we combined the individual grade scores into an aggregate score for each young person. The young people in our sample scored between 0 and 866 points and the average score was 359 points. We then created a measure that shows how each young person deviated from this overall average.

The analytical strategy was similar to the one used in the previous chapters. Regression models were used to assess the contribution of risky behaviour and of social activities to young people's GCSE performance, while controlling for a range of socio-demographic variables. The analysis also took into account possible school effects, for example, the fact that groups of pupils in the sample attended the same schools, by applying appropriate statistical corrections.[38]

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[37] The NPD contains a number of alternative indicators, of which the most frequently used is the number of GCSE grades A*-C (or G) achieved, with a cut-off point typically set at five. We preferred the point score indicator to the number of GCSE grades indicator because it allowed for the analysis to capture more gradual changes in educational outcomes.

[38] Specifically, the standard errors of the estimated effects were adjusted for clustering of pupils within schools using the clustered sandwich estimator, thus accounting for intra-school correlations of pupils' GCSE scores.

The effects of risky behaviour on educational attainment were explored by means of aggregate indices as well as individual indicators. Specifically, in the first step of the analysis we assessed the effects of internalising and externalising risky behaviours measured at the age of 14 using the additive indices (that is, the number of behaviours of each type in which young person participated). This step also looked at the effects of changes in the pattern of risky behaviour, i.e. whether young people took up new, or gave up, risky behaviours between the age of 14 and 16. In the second step, we investigated the effect of individual risky behaviours on school attainment, while taking into account the duration of engagement in the specific behaviours. This two-step approach allowed us to assess the effect of the young people's degree of involvement in risky behaviour (as measured by the number of internalising and externalising risky behaviours), as well as the potentially different consequences of individual risky behaviours.

Figure 4.1 presents the results of the first step of the analysis focusing on the effects of risky behaviours and social activities. Full regression results are shown in Table A3.9 in Appendix 3. The figure shows how much young people with different patterns of risky behaviours and social activities differ from the average GCSE scores for all students (359 points). The differences that are statistically significant are marked with filled (coloured) bars.[39]

Overall, the results of the analysis highlight the importance of socio-demographic and attitudinal variables for the educational outcomes (see Table A3.9 in Appendix 3 for details). However, participation in certain risky behaviours and social activities also turns out to be a good predictor of school attainment.

Above all, the results in Figure 4.1 show a significant association between the overall GCSE point score and self-development activities. All else being equal, young people who engaged in one self-development activity at the age of 14 typically achieved a GCSE point score that was 47 points higher than the average. Engaging in two self-development activities increased the score by 82 points; three self-development activities increased it by 98 points. Moreover, young people who increased their participation in self-development activities between age 14 and 16 had, on average, a GCSE score 16 points higher than those who did not change their engagement in self-development activities. Similarly, young people who gave up some of the self-development activities as they grew older had an average GCSE point score 16 points lower than those who did not change their engagement.

The effects of risky behaviour are statistically less important in this model. The only group that clearly stands out are the young people who engaged in all four externalising risky behaviours (shoplifting, fighting, vandalism or graffitiing), who tended to achieve GCSE scores 72 points lower than young people with identical characteristics who did not engage in any externalising risky behaviours. There is some evidence that young people who engaged in multiple internalising risky behaviours also tended to have lower GCSE scores than their peers. This difference was not statistically significant in this model, but this may be due to the small size of this group. What is important however, is that in relation to both types of risky behaviour there seems to be a clear difference between the results of the young people who highly engage in risky behaviour (i.e. participate in many of these behaviours) and those whose engagement is low or moderate (i.e. those who only participate in some of the behaviours). It is difficult to say whether participation in many risky behaviours could be a direct *cause* of poorer educational performance. However, what seems evident from the analysis is that high involvement in risky behaviour may point to some underlying problems, which in turn lead to lower outcomes.

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[39] Figure 4.1 refers to the 0.05 level of statistical significance; more detailed results can be found in Table A3.9 in Appendix 3.

Figure 4.1 - Average Contributions of Internalising and Externalising Risky Behaviours and Social Activities to the GCSE Point Score[40]
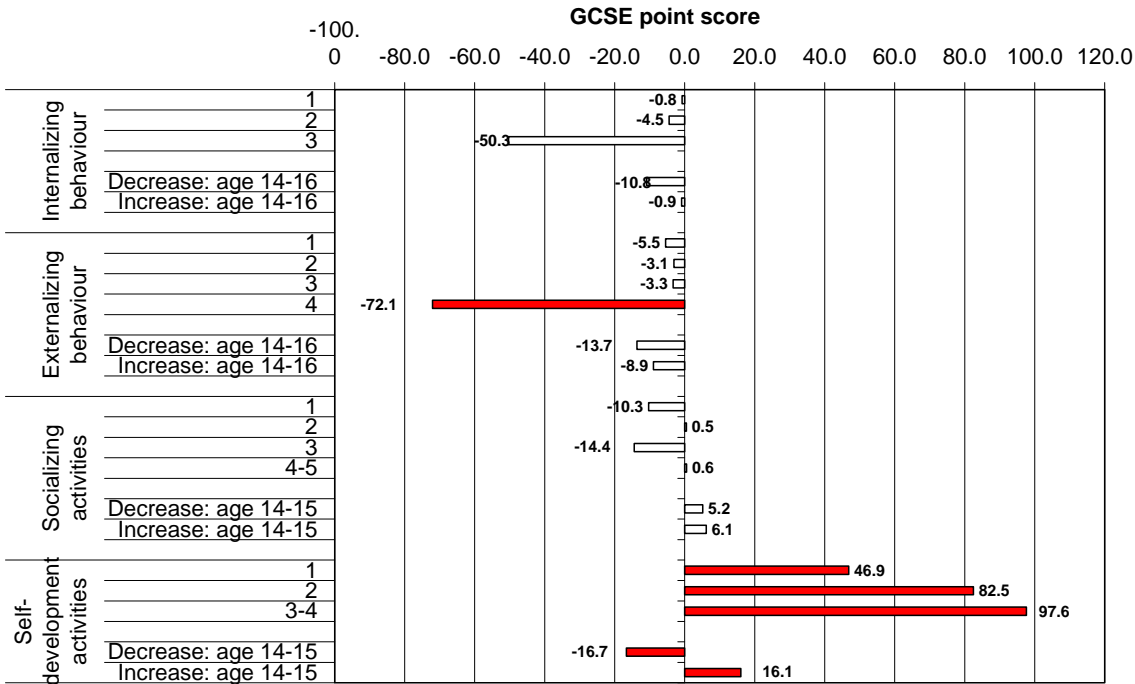
The analysis of the effect of participation in sport and of attending a youth club controlled for the same contextual variables as in the general statistical model represented in Figure 4.1, but also took account of other social activities.[41] This analysis found that participation in youth clubs had no independent statistical effect on GCSE point score. However, participation in a sport at age 14 was associated with an increase in the average GCSE point score by 16 points, while participation at age 15 was associated with an increase in the score by 14 points.

In the second step of the analysis we tested the effect of individual risky behaviours on educational attainment, to see if specific risky behaviours led to different outcomes, for example whether there were any differences between the outcomes associated with playing truant compared with other internalising risky behaviours.

The analysis in this step also sought to assess the consequences of duration of participation in risky behaviour - as opposed to intensity of engagement and changes in it, which was tested in the previous step. This was achieved by counting, for each of the individual risky behaviours, the number of years in which the young person engaged in a given behaviour between the age of 14 and 16. Again, multivariate regression models were employed to control for the potentially confounding effects of contextual variables. Figure 4.2 presents selected results of this step of the analysis, focusing on the effects of risky behaviours.[42] As before, the statistically significant effects have been highlighted using filled (coloured) bars.

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[40] See Table A3.9 in Appendix 3 for the full list of control variables included in the model.

[41] The general models did not control for *neutral* activities and, therefore, were different in structure from the sport and youth club participation models.

[42] Full regression results, including the effects of social activities and socio-demographic variables, are presented in Table A3.10 in Appendix 3.

Figure 4.2 - Average Differences in GCSE Point Scores by Time Engaged in Risky Behaviour

GCSE point score

		-120.0	-100.0	-80.0	-60.0	-40.0	-20.0	0.0	20.0	40.0

Truant:
- 1 year: -13.7
- 2 years: -45.3
- 3 years: -112.5

Smoking:
- 1 year: -22.1
- 2 years: -25.4
- 3 years: -37.6

Drinking:
- 1 year: 7.7
- 2 years: 20.4
- 3 years: 24.3

Graffiti:
- 1 year: -5.7
- 2 years: 7.7
- 3 years: -37.5

Vandalism:
- 1 year: -0.7
- 2 years: 7.9
- 3 years: 5.0

Shoplifting:
- 1 year: -11.3
- 2 years: 7.2
- 3 years: 23.0

Fighting:
- 1 year: -13.7
- 2 years: -16.0
- 3 years: -18.1
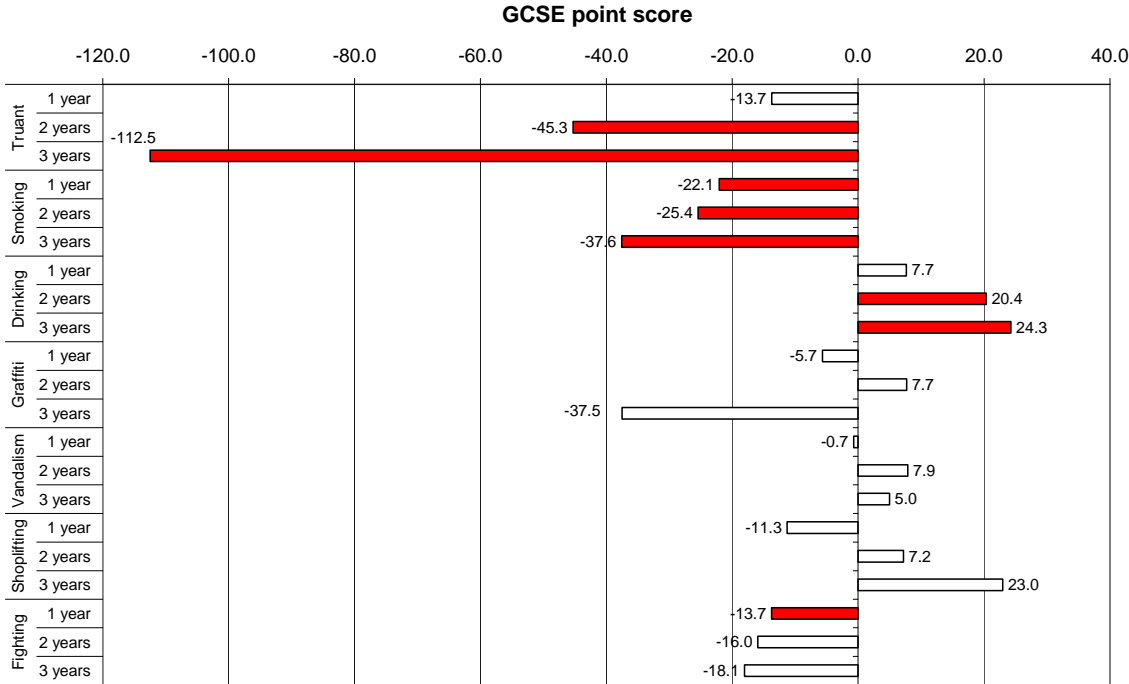
The results of this analysis reveal the difference between the effect of playing truant and the effect of other risky behaviours on educational outcomes. Young people who played truant in two out of the three years of LSYPE achieved, on average, a GCSE score 45 points lower than their peers with the same characteristics who did not play truant at all. Moreover, those young people who played truant in all three years between the ages of 14 and 16 had GCSE scores as much as 112 points lower than those young people who did not play truant.

We also looked at the other forms of risky behaviour that young people engaged in. Compared with truancy, the effects of other risky behaviours on educational attainment were far less pronounced. Young people who smoked tended to achieve GSCE scores that were somewhat lower than the average, while those who drank alcohol tended to, quite surprisingly, score slightly above the average. In both cases however, a direct causal link between the behaviour and the outcomes is rather unlikely. Instead, what these associations might be pointing to are some background characteristics that are not being captured by the control variables included in the model, such as cultural patterns dominating in the young person's family.[43]

Similarly, the effects of the individual externalising risky behaviours on educational outcomes were statistically weak. This strengthens the conclusion reached in the previous step - that it is participation in multiple, rather than singular, externalising risky behaviours that has most impact on young people's educational outcomes.

4.2 Risky Behaviour and Participation Status at Age 17

The fourth year of LSYPE contains information about young people's career choices after compulsory education. This was used in this final step of analysis to explore some of the potential longer-term effects of risky behaviour. More specifically, we explored whether there is a relationship between risky behaviour and young people's destinations at age 17. We grouped young people into four categories:

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[43] It is worth noting that one reason that our analysis is unlikely to include all factors that may impact on educational attainment is because not all are captured in LSYPE.

- Those who remained in full-time education

- Those who moved from education to employment

- Those who combined part-time employment with part-time education or training, including apprenticeships

- Those who were not in education, employment or training (NEET).

The last group of people is especially important from a policy point of view and the government has expressed its commitment to reduce the proportion of young people who are NEET as outlined in NI 117.

Our analysis was based, once again, on regression models that accounted for the potentially confounding effects of socio-demographic background, young people's attitudes and, importantly, their educational outcomes, as measured by their GCSE point score. Similarly as with educational attainment, we estimated two models. The first focused on the degree of young people's engagement in internalising and externalising risky behaviour (measured by the number of risky behaviours) and the changes in the patterns of participation over time; the second explored the effects of individual risky behaviours and the duration of participation.[44]

Overall, compared with socio-demographic background and educational attainment, participation in risky behaviour and social activities had statistically small effects on a young person's economic status at age 17.

As expected, the results highlight the relationship between not being in full-time education at 17 and earlier poor school attainment and negative attitudes to school (in particular the desire to leave full-time education, including if shared among friends). Being eligible for free school meals also increased the odds of being NEET. Conversely, Special Educational Needs status, not speaking English as a first language and good relations with parents all increased the likelihood of a young person staying in full-time education.

Compared to the socio-demographic and attitudinal characteristics of young people, their record of engagement in risky behaviour and social activities had a smaller effect on economic status. However, those people who increased their participation in risky behaviour (whether internalising or externalising) between the ages of 14 and 16, had an increased chance of being NEET. Moreover, those young people who were highly engaged in socialising activities at an earlier age were more likely to be NEET than other young people with the same characteristics who did not engage in socialising activities. Also, those people who took up new socialising activities as they grew older were more likely to be in a full-time job rather than in full-time education.

Young people who were NEET were more likely to have come from a disadvantaged social background than other young people, as measured by their eligibility for Free School Meals. However, they did not necessarily come from workless households. In addition, we found no difference in family cohesion or parental involvement between the NEET group and other young people. These young people (and to a lesser extent also their friends) expressed a desire to leave full-time education very early on, and arguably, this was reflected in their lower GCSE scores. Socio-economic background, GCSE results and the desire to leave education were the main factors differentiating the NEET group from other young people.

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[44] The detailed results of these analyses can be found in Tables A3.11 and A3.12 in Appendix 3.

There was no evidence that young people who were NEET were more likely than other young people to engage in a large number of risky behaviours at the age of 14, although they were more likely to engage in multiple socialising activities. For all young people, including the NEET group, participating in socialising activities increased the likelihood of risky behaviour. However, unlike young people who were in employment, training or education, young people who would eventually become NEET tended to increase both their internalising and their externalising risky behaviours between the ages of 14 and 16.

In the final step of the analysis, we looked at the specific effects associated with participation in individual risky behaviours and the duration of engagement (Table A3.12 in Appendix 3). The results confirmed the importance of socio-demographic background as well as educational attainment and attitudes to schooling for the young person's socio-economic status at the age of 17. The results also demonstrated that long-term engagement in some of the externalising risky behaviours, namely fighting and graffiting, was related to a lower likelihood of being in full-time education at the age of 17. Similar, although smaller, effects were also observed in the case of long-term participation in smoking.

Young people who would become NEET were no more likely to display any of these individual risky behaviours than other young people except for one: this group of young people were more likely to have graffitied in each of the previous three years.

The analysis of the effects of sport or youth club participation at age 14 or 15 on young people's participation status found no statistically significant associations. The analysis again controlled for socio-demographic indicators, indicators of risky behaviours and other social activities.

4.3   Conclusions

This chapter explored possible consequences of participation in risky behaviour and social activities by looking at young people's educational attainment at the age of 16 and their socio-economic status at the age of 17. Overall, engagement in risky behaviour and social activities had a smaller effect on the outcomes than the socio-economic background of young people and their attitudes to education. However, there were some notable exceptions.

Specifically, playing truant, especially when sustained over a longer time period, led to significantly lower GCSE scores being obtained at age 16. Also, participation in multiple externalising risky behaviours was associated with poorer performance at school. Conversely, the key indicator associated with better educational performance, in addition to socio-demographic circumstances and personal attitudes, was young people's engagement in self-development activities.

The effects of risky behaviour on the young people's destinations or participation status at the age of 17 were even less discernible than in the case of educational attainment. Clearly, the effects of behaviour are outweighed to a large degree by young people's attainment at age 16, which is a very strong predictor of post-school destinations. However, there was again some evidence that participating in multiple risky behaviours, particularly of the externalising type and especially when sustained over time, increased the likelihood of young people leaving full-time education. A similar effect was observed with respect to participation in multiple socialising activities.

The findings in this chapter present perhaps the strongest case for a multi-track strategy of policy interventions that seeks to reduce the risk of adverse long-term outcomes from various angles. This is perhaps best illustrated with respect to the NEET group of young people, whose background and experiences combine the most prominent risk factors:

- their poor socio-economic background;

- their dislike of full-time education;

- their high level engagement in socialising (but not self-development) activities; and

- their increasing (with age) engagement in both internalising and externalising risky behaviour (whereas the trend among all young people was for externalising risky behaviours to decrease with age).

Different approaches are required to reduce the prevalence or strength of the effects of these four risk factors, promoting social mobility and working to improve services, including education and leisure facilities, and working directly with the young people themselves. Some targeted initiatives, most notably the Family Intervention Projects, directly intervene in families to address problems of anti-social behaviour and to improve parent-child relationships. The present study confirmed that there was a link between risky behaviour and poor family relationships, which policy ought to address. The link, however, was not found for young people who became NEET. This group reported parent-child relationships similar to those of other young people who did not become NEET. This suggests that other factors may have led to these young people being out of employment, education and training.

5   Summary and Conclusions

This final chapter summarises the main findings of the research and discusses the implications for policy and future research.

5.1   Summary of the report

Describing young people's behaviour

The study identified seven indicators of risky behaviour recorded in the Longitudinal Study of Young People in England (LSYPE). As young people grew older, their engagement in risky behaviour changed, and changed differently for different types of risky behaviours. On the one hand, an increasing proportion of young people started to smoke, consume alcoholic drinks or play truant. On the other hand, the proportion of young people who committed acts of violence against property or people (graffitiing, vandalism, shoplifting, fighting) declined with age. This and further analysis helped us to identify two different types of risky behaviour: *internalising* risky behaviour, namely truancy, smoking and drinking, and *externalising* risky behaviour, which covered acts against property and people.

An important objective of the study was to explore whether risky behaviour was reinforced or counterbalanced by participating in different types of social activities. The study developed a method for classifying social activities based on their association with risky behaviour. Again we identified two types of social activities: *socialising activities*, which included going out with friends, going to parties, going to pubs, going to amusement arcades and hanging around the town/centre, and *self-development activities*, which covered community work, attending religious classes or courses, playing a musical instrument and reading for pleasure. In addition, although they did not meet our identification and selection criteria of social activities, but because of their relevance to policy, we separately explored the association of *participation in a sport* or *going to a youth club* with risky behaviour.

How many young people engage in risky behaviour?

The study found that a substantial proportion of young people engaged in some form of risky behaviour. Four in ten young people engaged in at least one of the seven risky behaviours at age 14; this increased to five in ten by age 16. At the age of 14, the most widespread risky behaviour was fighting, engaged in by one in five young people. However, by the age of 16 fighting was overtaken by drinking (four in ten young people drank at 16) and smoking (nearly one in four young people smoked at 16).

More young people engaged in internalising risky behaviours as they got older: two in ten participated in internalising risky behaviours at age 14, which increased to five in ten at age 16. However, fewer young people engaged in externalising risky behaviours as they grew older: three in ten engaged in externalising risky behaviours at 14, which decreased to two in ten by the age of 16.

A small but significant proportion of young people engaged in multiple forms of risky behaviour: at the age of 16, 4 percent of young people engaged in all three internalising risky behaviours (up from 1 percent at the age of 14), while 3 percent of young people engaged in three or four externalising risky behaviours (down from 5 percent at the age of 14). At age 16, 5 percent of young people engaged in at least two internalising risky behaviours and at least two externalising risky behaviours (up from 3 percent at 14).

Is there a hierarchy of risky behaviours?

Many young people engaged in risky behaviour only on a temporary basis and most participated in only a few risky behaviours simultaneously. Hence, simply participating in risky behaviour does not necessarily mean that the behaviour would be sustained over a longer period of time, nor does it need to lead to participation intensifying over time. However, there was some evidence that participation in externalising risky behaviours at the later age of 16 coincides more often with young people also engaging in internalising risky behaviours. While, at age 16, more young people started to smoke, drink or play truant, those engaging in these behaviours were less likely also to engage in externalising risky behaviours. However, those who participated in externalising risky behaviours at age 16 were increasingly likely to smoke, drink alcohol or play truant.

Who participates in risky behaviour?

Young people who engaged in risky behaviour typically disliked being at school and had fractious relations with their parents (perhaps because of this, their parents tended to have a comparatively high level of involvement with their children's school). Having friends who wanted to leave full-time education and being socio-economically disadvantaged were also associated with a higher prevalence of risky behaviour. Young people who engaged in socialising activities were more likely to engage in risky behaviour, while those participating in self-development activities were more likely to abstain from risky behaviour.

These factors played a similar role, regardless of the type of risky behaviour. Differences between the two broad categories of risky behaviour emerged mainly in the form of gender and ethnic differences. Whereas male pupils were more likely to engage in externalising risky behaviour, pupils of a white ethnic background were more likely to engage in internalising risky behaviour. Also, younger girls (aged 13 and14) were more likely to engage in internalising risky behaviour, whereas younger ethnic minority pupils were more likely to engage in externalising risky behaviour. These associations disappeared by the age of 16.

How are risky behaviour and social activities related over time?

After controlling for the main socio-demographic and attitudinal characteristics of young people (and their parents), we found evidence of a strong statistical relationship between increased engagement in socialising activities and increased participation in both internalising and externalising risky behaviour. Correspondingly, decreasing the number of socialising activities in which the young person participated reduced the likelihood of taking up additional risky behaviours. However, the evidence suggested that neither taking up self-development activities, nor giving up socialising activities led to a significant reduction in risky behaviour. In other words, participation in social activities is more likely to affect (i.e. either reinforce or prevent) the likelihood of new risky behaviours being taken up, than to affect the chances of an actual reduction in risky behaviour.

This was also true for participation in a sport and attending youth clubs. Neither was associated with a reduction in risky behaviour. However, we found evidence that beginning to go to a youth club increased the likelihood of a young person engaging in externalising risky behaviour. On the other hand, compared to no participation, *stopping* participation in a sport increased the likelihood of internalising risky behaviour, although beginning or continuing participation did not.

What is the effect of risky behaviour on educational attainment and socio-economic status?

We further analysed the relationship between risky behaviour and social activities and young people's GCSE exam results as well as their socio-economic status one year on from compulsory education. Engaging in self-development activities, and broadening the range of these activities over time, had a strong and positive association with a higher GCSE point score. Conversely, playing truant, especially when sustained over time, or engaging in all four externalising risky behaviours was associated with a substantially lower GCSE point score.

The association between risky behaviour and social activities, and economic status at the age of 17 was weaker than in the case of educational attainment. However, increased engagement in both internalising and externalising risky behaviours, as well as social activities, was associated with a higher likelihood of leaving full time education, including being NEET.

5.2 Implications for Policy

The research yields a number of implications for policy. First and foremost, it appears that, whilst risky behaviours evolve as young people grow older, changes in the profile of social activities that young people get involved in are more likely to promote or reinforce than to discourage risky behaviour. We need to stress again that the LSYPE data did not allow us to identify structured and supervised social activities that public policy promotes for its 'positive' influence on young people's behaviour. Our conclusions, therefore, are directed at general types of social activities. Moreover, some social activities that this study identified were, by definition, unstructured and unsupervised and, therefore, not 'positive' ('hanging around town' was one example).

Engaging in the general types of socialising activities captured in this study is likely to accelerate or stabilise participation in a range of risky behaviours. Moreover, this process might be difficult to reverse, in particular by seeking to change the types of social activities in which young people engage. For example, engaging young people in self-development activities may prevent them from taking up new risky behaviours, but it is unlikely to lead to an actual reduction in risky behaviour. This also applies to youth club and sport activities. In fact, the evidence suggested that participation in youth clubs *increased* externalising risky behaviour among young people who attended youth clubs at age 15, but had not reported their attendance at age 14. Taking-up a sport had no direct effect on risky behaviour, although stopping participation increased internalising risky behaviour.

Other factors typically emerged as having a much stronger influence on risky behaviour than participation in social activities. Specifically, participation in risky behaviour was largely shaped by the young people's attitudes to their school and schooling in general, by their relationship with their parents, by the influence of their peers, and by indicators of social disadvantage or vulnerability. The latter include a range of indicators, such as victimisation through bullying, living in a single-parent family or household unemployment. Throughout, however, the most important factors in terms of their statistical significance were the young people's attitudes to school and schooling, including the desire to leave full-time education, and their relationship with their parents. These may be the most important anchor points for effective policy intervention, which may, of course, involve channelling young people towards 'positive activities' and away from the non-specific, casual social activities that this study showed to have adverse effects on risky behaviour.

However, policy needs to be specific. Not all risky behaviours are equally prevalent or equally likely to entail young people engaging in more and different types of risky behaviours.

Nor is every risky behaviour sustained for long. As demonstrated in the report, most young people who engaged in externalising risky behaviours at a very young age renounced this behaviour by the age of 16.

It is also important to acknowledge that one type of risky behaviour does not inevitably lead to the other. As the research demonstrated, most of the young people who engaged in internalising risky behaviour did not end up also engaging in externalising risky behaviours. Generalisations, especially where they might lead to stigmatisation, are rarely helpful.

Furthermore, participation in different types of risky behaviour may have diverse consequences. For instance, notwithstanding its other negative effects and our lack of information about the amounts consumed, drinking appeared to have no adverse effect on school attainment, but truancy, when sustained over time, did. Drinking, however, may have adverse effects elsewhere, most notably on the young person's health. Interventions must, therefore, differentiate between risky behaviours as well as taking account of the confounding effects of differences in social backgrounds and opportunities that shape and sustain them.

Also, not all socialising activities, say, going out with a friend or even going to a pub, inevitably enhance the risk of engaging in risky behaviour. Conversely, not every self-development activity reduces this risk, as was demonstrated with respect to community work. Reliance on certain social activities as interventions designed to reduce risky behaviour may be effective in certain specific situations and circumstances, for instance where they present a direct alternative to 'hanging around town', i.e. not doing much and allowing the opportunities for risky behaviour to grow. The effectiveness of these types of interventions will, however, also depend on their precise content and the quality of support and delivery. Of course, many of these pointers depend on the quality of the measures of behaviour in LSYPE, some of which appear more precise than others.

At the current level of detail, the research findings can only provide general pointers as to what might work as an effective anchor for interventions, although more analysis may help to improve the specificity of our conclusions, as discussed in the next section. Although we have identified statistical connections between participation in certain social activities and risky behaviours, as well as their links with educational and socio-economic outcomes for young people, we still cannot be entirely certain that they are anything more than just symptoms of underlying 'problems'. For instance, as demonstrated in the report, risky behaviour was more often found among young people whose parents had a high level of involvement with their school and education. This finding, although apparently counter-intuitive, may be reasonably explained, for instance if the contact is initiated by the school in relation to the young person's negative behaviour. This example highlights the complex relationship between cause and effect.

5.3 Directions for Future Research

Our final recommendations are for further careful explorations of research evidence, particularly those focussed on two principal areas where, as our statistical analyses suggest, intervention might lead to the greatest changes in risky behaviour. Specifically, future research should aim to:

- Improve our understanding of the nature of family relations with a view to developing tools for enhancing family cohesion, and

- Help to better understand and address young people's unease with schooling and their schools.

Future research should also aim to improve our understanding of the contexts of participation in risky behaviours and social activities. Specifically, reliable data should be collected to provide information necessary to answer questions such as:

- With whom do young people engage in social (especially socialising) activities and risky behaviours?

- Is the group of peers with whom a young person engages in socialising activities the same as the group with whom he/she engages in risky behaviours?

- What is the young people's motivation for undertaking risky behaviour?

Qualitative research, or a combination of quantitative and qualitative approaches, may be well suited to answer the questions above.

Another direction for future research would be to examine, in a detailed way, possible causal effects of interventions based on certain policy-defined social activities on reducing risky behaviours, as well as on a range of other outcomes. An example of such analysis would be to explore the impact of participation in structured / organised youth clubs on a range of young people's outcomes, including their participation in risky behaviours.

Finally, it would be very useful to assess the effects of risky behaviours in other areas, not just those related to education. An example of possible outcomes could be young people's health, as mentioned earlier. Other potential consequences of risky behaviour worth investigating may include school suspensions and expulsions, or even committing crimes.

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Appendix 1 - Derived Variables

A number of derived variables were used in the analyses for this study, although not all were included in the final models as they did not necessarily reach significance or improve the model as a whole.

Table A1.1 - Derived Variables Used in Analyses

Variable Description	Method of Derivation	Waves
Number of schools attended in Years 7-11	Different school IDs for each pupil from NPD (Years 7-9 for Wave 1 and Years 7-11 for Wave 3) combined into new variable indicating number of schools attended	1, 3
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, 3
Mother's highest qualification	List of 50 possible qualifications for main and second parent coded into 7 groups (degree or equivalent, higher education below degree level, GCE A-level or equivalent, GCSE grades A-C or equivalent, qualifications at Level 1 and below, other qualifications, and no qualification), with only highest qualification of mother recorded	1, 3
Main parent's NS-SEC class	Main parent's occupational category calculated from ONS lookup table and grouped into 8 classes (higher managerial and professional, lower managerial and professional, intermediate, small employers and own account workers, lower supervisory and technical, semi-routine, routine and never worked / unemployed)	1, 3
Parental involvement with school	Scale comprised of main parent's answers to questions (whether they attend parents' evenings, how often they speak to teachers, how involved they feel in the young person's school life, if and how often they talk about school reports with the young person, and activities they get involved in at school), recoded so that higher scores indicate greater involvement	1, 3
Parental attitudes to education	Scale comprised of main parent's answers to questions (agreement with statements that young people need qualifications to get a good job, that leaving school at 16 limits opportunities and that they want the young person to have a better education than they had, plus details of what the parent would do to help the young person to stay in education), recoded so that higher scores indicate more positive attitudes	1, 3
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 are bored at school and whether they are engaged with schoolwork, recoded so that higher scores indicate a more positive attitude to school	1, 3
Family cohesion score	Scale comprised of how well the young person gets on with their parent(s), how often they talk to their parent(s) about things that matter, how often they have a family meal, how often parent(s) know where they are going in the evening and how often they talk to their parent(s) about their day at school	1, 3
Whether young person has a disability / long term illness or health problem	Calculated from two variables present in dataset which code whether the young person has a disability and, if so, whether this makes it hard for them to attend school regularly	1, 3
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	1, 3

Table A1.2 - Composition of Attitudinal and Cohesion Indices

Index	Component Variables
Parental Involvement Score	
	MP: Whether self or partner have been to any parents' evenings or similar events
	MP: How often speak to YP's teachers about schooling
	MP: How involved does MP personally feel in YP's school life
	MP: Whether MP ever talks about YP's school reports with them
	MP: Frequency of MP talking to YP about report
	MP: Activities they or partner get involved in: Help out in class
	MP: Activities they or partner get involved in: Help out else where eg. library,
	MP: Activities they or partner get involved in: Help out with fundraising activities
	MP: Activities they or partner get involved in: Help out with special interest g
	MP: Activities they or partner get involved in: Parents and Teacher Associations
	MP: Activities they or partner get involved in: Help with teacher assessments
	MP: Activities they or partner get involved in: School, parent governor
	MP: Activities they or partner get involved in: Hosted an exchange student
	MP: Activities they or partner get involved in: Attend events at school
Parental Attitudes	
	MP: Agreement with statement: About education, work and training for young people
	MP: Agreement with statement: Leaving school at 16 limits young people's career
	MP: Whether want YP to have a better education than MP had
	MP: What likely to do to help keep YP in education - Save money now specifically
	MP: What likely to do to help keep YP in education - Give money from existing savings
	MP: What likely to do to help keep YP in education - Support out of wages or earnings
	MP: What likely to do to help keep YP in education - Take out loan or remortgage
	MP: What likely to do to help keep YP in education - Pay school or college fees
	MP: What likely to do to help keep YP in education - Help with accommodation
	MP: What likely to do to help keep YP in education - Borrow money from other relative
	MP: What likely to do to help keep YP in education - Help in other ways
Family Cohesion Score - Main Parent	
	MP: Frequency of arguing with YP
	MP: How often had family meal in last 7 days

Family Cohesion Score -
Young Person

         YP: How well get on with (step-) mother

         YP: How well get on with (step-) father

         YP: How often talk to (step-) mother about things that matter to YP

         YP: How often talk to (step-) father about things that matter to YP

         YP: How many times eaten evening meal with family in last 7 days

         YP: How often parents talk to YP about day at school

Attitude to School

         YP: Feelings about school: I am happy when I am at school

         YP: Feelings about school: School is a waste of time for me

         YP: Feelings about school: School work is worth doing

         YP: Feelings about school: Most of the time I don't want to go to school

         YP: Feelings about school: People think my school is a good school

         YP: Feelings about school: On the whole I like being at school

         YP: Feelings about school: I work as hard as I can in school

         YP: Feelings about school: In a lesson, I often count the minutes till it ends

         YP: Feelings about school: I am bored in lessons

         YP: Feelings about school: The work I do in lessons is a waste of time

         YP: Feelings about school: The work I do in lessons is interesting to me

         YP: Feelings about school: I get good marks for my work

Appendix 2 - Statistical Terms and Methods

Odds Ratios

To understand an odds ratio we first need to describe the meaning of odds. This is best explained in the form of an example. If 200 young people out of a population of 1,000 engaged in risky behaviour, the probability of engaging in risky behaviour is 200/1000=0.2, and the probability of not engaging in risky behaviour is 1–0.2= 0.8. The odds of engaging in risky behaviour are calculated as the quotient of these two mutually exclusive events. So, the odds in favour of engaging in risky behaviour to not engaging in risky behaviour are 0.2/0.8=0.25.

Suppose that 150 out of 300 young people living with a single parent engage in risky behaviour compared to 50 out of 150 who live with both parents. The odds of a young person engaging in risky behaviour are 0.5/0.5=1.0 for young people living with a single parent, while they are 0.3333/0.6666=0.5 for the young people living with both parents. The odds ratio of engaging in risky behaviour is the ratio of these odds, 1.0/0.5=2.0. Thus the odds of e engaging in risky behaviour are twice as high among people who live with single parents than for people who live with a both parents (the 'reference category').

Regression Models

The research was primarily based on multivariate analyses using appropriate regression techniques. The key feature of multivariate regression analysis is that the relationship of each characteristic to risky behaviour takes into account any possible confounding influence of other characteristics. For example, descriptive analyses may suggest that the incidence of risky behaviour is higher among single parent families and families with no parent in work. Given that we know that single parent families are more likely to have no adult in work, the key issue is whether it is living in a single parent family or work status (or both) that is driving the relationship with risky behaviour. The regression analysis will allow us to unravel whether work status continues to be associated with a greater propensity for risky behaviour once we control for family type. However, it is important to note that the analysis presents significant *relationships* between the characteristics of young people and their families and the risk of risky behaviour - the analysis does not necessarily unravel *the cause and effect* in the relationship.

Regression models allow us to predict an outcome (also called the dependent variable) from a set of variables that may be continuous, categorical, dichotomous (i.e. two-categorical), or a mix of any of these. Which type of regression model is applied, depends much on the nature of the outcome variable. If the outcome is approximately continuous, as in the case of new style GSCE point scores analysed in Chapter 7, a linear regression model is used. The model predicts the difference in GSCE points (which may be positive or negative) associated with each explanatory variable.

If the outcome is not a continuous variable, a model from the family called *logistic regression models* is most often used. When the dependent variable is dichotomous (as with the presence / absence of risky behaviour) a version called *binary logistic regression* would be used. If the dependent variable has more than two categories and they can be meaningfully ordered (as in the case of number of different risky behaviours in which the young people engage), *ordinal logistic regression* is applicable. If the dependent variable has more than two categories and the ordering is not obvious (as with main activity statuses analysed in Chapter 7), a version called *multinomial logistic regression* would be applied.

What all the models of logistic regression family have in common, is their reliance on the construct called *odds ratios*, which is described in a greater detail in Appendix 2. For the

purpose of interpretation, the most important characteristic of the odds ratios is their value. Odds ratios greater than 1 indicate an increased likelihood, and the values below 1 indicate a decreased likelihood, of explanatory variables (for example, personal and social characteristics of young people and their families) affecting the outcome (for instance, participation in risky behaviour) that is being investigated. When the variables have a number of categories, each category is interpreted in relation to a reference category (always clearly indicated).

Appendix 3 - Additional Tables

Table A3.1 - Change in the number of risky behaviours between ages 14, 15 and 16

Base: all			LSYPE
Risky Behaviour	**Risky Behaviour**		
	Age 14-15	Age 15-16	Age 14-16
	%	%	%
-6	0.0	0.0	0.0
-5	0.1	0.0	0.2
-4	0.3	0.3	0.5
-3	1.3	1.2	1.1
-2	3.3	3.5	3.9
-1	11.2	12.4	10.1
0	57.7	57.0	50.9
1	17.3	18.8	21.5
2	5.6	4.8	7.3
3	2.2	1.4	2.9
4	0.6	0.3	1.1
5	0.3	0.2	0.4
6	0.1	0.1	0.1
7	0.0	0.0	0.0
Mean	0.2	0.3	0.3
Bases	*9,386*	*10,008*	*9,623*

Table A3.2 - Overlap between internalising and externalising risky behaviour - Ages 14 to 16

Base: all						LSYPE
Number of internalising	**Number of externalising risky behaviours**					
risky behaviours	0	1	2	3	4	
	Row %	Row %	Row %	Row %	Row %	Base
Age 14						
0	80.7	13.4	3.9	1.6	0.4	10550
1	53.9	24.3	12.3	6.6	3.0	1947
2	22.5	27.2	23.6	14.8	11.9	473
3	13.1	18.5	13.9	30.3	24.2	106
Total	72.8	16.0	6.4	3.3	1.6	13076
Age 15						
0	87.1	10.0	2.2	0.6	0.2	7965
1	66.7	20.8	7.8	3.9	0.8	2538
2	38.6	29.4	17.0	11.1	4.0	955
3	19.5	25.0	21.3	20.0	14.2	238
Total	75.5	15.0	5.5	2.9	1.1	11696
Age 16						
0	90.7	7.3	1.6	0.3	0.2	6622
1	76.8	15.1	5.7	1.8	0.6	3014
2	48.9	28.7	12.7	7.4	2.3	1258
3	29.4	27.8	16.6	13.1	13.1	310
Total	78.5	13.3	4.9	2.2	1.1	11204

Table A3.3 - Overlap between externalising and internalising risky behaviours - Ages 14-16

Base: all					*LSYPE*
Number of externalising risky behaviours	**Number of internalising risky behaviours**				
	0	1	2	3	
	Row %	Row %	Row %	Row %	Base
Age 14					
0	85.6	12.8	1.4	0.2	9,564
1	64.9	26.3	7.7	1.1	2,085
2	47.7	33.4	16.8	2.1	823
3	36.8	34.2	20.2	8.8	407
4	20.9	31.7	33.2	14.3	197
Total	77.2	17.3	4.5	1.0	13,076
Age 15					
0	72.3	22.0	5.0	0.7	8,946
1	41.8	34.7	19.3	4.2	1,704
2	25.1	35.2	30.0	9.7	636
3	12.0	33.5	37.2	17.3	299
4	9.8	18.5	37.5	34.2	111
Total	62.7	24.9	9.8	2.5	11,696
Age 16					
0	60.6	29.6	8.4	1.4	8,940
1	28.6	34.4	29.2	7.9	1,446
2	17.2	35.1	35.0	12.7	510
3	6.9	25.0	45.6	22.5	212
4	8.8	15.8	29.5	45.9	96
Total	52.5	30.3	13.5	3.8	11,204

Table A3.4 - Logistic regression results of young person's propensity to engage in risky behaviour

Base: all	Internalising risky behaviour						Externalising risky behaviour					LSYPE
	Age 14		Age 15		Age 16		Age 14		Age 15		Age 16	
	Odds	Sig.	Odds	Sig.	Odds	Sig.	Odds	Sig.	Odds	Sig.	Odds	Sig.
Number of Siblings (1)												
0	1.17		1.12		1.22		0.95		1.14		1.21	
2	0.99		1		1.07		1.06		1.09		0.99	
3	0.79	*	1.04		0.95		1.19		1.06		1.38	*
4	0.94		0.87		0.98		1.24		1.15		0.88	
Special Educational Need (yes)	1.15		0.89		0.73	***	1.24	**	0.99		0.77	*
Socio-Economic Class (higher managerial and professional)												
Lower managerial and professional	1		0.92		0.84		1.05		1.25		0.99	
Intermediate occupations	1.04		0.76	*	1.03		1.12		1.06		1.38	
Small employers and own account workers	1.01		1.03		1.15		1.13		1.23		1.38	*
Lower supervisory and technical occupations	1.08		0.9		0.95		1.58	***	1.27		1.3	
Semi-routine occupations	0.85		0.66	***	0.63	***	1.1		1.14		1.05	
Routine occupations	0.95		0.77	*	0.8		1.34	*	1.36	*	0.99	
Never worked / long term unemployed	0.68		0.74		0.59	*	1.08		1.19		1.76	*
First language not English (yes)	0.44		0.37	**	0.61		0.74		0.33	**	0.86	
Gender (male)	0.87	*	0.7	***	0.89		1.68	***	1.46	***	2.05	***
Ethnicity (not White)	0.35	***	0.41	***	0.37	***	1.32	*	1.41	**	1.13	
Parental Involvement Score	1.09	***	1.03		1.02		1.05	*	1.03		1.09	**
Family Cohesion Score (YP)	0.89	***	0.94	***	0.93	***	0.91	***	0.93	***	0.94	***

	Col 1		Col 2		Col 3		Col 4		Col 5		Col 6		Col 7
Family Cohesion Score (MP)	0.92	***	0.93	***	0.94	**	0.92	***	0.96		0.94	*	
Disability (none)													
Disability, not affecting school	0.93		1.04		0.8	*	1.1		0.99		0.89		
Disability, affecting school	0.71	*	0.65	**	0.8		0.81		0.93		0.82		
Jobless household (yes)	0.66	*	1		0.95		0.99		0.93		1.26		
Family Type (2-Parent)													
Step Parent	1.08		1.32	**	1.23	*	1.26	*	1		1.01		
Single Parent	1.66	***	1.37	***	1.36	***	1.6	***	1.31	**	1.4	**	
Free School Meals (yes)	1.45	*	1.07		0.92		1.31	*	1.43	*	0.88		
YP wants to leave FTE (yes)	1.13		1.24	*	1.71	***	1.15		1.06		1.44	**	
Attitude to School Score (YP)	0.91	***	0.88	***	0.89	***	0.89	***	0.88	***	0.88	***	
YP is being bullied (yes)	1.35	***	1.28	***	1.29	***	1.83	***	1.76	***	1.98	***	
YP's friends want to leave FTE (yes)	1.35	***	1.26	**	1.38	**	1.19	*	1.66	***	1.17		
Base	*5852*		*5022*		*4433*		*6103*		*5142*		*4524*		*5852*

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Table A3.5 - Multinomial logistic regression: factors associated with changes in risky behaviour between the age of 14 and 16

Base: all								LSYPE
	Change in							
	Internalising risky behaviour				**Externalising risky behaviour**			
	Decrease		Increase		Decrease		Increase	
	Odds	Sig.	Odds	Sig.	Odds	Sig.	Odds	Sig.
No. of externalising or internalising risky behaviours at age 14 (Ref: 1)								
0	0		1.35	*	0		0.41	***
2	1.85	*	0.47	*	1.06		0.73	
3	2.69		0		3	*	0.59	
4	n/a		n/a		1.74		0	
Number of Siblings (1)								
0	0.7		1.14		1.84		1.29	
2	0.8		1.17		1.09		0.97	
3	0.68		1.1		0.73		1.4	
4	1.59		0.92		1.28		0.86	
Special Educational Needs (yes)	1.36		0.76	*	1.25		0.89	
Socio-Economic Class (higher managerial and professional)								
Lower managerial and professional	1.42		0.82		1.13		0.94	
Intermediate occupations	0.44		1.13		0.52		1.18	
Small employers and own account workers	1.12		1.04		0.95		1.26	
Lower supervisory and technical occupations	1.11		1.1		1.55		1.3	
Semi-routine occupations	1.44		0.73		1.04		1.11	
Routine occupations	1.01		0.87		1.37		0.74	
Never worked / long term unemployed	3.08		0.74		0.72		1.12	
First language not English (yes)	3.18		0.79		1.38		0.69	
Gender (male)	0.68		1.05		0.71		1.9	***
Ethnicity (not White)	1.23		0.38	***	1.17		1.16	
Parental Involvement Score	0.94		1		0.96		1.05	
Parental Attitude Score	1.07		1.02		0.99		1.05	
Family Cohesion Score (YP)	0.95		0.96	**	0.98		0.98	
Family Cohesion Score (MP)	1.11		0.96		1.1		0.93	*
Disability (none)								
Disability, not affecting school	0.57		0.71	*	0.93		0.71	
Disability, affecting school	0.31	*	0.65	*	0.75		0.72	
Jobless household - Age 14 (yes)	0.28		0.66		1.45		1.02	
Family Type - Age 14 (2-Parent)								
Step Parent	0.93		1.31	*	1.2		1.23	
Single Parent	1.27		1.52	***	0.85		1.31	
Free School Meals - Age 14 (yes)	1.31		0.87		0.89		1.43	
YP wants to leave FTE - Age 14 (yes)	1.05		2.09	***	1.33		1.8	*
Attitude to School Score - Age 14 (YP)	1.07	*	0.91	***	1.08	**	0.91	***
YP is being bullied - Age 14 (yes)	1.26		1.35	**	0.89		1.89	***
Friends want to leave FTE - Age 14 (yes)	1.23		0.94		1.04		1.41	
CHANGES AGES 14-16								
Household's jobless status	0.44		0.93		1.7		2.16	**
Family Type	2.93		1.5		0.58		0.97	
Free School Meals	0.77		1.02		0.74		1.2	
YP wants to leave FTE	1.24		2	***	1.02		1.58	*
Attitude to School Score	1.07	*	0.92	***	1.16	***	0.91	***
YP is being bullied	0.99		1.3	**	0.67	*	1.89	***
Friends want to leave FTE	0.8		1.03		1.2		1.5	*
Bases		3181				3377		

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Table A3.6 - Prevalence of risky behaviour, by engagement in activity

Activity		Prevalence of Risk Behaviour							
		Age 14				Age 15			
		IRB		ERB		IRB		ERB	
		Mean	Ratio	Mean	Ratio	Mean	Ratio	Mean	Ratio
Just hung around in town / centre	No	0.21		0.33		0.40		0.27	
	Yes	0.50	2.4	0.79	2.4	0.79	2.0	0.65	2.4
Friend out	No	0.16		0.25		0.28		0.17	
	Yes	0.33	2.1	0.53	2.1	0.58	2.1	0.44	2.6
Gone to a party	No	0.24		0.40		0.40		0.31	
	Yes	0.45	1.9	0.65	1.6	0.77	1.9	0.54	1.7
Gone to a pub	No	0.26		0.43		0.44		0.34	
	Yes	0.51	1.9	0.70	1.6	0.91	2.1	0.64	1.9
Just hung out near home	No	0.21		0.31		0.39		0.26	
	Yes	0.37	1.8	0.60	1.9	0.65	1.7	0.51	2.0
Friend at home	No	0.23		0.36		0.40		0.29	
	Yes	0.34	1.5	0.53	1.5	0.61	1.5	0.46	1.6
Gone to an amusement arcade	No	0.28		0.42		0.51		0.37	
	Yes	0.39	1.4	0.69	1.6	0.65	1.3	0.55	1.5
Gone to a political meeting	No	0.30		0.46		0.53		0.39	
	Yes	0.43	1.4	0.78	1.7	0.50	1.0	0.44	1.1
Played snooker	No	0.28		0.41		0.49		0.35	
	Yes	0.35	1.3	0.63	1.5	0.62	1.3	0.50	1.4
Provided care	No	0.29		0.46		0.52		0.39	
	Yes	0.37	1.3	0.63	1.4	0.61	1.2	0.47	1.2
Had a job during term	No	0.28		0.45		0.50		0.38	
	Yes	0.35	1.2	0.52	1.2	0.60	1.2	0.41	1.1
Watched TV (4+ hours p.d.)	No	0.29		0.45		0.53		0.39	
	Yes	0.31	1.1	0.53	1.2	0.52	1.0	0.42	1.1
Gone to a youth club	No	0.29		0.45		0.53		0.38	
	Yes	0.31	1.1	0.53	1.2	0.54	1.0	0.46	1.2
Household chores (4+ hours pw)	No	0.30		0.46		0.53		0.39	
	Yes	0.31	1.0	0.53	1.2	0.53	1.0	0.43	1.1
Played computer games (2+ hours p.d.)	No	0.29		0.45		0.50		0.38	
	Yes	0.33	1.1	0.63	1.4	0.53	0.9	0.50	1.3
Gone to see a football match / other sport	No	0.30		0.45		0.53		0.38	
	Yes	0.30	1.0	0.55	1.2	0.51	1.0	0.45	1.2
Gone to cinema	No	0.30		0.49		0.56		0.44	
	Yes	0.29	1.0	0.44	0.9	0.50	0.9	0.35	0.6
Took part in a sport	No	0.34		0.46		0.60		0.39	
	Yes	0.27	0.8	0.48	1.0	0.47	0.8	0.40	1.0
Played a musical instrument	No	0.31		0.50		0.54		0.42	
	Yes	0.26	0.9	0.36	0.7	0.47	0.9	0.28	0.7
Done community work	No	0.30		0.47		0.53		0.40	
	Yes	0.22	0.7	0.38	0.8	0.43	0.8	0.23	0.6
Attended religious classes	No	0.31		0.48		0.55		0.40	
	Yes	0.18	0.6	0.34	0.7	0.31	0.6	0.30	0.7
Read for pleasure (never)	Yes	0.44		0.86		0.78		0.67	
Read for pleasure (less than most days, but more than never)	Yes	0.29	0.7	0.47	0.5	0.52	0.7	0.40	0.6
Read for leisure 2 (most days)	Yes	0.24	0.5	0.35	0.4	0.46	0.6	0.30	0.4

Note: IRB = Internalising risky behaviour; ERB = Externalising risky behaviour

Table A3.7- Ordinal logistic regression results of young person's propensity to engage in positive activities

	Age 14						Age 15					
	SA Odds	Sig.	SD Odds	Sig.	NA Odds	Sig.	SA Odds	Sig.	SD Odds	Sig.	NA Odds	Sig.
Number of Siblings (1)												
0	1.06		1.12		0.91		1.11		1.08		0.86	
2	0.98		1.07		1.03		0.98		0.96		0.93	
3	0.97		0.96		1.05		1.06		1.14		1.06	
4	1.07		0.85		1.11		0.81		0.81		1.16	***
Special Educational Need (yes)	0.84	**	0.72	***	0.75	***	0.68	***	0.66	***	0.72	
Socio-Economic Class (higher managerial and professional)												
Lower managerial and professional	1.12		0.77	**	0.96		1.11		0.84		1.04	
Intermediate occupations	1.02		0.68	***	1.08		0.9		0.68	**	0.84	
Small employers and own account workers	1.15		0.6	***	0.99		1.12		0.61	***	0.93	
Lower supervisory and technical occupations	1.22	*	0.5	***	0.84	*	0.99		0.46	***	0.89	
Semi-routine occupations	0.9		0.59	***	0.94		0.86		0.5	***	0.91	*
Routine occupations	0.97		0.48	***	0.84		0.86		0.46	***	0.78	
Never worked / long term unemployed	0.71		0.66	*	0.86		0.68	*	0.59	*	0.76	
First language not English (yes)	0.79		1.67	**	0.84		0.59	**	1.21		0.71	***
Gender (male)	0.92		0.97		2.45	***	0.79	***	1.03		2.55	
Ethnicity (not White)	0.54	***	1.4	***	0.84	*	0.68	***	1.33	**	0.89	
Parental Involvement Score	1.03		1.09	***	1.03	*	1.02		1.12	***	1.03	
Parental Attitude Score	1.03	*	1.04	**	1.04	***	1.03	*	1.03	*	0.99	
Family Cohesion Score (YP)	0.98		1.06	***	1.03	**	0.99		1.04	**	1.02	
Family Cohesion Score (MP)	0.92	***	1.03		0.96	**	0.92	***	1.03		0.99	*
Disability (none)												
Disability, not affecting school	1.12		1.27	**	1.23	*	1.08		1.34	**	1.24	*
Disability, affecting school	0.81	*	0.94		0.85		0.7	**	0.85		0.79	
Jobless household (yes)	1.12		0.98		0.84		1.14		1.1		0.89	
Family Type (2-Parent)												
Step Parent	1.32	***	0.79	**	1.12		1.43	***	0.73	***	1.06	
Single Parent	1.52	***	0.71	***	1.1		1.27	**	0.72	***	0.98	
Free School Meals (yes)	0.86		0.78	*	1.15		1.03		0.88		0.98	
YP wants to leave FTE (yes)	0.95		0.58	***	1.04		1.05		0.63	***	0.91	**
Attitude to School Score (YP)	0.96	***	1.05	***	1.01		0.95	***	1.05	***	1.02	***
YP is being bullied (yes)	1.04		1.42	***	1.07		1.13	*	1.3	***	1.23	
YP's friends want to leave FTE (yes)	1.09		0.79	***	1.04		1.28	***	0.73	***	0.96	---
Base	*6291*		*6295*		*6165*		*5251*		*5249*		*5166*	

Note: SA = socialising activity; SD = self-development activity; NA = neutral activity
*** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Table A3.7a - Logistic regression results of young person's propensity to go to a youth club or participate in a sport

Base: all								LSYPE
	Age 14				Age 15			
	Youth club		Sport		Youth club		Sport	
	Odds	Sig.	Odds	Sig.	Odds	Sig.	Odds	Sig.
Number of Siblings (1)								
0	0.79		0.90		1.14		0.97	
2	1.10		0.89		0.95		0.89	
3	1.13		0.82		1.12		0.91	
4	1.30		0.97		1.26		0.84	
Special Educational Need (yes)	0.88		0.61	***	1.25	*	0.67	***
Socio-Economic Class (higher managerial and professional)								
Lower managerial and professional	0.91		0.86		0.91		0.97	
Intermediate occupations	1.03		0.73	*	1.19		0.73	*
Small employers and own account workers	0.87		0.83		0.95		0.73	*
Lower supervisory and technical occupations	0.74	*	0.69	**	0.82		0.62	***
Semi-routine occupations	0.98		0.60	***	0.95		0.71	*
Routine occupations	0.88		0.53	***	0.73		0.58	***
Never worked / long term unemployed	1.14		0.46	**	0.83		0.54	*
First language not English (yes)	0.80		1.14		0.78		0.72	
Gender (male)	.1.06		3.39	***	1.00		4.54	***
Ethnicity (not White)	0.92		0.72	**	0.98		0.92	
Parental Involvement Score	1.03		1.06	*	1.06	*	1.03	
Parental Attitude Score	1.01		1.03	*	1.02		1.02	
Family Cohesion Score (YP)	1.07	***	1.06	***	1.01		1.04	*
Family Cohesion Score (MP)	0.96	*	1.01		0.99		1.02	
Disability (none)								
Disability, not affecting school	1.35	***	1.25		1.07		1.11	
Disability, affecting school	0.82		0.73	*	0.46	***	0.43	***
Jobless household (yes)	0.94		0.86		1.05		0.82	
Family Type (2-Parent)								
Step Parent	1.07		1.12		1.12		0.81	*
Single Parent	0.93		0.96		1.17		0.88	
Free School Meals (yes)	1.03		0.95		1.16		0.91	
YP wants to leave FTE (yes)	1.11		1.04		0.94		0.93	
Attitude to School Score (YP)	1.01		1.00		1.02	*	1.04	***
YP is being bullied (yes)	1.19	*	0.92		1.30	***	0.93	
YP's friends want to leave FTE (yes)	1.11		0.90		1.12		0.94	
Base	5176		5176		4684		4684	

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

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Table A3.8 - Multinomial logistic regression - positive activities effect on change in risky behaviour (ages 14 to 16)

Base: all								LSYPE
			Change in					
	Internalising risky behaviour				Externalising risky behaviour			
	Decrease		Increase		Decrease		Increase	
	Odds	Sig.	Odds	Sig.	Odds	Sig.	Odds	Sig.
NAI at Age 14 (Ref: 1)								
0	0.79		0.56	***	1.74		0.3	***
2	0.49	*	1.71	***	0.84		1.64	**
3	0.41	*	2.21	***	0.77		2.73	***
4	0.32	*	3.91	***	0.58		3.22	***
NAI Change Ages 14-15 (no change)								
Decrease	1.08		0.67	***	0.79		0.5	***
Increase	0.75		1.82	***	0.75		1.75	***
PAI at Age 14 (Ref: 1)								
0	1.37		1.24		0.62		0.84	
2	1.54		0.97		0.66		0.78	
3	1.71		0.8		1.99		0.93	
PAI Change Ages 14-15 (no change)								
Decrease	0.65		1.31	*	1.1		1.08	
Increase	1.63		0.89		1.47		0.83	
NeuAI at Age 14 (Ref: 1)								
0	0.07	*	1.49		0.82		1.12	
2	0.88		1.17		0.77		1.14	
3	0.99		0.93		1.07		0.87	
4	1.25		1.09		0.56		1.11	
5	1.43		0.96		1.27		0.8	
NeuAI Change Ages 14-15 (no change)								
Decrease	0.86		1		0.81		1.27	
Increase	0.92		1.09		1.45		1.33	
Bases			3041				3230	

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Table A.3.9 - Regression results of the effects on school outcomes (GCSE/GNVQ point scores - 2006); aggregated indices of risky behaviours

Base: pupils who sat GSCE(2006)		LSYPE
Person Characteristics		
	GCSE/GNVQ new style point score	Sig.
Internalising risky behaviour- Age 14 (0)		
1	-0.79	
2	-4.46	
3	-50.31	
Internalising risky behaviour: change Ages 14-16 (no change)		
Decrease	-10.83	
Increase	-0.85	
Externalising risky behaviour- Age 14 (0)		
1	-5.48	
2	-3.07	
3	-3.29	
4	-72.05	**
Externalising risky behaviour: change Ages 14-16 (no change)		
Decrease	-13.66	
Increase	-8.94	
Socialising activities- Age 14 (0)		
1	-10.28	
2	0.47	
3	-14.39	
4	0.56	
Socialising activities: change Ages 14-15 (no change)		
Decrease	5.16	
Increase	6.13	
Self-development activities- Age 14 (0)		
1	46.87	***
2	82.48	***
3	97.64	***
Self-development activities: change Ages 14-15 (no change)		
Decrease	-16.66	**
Increase	16.06	**
Neutral activities - Age 14 (0)		
1	6.27	
2	14.2	
3	15.03	
4	16.73	
5	18.82	
Neutral activities: change Ages 14-15 (no change)		
Decrease	-11.93	*
Increase	1.43	
Number of school attended between year 7 and 11	-15.41	
Number of siblings (1)		
0	-1.18	
2	-6.31	
3	-19.04	*
4	-40.14	***
SEN - ever (yes)	-89.21	***
Socio-Economic Class (higher managerial and professional)		
Lower managerial and professional	-19.8	***
Intermediate occupations	-45.42	***
Small employers and own account workers	-41.39	***
Lower supervisory and technical occupations	-54.19	***
Semi-routine occupations	-50.08	***
Routine occupations	-68.24	***
Never worked / long term unemployed	-52.76	*
First language (not English)	12.91	
Gender (male)	-0.12	
First language not English (yes)	0.13	

Gender (male)		-2.23	
Ethnicity (not White)		3.58	***
Parental Involvement Score		-1.08	
Family Cohesion Score (YP)		4.35	***
Disability (none)			
	Disability, not affecting school	-10.39	
	Disability, affecting school	-42.97	***
Jobless household (yes)		-50	***

	GCSE/GNVQ new style point score	Sig.
Family Type (2-Parent)		
Step Parent	-4.74	
Single Parent	-29.9	***
Free School Meals (yes)	8.29	
YP wants to leave FTE (yes)	-93.07	***
Attitude to School Score (YP)	4.92	***
YP is being bullied (yes)	-13.56	*
YP's friends want to leave FTE (yes)	-33.89	***
CHANGES AGES 14-16		
Household's jobless status	6.46	
Family Type	-1.48	
Free School Meals	5.47	
YP wants to leave FTE	-43.93	***
Attitude to School Score	3.96	***
YP is being bullied	-3.82	
Friends want to leave FTE	-12.98	
Constant	87.62	***
Bases	*2942*	

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Table A.3.10 - Linear regression results: the effects of individual risky behaviours on school outcomes (GCSE / GNVQ point scores - 2006); output for control variables suppressed

		GCSE/GNVQ new style point score	Sig.
Truant	1 year	-13.7	
	2 years	-45.3	**
	3 years	-112.5	***
Smoking	1 year	-22.1	***
	2 years	-25.4	**
	3 years	-37.6	***
Drinking	1 year	7.7	
	2 years	20.4	***
	3 years	24.3	**
Graffiti	1 year	-5.7	
	2 years	7.7	
	3 years	-37.5	
Vandalism	1 year	-0.7	
	2 years	7.9	
	3 years	5.0	
Shoplifting	1 year	-11.3	
	2 years	7.2	
	3 years	23.0	
Fighting	1 year	-13.7	*
	2 years	-16.0	
	3 years	-18.1	

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Table A3.11 - Multinomial regression results: behaviours, social activities and contextual variables risky behaviour and social activities on participation status at age 17

Characteristics	Economic Activity - Age 17					
	In Full-Time Employment	Sig.	Part- education/ part-employment	Sig.	NEET	Sig.
IRB- Age 14 (0)						
1	0.65		0.85		1.01	
2	1.66		0.51		1.04	
3	0.6		0		1.02	
IRB change: Ages 14-16 (no change)						
Decrease	0.96		1.14		2.1	
Increase	1.24		1.45		1.76	*
ERB - Age 14 (0)						
1	1.32		0.88		0.91	
2	1.78		1.12		2.41	
3	2.43		1.03		3.02	
4	0.77		2.95		2.96	
ERB change: Ages 14-16 (no change)						
Decrease	1.2		1.54		0.71	
Increase	1.08		0.93		2.06	*
SA - Age 14 (0)						
1	0.68		1.44		1.08	
2	0.67		1.26		1.29	
3	0.91		2.16		1.13	
4	1.22		2.37		3.91	*
SA change: Ages 14-15 (no change)						
Decrease	1.01		0.76		1.65	
Increase	1.51	*	0.99		1.09	
SD - Age 14 (0)						
1	0.76		0.97		0.96	
2	0.62		0.53		1.06	
3	0.72		0.38		0.52	
SD change: Ages 14-15 (no change)						
Decrease	0.79		0.93		1.01	
Increase	0.87		0.69		1.38	
NA - Age 14 (0)						
1	0.85		0.91		0.53	
2	0.86		0.92		0.4	*
3	1.05		1.26		0.45	
4	0.95		0.79		0.43	
5	1.05		1.01		0.25	*
NA change: Age 14 -15 (no change)						
Decrease	0.99		1.24		0.99	
Increase	1.05		1.06		1.04	
GCSE point score (2006)	0.99	***	1	***	0.99	***
Number of school attended between year 7 and 11	1.27		1.56		0.9	
Number of siblings (1)						
0	1.07		0.85		1.03	
2	1.05		0.78		1.59	
3	0.89		0.74		1.26	
4	1.51		1.55		0.99	
Special Educational Need - ever (yes)	0.66	*	0.63		0.41	**

	In Full-Time Employment	Sig.	Part- education/ part-employment	Sig.	NEET	Sig.
Socio-Economic Class (higher managerial and professional)						
Lower managerial and professional	1.07		0.94		3.52	
Intermediate occupations	1.29		0.64		4.87	
Small employers and own account workers	1.58		0.98		4.58	
Lower supervisory and technical occupations	0.88		0.59		4.57	
Semi-routine occupations	0.89		0.54		3.86	
Routine occupations	0.79		0.92		4.06	
Never worked / long term unemployed	0.77		0.6		1.52	
First language (not English)	0.6		1.2		1.95	
Gender (male)	1.18		1.29		1.41	
First language not English (yes)	0.23	**	0.32	*	1.06	
Gender (male)	1.01		1		1.02	
Ethnicity (not White)	0.95		0.98		1.02	
Parental Involvement Score	1		1.04		1	
Family Cohesion Score (YP)	0.9	*	0.85	**	0.94	

Economic Activity - Age 17

	In Full-Time Employment	Sig.	Part- education/ part-employment	Sig.	NEET	Sig.
Disability (none)						
Disability, not affecting school	0.79		1.01		0.68	
Disability, affecting school	0.85		2.8	**	1.08	
Jobless household (yes)	0.43		0.3	*	0.3	*
Family Type (2-Parent)						
Step Parent	0.68		1.1		1.44	
Single Parent	1.15		1.19		0.8	
Free School Meals (yes)	1.24		2.87		7.31	***
YP wants to leave FTE (yes)	22.95	***	18.13	***	5.59	***
Attitude to School Score (YP)	0.98		0.96		0.93	*
YP is being bullied (yes)	0.99		0.65		1.67	
YP's friends want to leave FTE (yes)	1.33		2.44	**	2.18	*
CHANGES WAVE 1 - WAVE 3						
Household's jobless status	0.49		1.02		0.35	*
Family Type	0.19	**	0.37		0.12	**
Free School Meals	1.39		1.87		3.19	*
YP wants to leave FTE	12.35	***	17.09	***	4.83	***
YP is being bullied	1.00		1.22		1.27	
Friends want to leave FTE	1.03		1.43		1.28	
Bases			2768			

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

IRB = Internalising risky behaviour; ERB = Externalising risky behaviour; SA = socialising activity; SD = self-development activity; NA = neutral activity

Table A.3.12 - Linear regression results: the effects of individual risky behaviours on participation status at age 17; output for control variables suppressed

		In Full-Time Employment	Sig.	Part-education/ part-employment	Sig.	NEET	Sig.
Truant	1 year	0.97		1.35		0.58	
	2 years	0.45		0.76		0.68	
	3 years	0.58		0		3.95	
Smoking	1 year	0.63		0.45	*	1.11	
	2 years	2.54	***	0.87		1.85	
	3 years	1.2		0.48		2.2	
Drinking	1 year	1.03		1.68	*	1.3	
	2 years	0.74		1.71		0.61	
	3 years	0.61		1.08		0.48	
Graffiti	1 year	1.33		0.72		1.98	
	2 years	3.52		6.11	*	0.5	
	3 years	7.27		0.00		54.09	**
Vandalism	1 year	0.71		0.66		1.25	
	2 years	0.37		0.69		2.02	
	3 years	0.65		0.43		0.11	
Shoplifting	1 year	0.91		1.16		1.34	
	2 years	1.06		0.5		0.48	
	3 years	0.51		1.57		1.9	
Fighting	1 year	1.43		1.08		1.82	
	2 years	2.07	*	2.65	**	1.99	
	3 years	2.56	*	3.9	**	1.36	

Note: *** statistically significant at the 0.1% level; ** statistically significant at the 1% level; * statistically significant at the 5% level

Appendix 4 - Sample Design and Weighting in LSYPE

Sampling from Maintained Schools

In the maintained sector, the sample was drawn using the Pupil Level Annual Schools Census (PLASC), and there was a two-stage probability proportional to size (PPS) sampling design, with disproportionate stratification. The primary sampling unit (PSU) was the school, and maintained schools were stratified into deprived/non-deprived, with deprived schools (defined by schools in the top quintile according to the proportion of pupils receiving free school meals) being over-sampled by a factor of 1.5. Within each deprivation stratum, school selection probabilities were calculated based on the number of pupils in Year 9 from major minority ethnic groups (Indian, Pakistani, Bangladeshi, Black African, Black Caribbean and Mixed), Within each stratum, maintained schools were ordered and thus implicitly stratified by region then by school admissions policy before selection. 838 schools were selected in the maintained sector.

The second stage sampled the pupils within schools. Pupils from the six major minority ethnic groups identified above were over-sampled at pupil level in order to achieve target sample numbers of 1000 in each group. The school sampling stage took into account the number of pupils from each of these minority groups. Taken together, the school selection probabilities and the pupil selection probabilities ensured that, within each stratum of deprivation, all pupils had an equal chance of selection. The average number of pupils sampled per school was 33.25, although this varied according to the ethnic group composition of the school.

Sampling from Independent Schools and PRUs

A two-stage sampling design was also used for independent schools and PRUs, but these were sampled using the School Level Annual Schools Census (SLASC). Independent schools were stratified by percentage of pupils achieving five or more A*-C GCSE grades in 2003 within boarding status (i.e. whether or not they had any boarding pupils), within gender of pupils (i.e. boys, girls and mixed). PRUs formed a stratum of their own. Both independent schools and PRUs were sampled with probability proportional to the number of pupils aged 13 at that institution. 52 independent schools and 2 PRUs were sampled in this way.

Pupils in independent schools and PRUs were sampled directly from school rolls by LSYPE interviewers using a sampling program. An average of 33.25 pupils was randomly selected at each school/PRU containing 34 or more Year 9 pupils. All Year 9 pupils were selected in schools/PRUs containing fewer than 34 but more than five Year 9 pupils.

Sample Exclusions

Excluded from the original sample were young people educated solely at home (and therefore not present on a school roll), pupils in schools with fewer than ten (maintained sector) or six (independent sector) Year 9 pupils, boarders (including weekly boarders) and young people residing in the UK solely for educational purposes.

Longitudinal Sampling

At each subsequent wave, the survey attempted to follow all the households who took part in the previous wave where the young person was still alive and living in the UK. Movers were traced using the stable contact address collected at Wave 1, and where this failed, DCSF sent a letter to the head teacher of the school from which the young person was sampled to locate up-to-date address details for them.

Response Rates

Of the 21,000 young people sampled at Wave 1, the survey reached 15,770 households (74%) in England. This comprises 13,914 full interviews (66%) and 1,856 partial interviews (9%), most of which were cases where the second adult in the household was not interviewed. At Wave 2, the survey reached 86% of the total households, and at Wave 3 it reached 92% of the total households.

Weighting

The LSYPE data were weighted to account for the survey design for each wave of the study, and pupils from maintained and non-maintained schools were weighted separately at Wave 1. For pupils from independent schools and PRUs, responses were found to vary according to the sex of the pupil and the size of the school, so these pupils were weighted accordingly and the weights combined with design weights which were taken from the reciprocal of the pupil's selection probability. Calibration weights were also applied, so that the achieved sample size matched the population breakdown by type of school and by region. Pupils from maintained schools were first weighted according to school non-response (found to be linked to the school's deprivation status and its region), and then according to pupil non-response (found to be linked to region, ethnicity and qualifications). These were again combined with the design weights, and the two sets of weights for maintained and non-maintained schools were then combined and weighted so that the maintained / non-maintained split matched the population proportions.

For subsequent waves of the study, statistical models were used to model the differences between those who responded at each wave and those who did not. These non-response weights were again calculated separately for pupils from maintained and non-maintained schools and then combined.

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