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## Book Section:

Bell-Aldeghi, R and Tubeuf, S orcid.org/0000-0001-9001-1157 (2018) Family context and adoption of risky lifestyles: a study of English adolescents. In: Portier-Le Cocq, F, (ed.) Fertility, Health and Lone Parenting: European Contexts. Routledge Studies in the Sociology of Health and Illness . Routledge , Abingdon, Oxon, UK , pp. 110-126. ISBN 9781138632363

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# Family context and adoption of risky lifestyles: a study of English adolescents

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December 2016

## Abstract

This chapter investigates the association between characteristics of the family context (family structure, socio-economic conditions, family activities, and parent-adolescent conflict) and the adoption of risky health related behaviours by adolescents. Using data from the Longitudinal Survey of Young People in England, our results show that living with one parent during childhood is significantly associated with early sexual intercourse, smoking, cannabis use and teenage parenthood. However, drinking alcohol heavily is not associated with the family structure. This study confirms that while lone-parent families are more common in recent years, adolescents from these families engage more in risky behaviours than their peers.

**Keywords:** family background, cohort study, teenagers' health-related behaviour, smoking, alcohol, drug, teenage parenthood

## Policy implications

- Tackling adolescents' unhealthy types of behaviours is at the core of policy discussions because they are strong predictors of social and health conditions in adulthood.
- Our findings suggest that lone-parent families are social and familial disadvantaged environments that lead adolescents to adopt risky types of health-related lifestyles.
- We show that lone parenthood is significantly associated with the poor lifestyles of adolescents and so policies preventing partnership dissolution are likely to help reduce adolescents' risky lifestyles.

# 1. Introduction

Despite a concerted effort of policy in Great Britain to prevent young people's drug use, the statistics from the 2006 report of the National Centre for Social Research and the National Foundation for Education were striking. At the age of 11, 21% of pupils had drunk alcohol, 13% had smoked and 10% had tried drugs. By the age of 15, the comparable figures were 82%, 61%, and 40% respectively. Evidence from around the world shows that the most effective measures to tackle risky health-related behaviours, such as smoking and drinking, are those that address the whole population: increasing prices, reducing availability and targeting vulnerable and disadvantaged groups who may be at increased risk. Aspects of government regulation such as minimum age limits and price increase have been studied in great detail with respect to American data (Dee 1999; Chaloupka and Warner 2000; Cook and Moore 1993; Di Nardo and Lemieux 2001; Powell et al. 2005). Moreover, several other American studies have shown the importance of the influence of peers and the attitude towards schooling on the adoption of risky health-related behaviours among adolescents (Norton et al. 1998; Duncan et al. 2002; Maes and Lievens 2003; Norton et al. 2003; Lundborg 2006; Clark and Lohéac 2007; Fletcher 2010). Despite the availability of this research, the role played by family structure as well as the influence of parental support and family background have not been given much attention (except Case and Katz 1991, and Francesconi et al. 2010), and have rarely been explored using English survey data (except Pudney 2003).

This chapter presents the results of our empirical analysis using the recent data from the Longitudinal Survey of Young People in England (LSYPE), which is a panel study of young people aged between 13 and 14 in 2004 that is annually repeated. We develop an economic-theoretical framework with applied health econometric methods and use binary regression models to explain the probability of reporting a risky form of lifestyle at age 18 to 19. We consider six risky forms of lifestyles, namely early sexual intercourse, teenage parenthood, early smoking, alcohol use, frequency of getting drunk, cannabis smoking, and drug use. We undertake a hierarchical explanatory analysis where we include a larger vector of independent variables at each of the three steps of the analysis. This multi-step analysis enables us to understand the underlying mechanisms of the influence of family structure, especially lone-parent family, on the likelihood of adopting a range of unhealthy lifestyles in adolescence and

whether family structure has a direct effect on those lifestyles, or an indirect effect, through its influence on other adolescents' social characteristics.

Our findings show that adolescents who grew up in a lone-parent family have a higher probability of using cannabis, having had sexual intercourse before the age of 16 years old, being a teenage parent, and smoking before the age of 16. The fact remains that the likelihood of alcohol abuse in adolescence does not appear to vary with the family structure.

We have organised the remainder of this chapter in four sections. In section two, we provide a background of the relevant literature. In section three, we describe the survey data, including the health-related lifestyles of interest and the family and adolescents characteristics, along with the estimation method. We present our findings in section four, and in the final section we explore further avenues of research.

## 2. Literature review

Research on adolescents' health and health-related behaviours has historically focused on the influence of peers or family conditions. Recent studies have shown that neighbourhood demographics and structural factors influence outcomes related to risky types of health-related behaviours, such as youth and family substance misuse (Duncan et al. 2002). Similarly, school structure and policy variables have been found to explain some adolescents' health-related behaviours such as regular smoking, drinking habits and brushing one's teeth (Maes and Lievens 2003). The impact of family structure and parental involvement on adolescents' poor health-related behaviours has been studied albeit to a lesser extent. Adolescents' health-related lifestyles are likely to be influenced by many aspects of their environment and several relevant factors need further consideration; these include family structure, parents' material resources, and the care and support that parents give to their children. There are several reasons why parents' socio-economic conditions and attitudes might be associated with children's lifestyles beyond copying behaviours. Parental income explains financial constraints and lower investments in health-related behaviours. Parents' education and

occupation, as well as their resources, strongly influence preferences for health and choices of health habits (such as non-smoking, diet and exercise), which are then transmitted from generation to generation. Parents are usually the primary caregivers and their relationships with their children, their involvement in family and school activity, as well as the support they give their children at school, may promote health and mental well-being, and prevent the adoption of risky types of health-related behaviours of young people.

In this context, some empirical studies have investigated the link between socio-economic and family background and adolescents' smoking behaviour and confirmed the existence of a strong correlation (Griesbach et al. 2003; Bjarnason et al. 2003; Antecol and Bedard 2007). Recent causal work has provided evidence that living with an unmarried mother during childhood raised smoking propensities for young adults in Germany (Francesconi et al. 2010). Focusing on the use of tobacco, alcohol and other illicit drugs, Eitle (2005) found that living with two parents was a protective factor against risky types of health-related behaviours so long that exposure to deviant peers was low. Less recent studies also found that British adolescents who lived with both parents were less prone to substance use, smoking and drinking than their peers (Miller 1997) while Scottish adolescents were less likely to be sexually active by the age of 15 (Feldman and Brown 1993). Recent studies are rare although family structure has substantially changed over the past fifteen years, in particular the number of lone-parent families has increased. Figure 1 shows that there were 1.88 million lone-parents with dependent children in the UK in 2005 and this number has grown steadily to nearly 2 million in 2015.

Our research aims to provide insights into the impact of family structure, especially lone parenthood and parents' characteristics, on risky types of health-related behaviours of young people in England aged 13 to 19 by using recent data.

## 3. Methods

### 3.1 Data

Our study is based on the data from the Longitudinal Survey of Young People in England (LSYPE), which was undertaken by the English Department of Education. The Department of Education first started to interview adolescents when they were in Year 9 in February 2004 (born between 1 September 1989 and 31 August 1990), as well as their parents or carers. Interviews took place every year (usually in the spring and summer) to find out about pupils' experiences over the past academic year, to see what they had been doing and to monitor how their family and social situations had changed. The original sample drawn for the first wave was comprised of over 33,000 young people aged between 13 to 14 years old. More details on the survey are available online[i]. Cohort members have since been interviewed at yearly intervals and seven waves are currently available. The data was collected using face-to-face interviewing and has been supplemented by linkage to administrative records such as the National Pupil Database and other data sources such as geo-demographic data from the 2001 census. The main objectives of the LSYPE are to gather evidence about the transitions young people make from secondary and further education or training to entry into the labour market in early adulthood; to enhance the ability to monitor and evaluate the effects of existing policy and provide a strong information base for future policy development; and to contextualise the implementation of new policies in terms of young people's current lives. The topics covered in the survey included household structure and socio-economic characteristics, information on the neighbourhood, teaching programme characteristics and risk factors. Additional information from a main and second parent interview was obtained from every wave until wave 5. From wave 6, young people are the sole respondents and their professional activity and socio-economic characteristics are collected.

### 3.1.1    Variables of interest

The variables of interest (dependent variables) are outcomes thought to vary according to control (or independent) variables. Specifically, for our study we will focus on seven variables of interest that are young peoples' self-reported types of risky health-related behaviours: early sexual intercourse, teenage parenthood, early smoking, alcohol misuse, the frequency of getting drunk, cannabis smoking, and other drug abuse.

Wherever possible, the outcome variables were derived from questions from the last wave when young people were aged 18 to 19 years old (wave 6). We selected two variables on drug

misuse and two variables on drinking habits. "Smoked cannabis" indicates whether the young people had ever consumed cannabis in the past four weeks; it equals one if the cohort member reports any consumption and zero otherwise. The use of other drugs informs whether the young people had used any other drugs than cannabis over the past four weeks; it equals one if the adolescent has and zero otherwise. The first variable related to alcohol indicates whether young people had drunk more than four times a week; the binary variable takes the value one if the young people reported drinking more than four times a week and zero otherwise. The second outcome related to alcohol measures binge-drinking habits and equals one when the young people reported getting drunk most of the time or all the time when they drank. Questions on sexual activities were introduced for the first time in wave 6 while the young people were aged 18 to 19 years old. Young people were asked whether they had ever had sexual intercourse and when their answer was positive, they were asked at what age their first sexual intercourse occurred. Early sexual intercourse is a binary variable taking the value one when the young people reported having had sex before 15. Young people were also asked if they had had any children, while no information was given on the age of the child if any. As wave 6 happens when young people are aged 18 to 19 years old, they are considered teenage parents as they are below 20 years old. Being teenage parent equals one if the young people report being a parent and zero otherwise. Questions about smoking behaviour were only asked at wave 3 of the survey when young people were aged 15 to 16. It indicates if adolescents were smokers at the time of the interview, or had ever smoked before; it equals one if the young people smoked or had smoked in the past.

### 3.1.2   The vector of independent variables

The LSYPE comprehensively describes parental characteristics. It traces their employment history, their education and their qualifications. Furthermore, the LSYPE provides information on parental attitudes to the children's schooling and involvement in education, on family relationships (arguments with the young person, evening meals together, evening and outdoor activities together) and on parental authority on young people's outings.

Three vectors of control variables are considered to explain young people's risky types of health-related behaviours.

The first vector includes the main variable of interest to this study: being in a lone-parent family between the age of 13 to 14 year old (wave 1) and the gender of the young person.

The second vector of controls accounts for family characteristics during childhood and is comprised of variables derived from questions that were asked during the first wave of the survey. It includes how the main parent claimed he or she was managing with income ("quite well", "just getting by", "with difficulties") as a binary variable taking the value one if the parent reported managing with difficulties and zero otherwise. Furthermore, the vector includes information on family relationships used as binary variables indicating whether the main parent reported arguing with the young person more than once a week, whether they had evening meals together less than twice a week, whether they ever went out together as a family (except for shopping), and whether they spent less than one evening a week as a family. Finally, the second vector includes a binary variable indicating whether the main parent ever met with the young person's teacher. The parents' religion is also included as a four-category variable: "no religion", "Christian", "Muslim", and "other religions".

The last model adds a third vector of control variables on contemporary characteristics for young people. These characteristics were derived from questions asked between age 18 to 19 (wave 6). It includes the young person's activity as a three-category variable: being in education, being employed, and being inactive. Additionally, the vector informs whether the young person is single or not and whether he or she is a parent. Finally, the young person's health is used as a control via a binary variable indicating if the young person has at least one disability and whether he or she exercises less than once a week.

### 3.2 Methods of estimation

In this empirical paper, we aim to explain why a young person adopts a specific type of risky health-related behaviour and we investigate to what extent the family structure, a number of family characteristics, and a number of adolescents' own characteristics matter. For this purpose, we use applied econometrics and Stata 13, which is a data analysis and statistical software. Our analytic approach can be written using mathematical terms.

Let us consider that $Y_{it}^m$ represents one risky type of health-related behaviour $m$ of a young person $i$ at time $t$; $Y_{it}^m = 1$ if the young person has adopted the behaviour $m$ at time $t$ and $Y_{it}^m = 0$ if he or she has not. The variable $m$ takes values between one and seven since there are seven alternative risky types of interest (i.e. early sexual intercourse, teenage parenthood, early smoking, alcohol abuse, frequency of getting drunk, cannabis smoking, and drug abuse). In our analysis $t = 6$ as most risky types of health-related behaviours are observed at wave 6 of the survey, except early smoking, which is observed at $t = 3$.

Let us consider that $S_i$ represents the family structure, $S_i = 1$ if the young person $i$ lives in a lone-parent family and $S_i = 0$ otherwise. We then consider that $X_i$ represents the vector of family characteristics including father and mother's socio-economic characteristics, parental support and material conditions. Both $S_i$ and $X_i$ are observed at wave 1 of the dataset (when the young person is aged between 13 and 14 years old) so when referring to a type of risky behaviour observed at $t = 6$, the vectors $S_i$ and $X_i$ are observed five years earlier, which means at $t - 5$ (except early smoking for which they are observed at $t - 2$). Finally, we consider that $Z_i$ is the vector of young people's current characteristics, which are observed at wave 6 (i.e. when young people are aged 18 to 19 years old). We cannot assume that our dataset and our set of independent variables $S_i$, $X_i$ and $Z_i$ fully explain the likelihood of adopting a risky type of health-related behaviour. We therefore consider that there exists an additional parameter $e_i$, which represents any unobservable characteristic that can affect the adoption of a risky type of health-related behaviour that we cannot measure in our survey data, for example getting free cigarettes.

We assume that the adoption of a risky type of health-related behaviour $Y_{it}^m$ is a function of all the above parameters and this can be written as follows:

$$Y_{it}^m = f(S_{it-5}, X_{it-5}, Z_{it}, e_i) \quad (1)$$

We use a hierarchical analysis and we firstly explain each lifestyle according to family structure only adjusting for gender in model 1. We subsequently add socio-economic conditions, family activities, and parent-adolescent conflict in model 2. Finally, we include the adolescent's current characteristics in model 3[ii]. This step-by-step addition of the independent variables will help us to identify associations existing between family structure $S_i$, other family characteristics $X_i$ and adolescent current characteristics $Z_i$. We then evaluate the marginal effect (i.e. the added effect) of family structure, various family and parental characteristics and the adolescent's current characteristics on each risky type of health-related behaviour.

## 4. Results

### 4.1 Descriptive statistics

For the purpose of our study, we have used data from young people who were present in the first, the third and the sixth waves of the LSYPE (i.e. when the young people were respectively 13 to 14, 15 to 16, and 18 to 19 years of age) in order to have measures of both lifestyles and family characteristics and to limit as much as possible non-response in the analysis. This balanced sample contains 7,748 individuals.

A description of the distribution of relevant variables is available in Table 1. A total of 3,950 young people out of 15,632 were identified as living in a lone-parent family in wave 1, which represents 25.27% of the sample. Descriptive statistics also show differences in averages of certain variables between the types of family structures of interest; we tested the significance of the differences using a statistical test called Student's test. The test allows us to assess whether the differences are purely random or whether lone-parent families truly exhibit a different average for the variable (for example, the test answers the question whether the proportion of cannabis users is significantly higher in lone-parent families than in two-parent families). The difference occurring is deemed significant (respectively highly and very highly significant) if the probability is under the 10% (respectively 5% or 1%) threshold level. From Table 1, it appears that regarding drug use, the differences between children from lone-parent

families and other children are significant: 13% of children from lone-parent families declared having consumed cannabis and 4% admitted to taking other drugs, whereas 10.5% of children from two-parent families declared having smoked cannabis during that time frame, and under 3% said they had consumed other drugs. Smoking was also significantly higher in children from lone-parent families (9%) than in other children (7%). Alcohol consumption was significantly lower in children who were raised in a lone-parent family (2.6%) than in children living with two parents (4.4%), and this was similar regarding binge-drinking habits, as 18% of children raised by parents living together declared getting drunk most of the time when they drank compared to 13% for children from lone-parent families. Although the proportion of young people reporting sexual intercourse before the age of 15 was not significantly different according to family structure, there were significantly more teenage parents among adolescents in lone-parent families (5.8% against 2.2% for children whose parents were in a couple). If we turn to descriptive statistics of family characteristics during childhood, we observe that more lone-parent families declared facing income difficulties (15% compared to 5%). Parental attitudes also varied with family structure, while lone-parent families significantly had meals as a family more rarely than other families (33% against 28%), the rate of family outings was similar (around 52%) as well as spending less than an evening together (12%). Lone-parent families significantly claimed to argue more than once a week, more often than families with both parents (41% compared to 36%). Although 29% of families with two parents reported never speaking about their child's work with their teacher, this is significantly lower in lone-parent families (25%); it is difficult at this stage of the work to conclude whether appointments with teachers are related to pupils' problems at school or a greater interest of the parent(s) in their education. Lone-parent families are more often without any religion (24% compared to 18%), and less often Muslim (12% and 16% respectively).

At age 18 or 19, the proportion of young people in education or in employment is significantly lower when they are from lone-parent families (respectively, 23% against 35% for education and 50% against 54% for employment). Reciprocally, the proportion of inactivity is greater in young people from lone-parent families and they are also more likely to become young parents than their peers born into two-parent families (6% and 2%). Even if the

proportions of young people without disabilities are similar in both samples (93%), children of lone-parent families exercising less than once a week are more common (23% and 20%).

### 4.2 Results by outcomes in three models.

Our results are presented in Tables 2 to 4 and are reported as marginal effects. In a nutshell, the results of Model 1 show that coming from a lone-parent family significantly increases four of the risky types of health-related behaviours of interest: having sexual intercourse before 15, becoming a teenage parent, smoking before 16, and consuming cannabis and other drugs at the age of 19 or 20. When including the family characteristics in the Model 2 and subsequently the current characteristics in Model 3, the probability of adopting a risky lifestyle is reduced but has remained significant and positively correlated with the fact of living in a lone-parent family during childhood. More precisely, Table 2 shows that the probability of having early sexual intercourse is 4% higher for adolescents from lone-parent families than their peers, and this figure marginally falls to 3% in Model 2 when past family characteristics are included in the model. There is, therefore, a persistent association between lone parenthood and the likelihood of being sexually active before 15 years of age. Girls were found significantly less likely to have early sexual intercourse than boys. Early sexual intercourse is also associated with poorer social conditions and poor parent-adolescent relationships (sharing few meals and often arguing). The fact of having a religion decreases the probability of early intercourse, especially when the family is Muslim (-7%).

The odds of becoming a teenage parent are much greater for children coming from lone-parent families and remain positive and substantial after we control for past characteristics. Girls are also found to be more likely to become teenage parents than boys, but this might be a misreport, as boys may not always be aware that they are teenage fathers. The likelihood of becoming a teenage parent increases when the family claimed having had income difficulties during the adolescent's childhood; it is 4 points higher than when the family had not had any financial difficulties. The likelihood of becoming a teenage parent is also higher when family-children relationships are poor, such as few meals shared as a family, few family outings, and high level of arguments.

Children of lone-parent families face a higher risk of smoking before age 16 (+2%), girls especially are more likely to have tried smoking by the age of 15 or 16 (3% higher than boys). The effect of gender and family structure on smoking behaviour reduces but remains important when controlling for past family characteristics. The probability of early smoking behaviour is highly related to many past family characteristics: few family activities and frequent arguments between the young people and the parent(s) increase young people's smoking behaviour. As observed earlier with sexual intercourse, adolescents with a religion are less likely to smoke. Interestingly, the fact that the family claims having had income difficulties does not have a clear impact on the tendency to smoke; it is likely that adolescents who are from wealthier families have sufficient financial resources to buy cigarettes too and this might explain the absence of effect.

The results when drinking alcohol in the outcome of interest are very different from the other risky types of health-related lifestyles (Table 3). We observe a negative effect of family structure on alcohol consumption habits; adolescents are less likely to drink alcohol more than five times a week when they are from a lone-parent family than their peers. Again, this may be explained by an ability to buy alcohol, which is likely to be lower when young people are from a less advantaged background. When controlling for past circumstances, the marginal effect of family structure remains the same and having few family outings reduces the likelihood of drinking alcohol heavily; it is very likely that the ability to buy alcohol plays a role here too; the family might be too poor for family outings and by the same token the young person cannot afford buying alcohol. Having a religion also decreases the probability of drinking heavily. When we control for current characteristics concerning the young people, it appeared that young people who are also young parents are less likely to drink more than five times a week.

If we now turn our interest to drug consumption in the past month (Table 4), adolescents coming from lone-parent families are more likely to be drug users. For example, growing up with only one parent increases by 3% the probability of using cannabis at age 18 or 19 and, when we control for past and current characteristics, the effect reduces to a 2% increase but is

still significant. Adolescents born in lone-parent families are also more likely to use other drugs. Among the controls for drug consumption, we note that women have a lower tendency to use cannabis (-7%) as well as other drugs. Religion is also found to be a protective factor for drug use while the absence of family activities (outings, meals) favours the use of drugs. When we add the current characteristics to the model (Model 3), we note that adolescents reporting being socially inactive are more likely to use drugs; the causality link here is unclear as there might be a reverse causality. Typically, we cannot conclude whether socially inactive adolescents are more likely to use drugs or adolescents using drugs are more likely to be socially inactive.

### 5. Discussion

Our findings suggest that lone-parent families are social and familial disadvantaged environments that lead adolescents to adopt risky types of health-related lifestyles, despite their being more common forms of family structures nowadays (e.g. 25% of the sample of our study), and probably less stigmatised by society. Our step-by-step analysis helped us to identify whether the role played by family structure on the adoption of poor lifestyles was mainly direct or only partly mediated by other characteristics. The absence of religion and gender were also found to be important factors for the adoption of disadvantaged lifestyles. According to our results, having a religion was always associated with healthier lifestyles, whereas being a woman decreased the odds of having early sexual intercourse, drinking heavily and using cannabis and other drugs. However, women were found more likely to smoke early and to become teenage parents.

The frequency of activities as a family, such as sharing a meal together, spending evenings together, and having regular outings as a family were also found to be protective for adolescents' health-related behaviour, showing that the existence of a sound relationship between parent and children is important and probably guides adolescents towards healthy choices when they enter adulthood. The variable measuring the frequency of contacts between parents and the young person's teachers was initially constructed as an indicator of the lack of interest of the parent in their children's work. However, in most models, this variable had a

significant negative impact on risky types of health behaviours. This variable might therefore reflect that parents are more likely to have to meet with teachers in person when children have behavioural problems or academic difficulties.

Research has shown that one of the strongest predictors of adolescent substance use is the importance of peers, particularly if they are users of illicit substances (Norton et al. 1998; Duncan et al. 2002; Maes and Lievens 2003; Norton et al. 2003; Lundborg 2006; Clark and Lohéac 2007); this would be an interesting dimension to consider in our empirical work and see how family structure and types of peers interact on the adoption of risky lifestyles for adolescents. An additional parameter of interest would be parental substance use, which was not available in our dataset. Such variables would help evaluate to what extent teenagers' health-related lifestyles are related to the intergenerational transmission of tastes, individual preferences and copying their parents' behaviours.

The findings of this study provide insights into the link between health-related and other types of behaviours. Secondly, adolescents are at the core of policy discussions because unhealthy types of behaviours are strong predictors of adult social and health conditions. Thirdly, there are important implications in terms of inequalities of opportunity in health. The study of the correlation between the socio-economic characteristics of one generation and the health-related choices of the following generation is important both from a philosophical stance and from a policy viewpoint. Social background and parents' characteristics represent socially or morally unacceptable sources of inequality as they both represent factors beyond the realm of individual responsibility (Roemer 1998). Consequently, they appear to be first-rate candidates for a policy aimed at reducing inequalities. While lone parenthood is significantly associated with the poor lifestyles of adolescents, other parental and socio-economic characteristics were also found important in the understanding of poor youth outcomes. This research would support the development of policies targeting and supporting children from lone-parent families as they face higher risks of adopting poor health-related lifestyles.

**Endnotes**

## 6. Acknowledgements

## 7. References

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**Figure 1: Lone-parents with dependent children, 2005 to 2015 in the United Kingdom (in millions)**
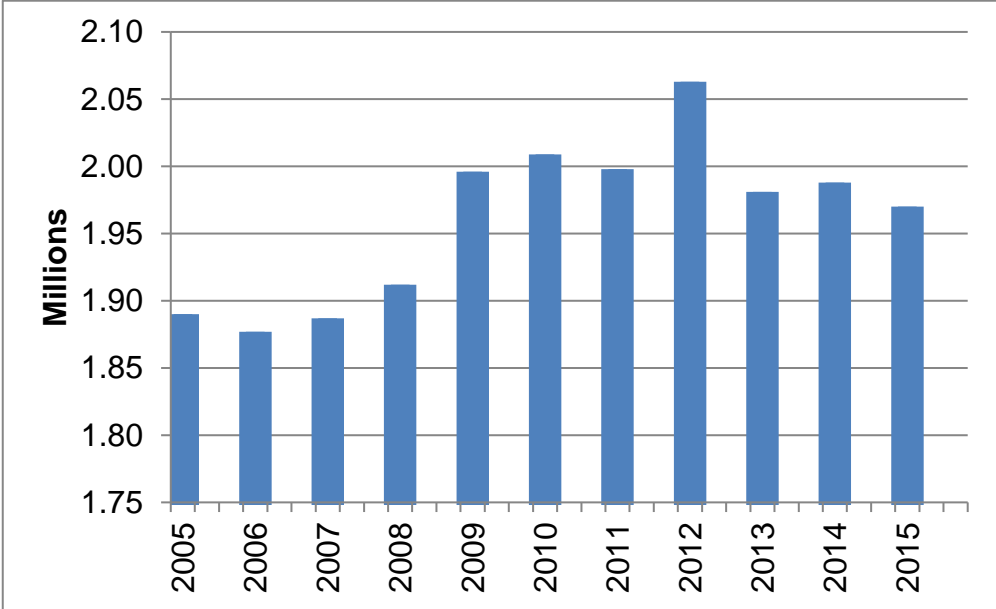


Source: Labour Force Survey - Office for National Statistics

**Table I – Descriptive statistics**

| Variables<br>n (row sample ) / N(column sample) | Full sample | Parents in couple | Lone Parents | Difference |
|---|---|---|---|---|
| **Outcome variables** | | | | |
| Sexual intercourse before 15 (%) | 5.13 | 4.98 | 5.55 | -0.57 |
| n/N | 738/14,390 | 533/10,698 | 205/3,69 | |
| Being a teenage parent (%) | 2.93 | 2.19 | 5.77 | -3.57*** |
| n/N | 278/9,482 | 165/7,524 | 113/1,95 | |
| Early smoking at age 15/16 (%) | 7.75 | 7.44 | 8.90 | -1.46** |
| n/N | 815/10,510 | 615/8,264 | 200/2,24 | |
| Drinking 5 times a week or more at age 18/19 | 3.94 | 4.40 | 2.66 | 1.73*** |
| n/N | 554/14,044 | 456/10,366 | 98/3,678 | |
| Getting drunk most time/every time at age 18/19 | 16.30 | 17.51 | 12.91 | 4.60*** |
| n/N | 2,253/13,819 | 1,787/10,2 | 466/3,61 | |
| Smoked cannabis in the past 4 weeks at age | 11.11 | 10.53 | 13.33 | -2.79*** |
| n/N | 1,047/9,427 | 789/7,491 | 258/1,93 | |
| Taken any other drugs in the past 4 weeks at age | 3.10 | 2.85 | 4.06 | -1.20*** |
| n/N | 293/9,453 | 214/7,505 | 79/1,948 | |
| **Explanatory variables at age 13/14** (%) | | | | |
| Young person is a woman | 49.63 | 52.29 | 48.93 | -3.35*** |
| Parents having difficulties to get on with income | 7.80 | 5.21 | 15.45 | -10.23*** |
| Having a meal as a family less than twice a week | 29.08 | 27.86 | 32.79 | 4.93*** |
| Spending less than one evening a week as a | 11.79 | 11.71 | 12.04 | 0.33 |
| Not having any family outings | 52.27 | 51.98 | 53.11 | -1.12 |
| Arguing with teenager more than once a week | 37.30 | 36.02 | 41.16 | -5.14*** |
| Never speaking with teacher about teenager's | 27.91 | 28.86 | 25.11 | 3.75*** |
| *Parents' religion* | | | | |
| No religion | 19.41 | 18.00 | 23.57 | -5.56*** |
| Christian | 58.63 | 58.27 | 59.70 | -1.42 |
| Muslim | 14.75 | 15.80 | 11.63 | 4.16*** |
| Other religions | 7.22 | 7.93 | 5.11 | 2.82*** |
| Current activity status | | | | |
| In education | 31.92 | 34.91 | 23.07 | 11.83*** |
| In employment | 53.38 | 54.34 | 49.69 | 4.64*** |
| Inactive | 7.83 | 7.38 | 9.14 | -1.75*** |
| Being single | 99.07 | 99.08 | 99.05 | 0.02 |
| Being a parent | 3.05 | 2.28 | 6.01 | -3.72*** |
| Not having a health limitation or disability | 93.22 | 93.29 | 92.92 | 0.37 |
| Exercising less than once a week | 20.28 | 19.65 | 22.70 | -3.04** |

\*\*\* Variable significant at 1%. \*\* Variable significant at 5%. \* Variable significant at 10%.
Reading guide: In the whole sample, the proportion of young people who have a meal as a family less than twice a week is of 29.1%. It is of 27.9% for the young people with two parents and 32.8% for the young people in lone-parent families; the difference is of 4.9 points of percentage. This difference is significant at 1% (very high significance) and means that having a meal as a family less than twice a week differs with family structure.

**Table 2 – Probit regression analyses: marginal effects associated with early sexual intercourse and teenage parenthood in the 3 models**

| Variables | Sexual intercourse before 15 N=14,390 | | Teenage parent N=9,482 | | Smoking age 15/16 N=10,510 | |
|---|---|---|---|---|---|---|
| | **Model** | **Model 2** | **Model** | **Model 2** | **Model 1** | **Model 2** |
| Lone-parent | 0.04 *** | 0.03 *** | 0.03 *** | 0.02 *** | 0.02 *** | 0.01 *** |
| Female | -0.01 *** | -0.01 *** | 0.02 *** | 0.01 *** | 0.03 *** | 0.02 *** |
| Parents having difficulties to get on with income | | 0.02 * | | 0.04 *** | | -0.00 |
| Spending less than one evening a week as a family | | 0.01 | | 0.00 | | 0.01 ** |
| Having a meal as a family less than twice a | | 0.02 *** | | 0.00 ** | | 0.03 *** |
| Not having any family outings | | 0.00 | | 0.01 *** | | 0.00 ** |
| Arguing with teenager more than once a | | 0.03 *** | | 0.01 *** | | 0.03 *** |
| Never speaking with teacher about | | -0.02 *** | | - ** | | -0.01 *** |
| Christian (reference = no religion) | | -0.01 | | - *** | | -0.01 ** |
| Muslim (reference = no religion) | | -0.07 *** | | - *** | | -0.03 *** |
| Other religions (reference = no religion) | | -0.04 *** | | - * | | -0.02 *** |

\*\*\* Variable significant at 1%. \*\* Variable significant at 5%. \* Variable significant at 10%.

Reading guide: The models estimate simultaneously the impacts of several potentially explanatory factors on three different risky behaviours. The coefficients associated with each variable (marginal effects) indicate the magnitude of a change in the probability of the outcome of interest when the other variables are kept fixed. For example, the probability of having sexual intercourse before 15 years old reduces by 7% if the young people are Muslim, all other things being equal, and this statement is significant at 1% (very high significance).

**Table 3 – Probit regression analyses: marginal effects associated with alcohol drinking 5 times a week or more and frequency of getting drunk in the 3 models**

| Variables | Alcohol drinking at age 18/19 N=14.044 | | | Getting drunk most time/every time at age 18/19 N=13.819 | | |
|---|---|---|---|---|---|---|
| | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 |
| Lone-parent | -0.01 * | -0.01 * | -0.01 * | -0.00 | -0.01 | -0.00 |
| Female | -0.04 *** | -0.04 *** | -0.04 *** | 0.01 | 0.00 | 0.00 |
| Parents having difficulties to get on with income | | -0.00 | -0.00 | | -0.01 | -0.00 |
| Spending less than one evening a week as a family | | -0.00 | -0.00 | | 0.04 ** | 0.03 ** |
| Having a meal as a family less than twice a week | | 0.00 | 0.00 | | 0.05 *** | 0.05 *** |
| Not having any family outings | | -0.01 *** | -0.01 *** | | -0.02 ** | -0.02 * |
| Arguing with teenager more than once a week | | 0.00 | 0.00 | | 0.00 | 0.00 |
| Never speaking with teacher about teenager's | | 0.00 | 0.00 | | 0.00 | 0.00 |
| Christian (reference = no religion) | | -0.00 | -0.00 | | -0.02 * | -0.02 * |
| Muslim (reference = = no religion) | | -0.01 | -0.02 | | -0.07 * | -0.08 ** |
| Other religions (reference= = no religion) | | -0.02 ** | -0.02 ** | | -0.09 *** | -0.09 *** |
| In employment (reference = in education) | | | -0.02 *** | | | 0.00 |
| Inactive (reference = in education) | | | -0.01 | | | 0.02 |
| Single | | | -0.02 | | | -0.08 |
| Parent | | | -0.03 * | | | -0.11 *** |
| No health problem | | | -0.00 | | | 0.04 * |
| No physical exercise | | | 0.01 * | | | 0.02 ** |

*** Variable significant at 1%. ** Variable significant at 5%. * Variable significant at 10%.

Reading guide: The models estimate simultaneously the impacts of several potentially explanatory factors on two different risky behaviours. The coefficients associated with each variable (marginal effects) indicate the magnitude of a change in the probability of the outcome of interest when the other variables are kept fixed. For example, the probability of getting drunk increases by 5% if the young people had a meal with their family less than twice a week, all other things being equal, and this statement is significant at 1% (very high significance).

**Table 4 – Probit regression analyses: marginal effects associated with cannabis smoking and use of other drugs in the 3 models**

| Variables | Cannabis smoking at age 18/19 N=9,427 | | | Use of other drugs at age 18/19 N=9,453 | | |
|---|---|---|---|---|---|---|
| | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 |
| Lone-parent | 0.03 *** | 0.02 *** | 0.02 *** | 0.01 *** | 0.01 ** | 0.00 ** |
| Female | -0.07 *** | -0.07 *** | -0.07 *** | -0.01 *** | -0.01 *** | -0.01 *** |
| Parents having difficulties to get on with | | 0.03 ** | 0.02 * | | -0.00 | -0.00 |
| Spending less than one evening a week as a family | | 0.00 | 0.00 | | 0.00 | 0.00 |
| Having a meal as a family less than twice a week | | 0.01 * | 0.01 | | 0.00 ** | 0.00 ** |
| Not having any family outings | | -0.02 *** | -0.02 *** | | -0.00 ** | -0.00 ** |
| Arguing with teenager more than once a week | | 0.01 | 0.00 | | 0.00 | 0.00 |
| Never speaking with teacher about | | -0.01 ** | -0.01 ** | | -0.00 | -0.00 |
| Christian (reference = no religion) | | -0.02 *** | -0.02 *** | | -0.01 *** | -0.01 *** |
| Muslim (reference = no religion) | | -0.08 *** | -0.08 *** | | -0.03 *** | -0.02 *** |
| Other religions ((reference = no religion) | | -0.05 *** | -0.05 *** | | -0.02 *** | -0.02 *** |
| In employment ((reference = in education) | | | 0.01 * | | | 0.00 ** |
| Inactive ((reference = in education) | | | 0.09 *** | | | 0.03 *** |
| Single | | | -0.05 | | | -0.04 |
| Parent | | | -0.03 * | | | -0.02 *** |
| No health problem | | | -0.00 | | | 0.00 |
| No physical exercise | | | 0.01 | | | 0.01 *** |

*** Variable significant at 1%. ** Variable significant at 5%. * Variable significant at 10%.

Reading guide: The models estimate simultaneously the impacts of several potentially explanatory factors on two different risky behaviours. The coefficients associated with each variable (marginal effects) indicate the magnitude of a change in the probability of the outcome of interest when the other variables are kept fixed. For example, being a woman decreases the probability of smoking cannabis by 7%, all other things being equal, and this statement is significant at 1% (very high significance).