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Sexual behaviour, initiation and contraception among adolescents in Ireland

Findings from the Health Behaviour in School-
aged Children (HBSC) Ireland study

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EXECUTIVE SUMMARY

Sexual health is a fundamental aspect of physical and social well-being and a key component of public health. Not only does sexual health encompass the absence of disease and infection but also a positive approach to sexuality (WHO, 2006). Good sexual health practices lead to enhanced well-being, the ability to control fertility and pregnancy as well the experience of positive personal relationships (HSE Eastern Region, 2005). Sexual health status is shaped by a range of socio-cultural, psychological, physical, cognitive, religious, legal, economic and political factors, a number of which adults - and adolescents - have little or no control over. An individual's sexual health is dependent on the complex interaction of a combination of these factors (WHO, 2010).

Policies can influence the conditions in which people live and work. Effective policy development can promote the conditions under which people can be healthy and can provide a model for consistent activity across organisations and society as a whole. The importance of recognising sexual health as a key issue for the population of Ireland has been acknowledged in national health policy documents (e.g., Department of Health and Children, 2000). More recently the Royal College of Physicians in Ireland has emphasised the need for sexual health to be acknowledged as a salient public health concern in Ireland. They have highlighted the broad scope and range of sexual health and recognise its extension beyond healthcare together with its cultural, societal and legal implications (RCPI, 2012). These documents emphasise the need for a reduction in sexual health problems and the promotion of positive sexual practices. At the time of writing a national sexual health strategy is pending. The importance of adequate sexual health has been acknowledged at a local level through regional sexual health strategies (HSE Eastern Region, 2005; Southern Health Board, 2001; HSE Midland Area, 2005).

Adolescence is an influential stage of life when young people are developing physically, emotionally, spiritually, socially as well as sexually. It is typical for adolescents to engage in experimental behaviours that help them to identify who they are as they make the transition into adulthood (National Youth Council of Ireland, 2004). However this experimentation often includes a range of risk behaviours which can greatly impact on their present or future quality of life. Sexual behaviours such as inconsistent condom use, multiple partners and casual sex are recognised risk factors for unplanned pregnancy and STI transmission (Kirby, 2001). These outcomes have been associated with a combination of behavioural, biological and cultural factors specific to the population (Centers for Disease Control and Prevention, 2010; Finer & Henshaw, 2006). Early onset of first intercourse is also a risk factor associated with poor sexual health outcomes both at first intercourse and later in life (McBride *et al.*, 2012; Paul, Fitzjohn, Herbison, & Dickson, 2000; Rundle, Layte & McGee, 2008). Men and women who reported first intercourse before 17 years were less likely to have used contraception, more likely to experience regret about the timing of first intercourse and less likely to have planned to have sex at that time when compared to those who first had sex at an older age (Rundle *et al.*, 2008). Early onset of first sexual experience has also been linked to socioeconomic status and gender.

Males and those from lower socio-economic backgrounds and with lower educational attainment are more likely to report experience of first sex below the age of consent than their peers (Layte *et al.*, 2006).

Use of contraception at first sexual intercourse is increasing and findings from the Irish Contraception and Crisis Pregnancy Study 2010 indicate that the majority of young adults reported contraceptive use at first intercourse. Respondents who had sex at age 16 or younger were however significantly less likely to have used contraception at first intercourse (McBride *et al.*, 2012). Those who engaged in early sexual intercourse along with those who continue to engage in inconsistent contraceptive use are at an increased risk of experiencing negative health and social outcomes including unplanned pregnancy or STI acquisition. It is for this reason that risky teenage sexual activity is a particular cause of concern.

Research from the Irish Study of Sexual Health and Relationships tells us that 31% of men and 22% of women aged 18 to 24 became sexually active before the legal age of 17 (Layte *et al.*, 2006). The number of teenage births has decreased by 47% from 2001 to 2012 (a rate of 20 per 1000 to a rate of 12 per 1000). However there were 1,639 births to mothers who were under the age of 20 years in 2012 (Central Statistics Office, 2013). The number of STI notifications in Ireland has increased steadily since 1995. Though this may reflect an increase in STIs, it may also relate to increased testing and reporting. In 2011 the number of STI notifications was reported at 1,536 for those under the age of 20 years. This equates to 11.6% of all STI notifications (HPSC, 2011). These figures highlight the need for sexual health promotion among adolescents to remain on the political and practice agenda.

Increasingly, emphasis has been placed on integrating empirical evidence when planning and implementing effective health promotion decision-making at both a policy and practice level. However limited data on adolescent sexual health and behaviours have been available in Ireland. The area of adolescent sexual behaviours has been under-researched compared to that of the adult population in Ireland, similar to the adolescent populations of countries such as the US and UK. The lack of current data therefore hampers the development of comprehensive evidence-informed policy and practice.

The Health Behaviour in School-aged Children Ireland is the key nationally representative and internationally comparable study providing a representative profile of young people in Ireland's health, wellbeing and associated behaviours along with their social and developmental context. Compared to the international research, HBSC Ireland data collection extends to include young people aged 9 to 18 years. The study uses self-completion questionnaires, administered in classrooms to gain the perspectives of a representative proportion of 9-18 year old school-going children in the Republic of Ireland. The HBSC study includes a section on adolescent sexual behaviours and contraceptive use. Due to the potentially sensitive nature of this content, the sexual behaviour questions are designed for completion only by participants aged 15 to 18 years. These measures of adolescent sexual behaviour can be related to other socio-demographic, health and lifestyle factors. This report focuses on findings from those adolescents aged 15 to 18 years olds who have completed sexual behaviour

questions within the HBSC study. It provides the first representative profile of school attending adolescents' sexual behaviour in Ireland. The paragraphs below provide a summary of the key findings contained in this report.

Sexual intercourse

Sexual intercourse is determined by students' reports of whether they have ever engaged in sexual intercourse. Overall 26.1% of adolescents aged 15-18 reported having engaged in sexual intercourse. A higher proportion of boys had engaged in sexual intercourse compared to girls. Older participants were also more likely to report having had sexual intercourse. There were clear social gradients in relation to adolescent sexual behaviour. Boys and girls from lower and middle social class groups reported higher engagement in sexual intercourse. These social class differences were found for participants aged 15 and 16 years old. Higher levels of sexual intercourse were also reported by girls from low affluent families. The sexual intercourse differences between adolescents from families with different levels of affluence were found for those aged 17 years old. There were no differences in reported intercourse according to urban or rural residential status. Girls' experience of Disability and/or Chronic Illness (D/CI) was associated with higher levels of sexual activity. The relationship between sexual activity and D/CI was found for those aged 17 and 18 years. Young people from the Traveller community and those not living with both parents reported more engagement in sexual intercourse than those from the settled community and those who lived with both parents. These differences were found at aged 15, 16 and 17 years old. At all ages, boys and girls who engaged in risk behaviours such as alcohol consumption, smoking and cannabis use in the last 30 days were also more likely to report ever having had sexual intercourse.

Predictors of sexual intercourse

Separate multivariate analyses were conducted to identify the socio-demographic and lifestyle predictors of boys and girls sexual intercourse. The first model considered the predictors of boys having ever engaged in sexual intercourse. Older boys were more likely to report ever having engaged in sexual intercourse as were those not living with both parents, those living in poorer neighbourhoods or those living within the Traveller community. Boys who reported having had sexual intercourse reported better communication with their friends, were more likely to report bullying others and engaged in more extra-curricular activities, however those involved in music and drama were less likely to report having had sexual intercourse. Boys who took medication for physical symptoms (e.g., headache, stomach-ache) were more likely to have had sexual intercourse as were those who had engaged in more risky behaviours such as involvement with alcohol, tobacco and cannabis in the last 30 days.

The second model identified predictors of girls having ever engaged in sexual intercourse. Girls who reported engaging in sexual intercourse were older, from middle social class groups and living in poorer neighbourhood environments. Girls reporting good communication with friends were more likely to have had sexual intercourse, as were those who reported bullying others or being bullied themselves. Sexual intercourse was associated with high levels of engagement in risk behaviours such as involvement with alcohol, tobacco and cannabis in the

last 30 days as well as an unhealthy diet. Those who were involved in music and drama activities were less likely to have engaged in sexual intercourse.

Age of sexual initiation

Data reported for age of sexual initiation are taken only from participants who reported ever having sexual intercourse. Participants who had ever had sexual intercourse were categorised into two groups based on age of sexual initiation; those who had initiated in very early sexual intercourse (i.e., sexual intercourse before age 14 [<14]) and those who had initiated in early sexual intercourse (i.e., sexual intercourse aged 14 or 15 [14-15]). Very early sexual initiation was reported by 33.3% of boys and 19.7% of girls.

Very early sexual initiation was more commonly reported by boys. A higher proportion of young people from rural areas reported very early initiation compared to those from urban areas. Girls who reported smoking and those who reported using cannabis in the last 30 days also reported very early initiation. Boys from the Traveller community reported more engagement in very early sexual initiation than those from the settled community. There were no significant associations between social class or family affluence and early and very early sexual initiation. Neither were there associations between household composition or Disability or Chronic Illness (D/CI) and young people's age of sexual initiation. No association was found between early or very early sexual initiation and alcohol consumption for either boys or girls.

Predictors of very early initiation (age <14)

Multivariate analysis was conducted to identify the socio-demographic and lifestyle predictors of participants who had engaged in sexual intercourse before age 14 (very early initiation). Those who had engaged very early initiation were more likely to live in rural areas, to have reported taking medication for psychological symptoms, reported regularly bullying others and had higher cannabis and alcohol involvement. Those who reported better communication with friends, who experienced negative physical and psychological symptoms and who attended more health visits (e.g., doctor and dentist) were less likely to report very early initiation.

Contraceptive use

Data reported for contraceptive methods used at last sexual intercourse are taken only from participants who reported ever having had sexual intercourse (28.8% of boys and 22.8% of girls). Sexually active participants were divided into three categories according to their reported contraceptive use at last intercourse; those engaging in unprotected sex (no method of contraception), those using one method of reliable contraception (either condom or birth control pill) and those using dual methods of contraception (both condom and pill).

Among those participants who reported having engaged in sexual intercourse, boys were more likely to reported using no method of contraception at last intercourse whereas girls were more likely to report using dual methods of contraception at last intercourse (condom and birth

control pill combined). The youngest participants (15 year olds) were more likely to report engaging in unprotected sex at last intercourse whereas the oldest adolescents (18 year olds) were more likely to report the dual use of contraception. Girls from families with lower levels of family affluence reported higher levels of engagement in unprotected sex at last intercourse as did boys who reported using cannabis in the last 30 days. There were no associations between the contraceptive methods used at last intercourse and participants' social class, rurality or household composition. Neither were there significant associations between contraceptive methods and participants experience of Disability/Chronic Illness, being a member of the Traveller community and alcohol consumption or smoking behaviour.

Predictors of contraceptive use

Multivariate analyses identified the socio-demographic and lifestyle predictors of contraceptive use among those participants who reported ever having engaged in sexual intercourse. Those who had last engaged in sexual intercourse without the use of dual methods (both pill and condom) were more likely to be young, male and to report higher alcohol involvement. Those who had last engaged in sexual intercourse without the use of condoms were more likely to have reported taking medication for physical symptoms. Those who were more physically active and who reported more parental influencing behaviours (e.g., tooth brushing and seatbelt wearing) were less likely to have last engaged in intercourse without using a condom.

CHAPTER 1. INTRODUCTION

1.1 Background

The Health Behaviour in School-aged Children (HBSC) study is a WHO cross-national research project that aims to increase the understanding of young people's health, well-being and behaviours, including sexual behaviours. Internationally comparable data are collected from over 200,000 students aged 11, 13 and 15 year olds every four years across 43 participating countries. Compared to the international research, data collection in Ireland is extended to include young people aged 9 to 18 years. The findings are used to inform and influence population health, health services and health education policy and practice at local, national and international levels.

The inclusion of four sexual behaviour questions has been mandatory for 15 year old participants in the HBSC study since 2002. These questions were derived from the Youth Risk Behaviour Surveillance (YRBS) (Brener *et al.*, 2004; Grunbaum *et al.*, 2002; Kolbe, Kann, & Collins, 1993) and from reviews and analyses of sexual health optional packages from previous HBSC surveys. These sexual health items have therefore been used in previous adolescent sexual health research and have also been subjected to qualitative pilot tests in a number of HBSC countries including Ireland prior to inclusion in the mandatory questionnaire. For practical, political and ethical reasons, these questions have only been included as mandatory in the Irish study since 2010. The national advisory group for the 2010 HBSC survey round successfully advocated for the inclusion of all four mandatory sex questions in the 2010 survey. Research Ethics Committee approval was granted for the collection of these data from children aged 15 years and over. The sexual health section of the 2010 HBSC Ireland survey included questions on the experience of sexual intercourse, age at first sexual intercourse, and the use of methods to prevent pregnancy at the last sexual intercourse and the use of condoms to prevent STIs at last sexual intercourse. These items were asked only of students from the 15 year-old age plus group as the vast majority of younger adolescents are less likely to have experienced sexual intercourse and to avoid potential objection from parents and school management teams.

This report explores the findings from the 2010 HBSC Ireland study with specific focus on the newly introduced sexual behaviour questions. Interest and demand for national data on adolescent sexual health and behaviour has been previously highlighted (Layte *et al.*, 2005; National Children's Office, 2005). Data have been collected on the sexual health of the Irish adult population (Shiely *et al.*, 2004), and while retrospective data on adolescent sexual behaviour is available (e.g., Layte *et al.*, 2006), as well as some regional and local studies (e.g., Bonner, 1996; McHale & Newell, 1997), never before have nationally representative data been collected directly from children on their sexual health and behaviour. This report provides information on the patterns of sexual behaviour of the Irish adolescent population in terms of sexual intercourse, age of sexual initiation and contraceptive use. These behaviours are

explored in relation to a number of socio-demographic factors and characteristics such as age, social status, family affluence, rurality, ethnicity, disability status, traveller status, household composition and engagement in other risk behaviours. Through the use of regression analyses the relationships between these characteristics and adolescents' sexual behaviours is also explored. One of the aims of these analyses was to investigate possible factors that may predict sexual risk behaviours such as early sexual initiation and failure to use contraception. This report and series of analyses are explicitly designed to mirror the work conducted by Shiely and colleagues (2004) as part of their secondary analysis of the 1998 and 2002 SLAN studies.

The findings are presented below in 7 chapters. Chapter 1 is an introduction to the analysis detailing the methods employed. Chapter 2 presents the prevalence of sexual intercourse for Irish adolescents and the socio-demographic and lifestyle factors that relate to sexual behaviour. Chapter 3 presents data on the socio-demographic and lifestyle factors that relate to Irish adolescents' age of sexual initiation. Chapter 4 considers the prevalence of adolescents' contraceptive use and presents the socio-demographic and lifestyle factors that relate to contraceptive use at last intercourse. Chapter 5 presents a multivariate analysis of the predictors of sexual intercourse, very early age of sexual initiation and contraceptive use. Concluding comments are contained in Chapters 6 and 7.

1.2 Methods of the Health Behaviour in School-Aged Children (HBSC) Ireland study

1.2.1 Procedures

Sampling for the HBSC Ireland 2010 study was conducted to reflect a representative proportion of children in Ireland. Census data were used to indicate population distribution across geographic regions. The sampling frame consisted of both primary and post-primary schools, lists of which were provided by the Department of Education and Skills (formerly Education and Science). Schools within geographical regions were randomly selected for participation, followed by the random selection of class groups within schools. In primary schools, sampling consisted of 3rd to 6th class, whereas in post-primary schools, all classes were sampled, with the exception of Leaving Certificate groups.

School principals were approached by post and following positive responses, HBSC questionnaires were offered in English or Irish. Questionnaires were provided to students along with blank envelopes to facilitate anonymity, information sheets for teachers, parental consent forms and classroom feedback forms. A helpline was established in NUI, Galway to manage general queries surrounding questionnaire completion. All returns were facilitated through the provision of FREEPOST envelopes. Postal reminders were dispatched to schools followed by telephone calls from research staff at the Health Promotion Research Centre, NUI Galway in order to maximise response rates. Data were entered according to the International HBSC protocol (see www.hbsc.org). A total of 256 schools were recruited with a response rate of

67%. Overall, 16,060 school children took part in the HBSC 2010 survey with a response rate of 85%.

1.3 Methodology for secondary analysis for this study

1.3.1 Procedures

The objective of this report was to undertake a detailed quantitative analysis of the 2010 Irish Health Behaviour in School-Aged Children (HBSC) data on the sexual behaviour of young people aged 15-18. Where possible, the analysis followed those conducted by Shiely *et al.*, (2004) which explored sexual health patterns within the Irish adult population. The report used the methodological framework reported by Shiely *et al.*, (2004), however differences in the nature of the sample and the data collected prevented a direct replication.

Prior to analysis it was necessary to consider the representativeness of the sample. It is acknowledged that the data is not spread equally over 15-18 year old students. The sample size for 18 year olds is the smallest and is not likely to be representative of 18 year olds in the population. This group however represent 18 year olds who are still attending post-primary education and may therefore be of particular interest. The 15-18 year old subset of the HBSC sample used in this analysis does however represent the structure of the overall HBSC sample. On further inspection of the sample analysed in this report, the social class ($\chi^2=8.125$, $df=6$, $p>0.05$) and urban rural ($\chi^2=4.296$, $df=3$, $p>0.05$) profiles of the participants do not vary by age.

The primary sampling unit for data collection in the HBSC was at a classroom level. It is possible that there may be an impact of classroom clustering which may influence the independence of pupil responses and lead to underestimation of standard errors and type II mistakes. The potential impact of clustering had previously been considered in relation to HBSC data (e.g., Walsh, Molcho, Dineen, Kelleher & Nic Gabhainn, 2008). The design effects (i.e., the impact of student independence) for individual questions have therefore been identified, with variables measuring school context, friendship groups and risk behaviours displaying the largest design effects. However, for the purposes of this analysis, it is important to recognise that at senior level pupils tend to move from class to class depending on their academic subject choices and level of attainment. This is likely to reduce the influence of peers at a classroom level. In addition, 55% of the students were clustered in classes of less than 20 pupils, therefore a stable design effect could not be calculated. Nevertheless, for the purposes of the analyses reported here, clustering was accounted for based the Primary Sampling Unit (classrooms) using the Complex Samples function on SPSS.

For the purposes of analysis it was necessary to identify and manage inconsistencies in the data. In general, inconsistent or unfeasible responses resulted in exclusion from the analyses. For example, students who did not report engaging in sexual intercourse but who reported an

age of first sexual intercourse and/or the use of contraceptive methods at last intercourse were recorded as never having engaged in sexual intercourse. Students who reported condom use on either question relating to condom use (for STI prevention or for pregnancy prevention) were credited with condom use at last intercourse. For some questions (e.g., contraceptive use at last intercourse), respondents were asked to select all applicable options. These responses are not mutually exclusive and consequently the results for those questions did not total 100%. Additional constraints were imposed by the structure of the data. The youngest participants answering questions about sexual behaviour were those aged 15 years. Early sexual initiation was therefore defined in relation to sexual intercourse occurring at age 15 years old or younger.

The analysis first explored the patterns in sexual intercourse, age of initiation and contraceptive use according to gender and age. Following the identification of gender and age differences, separate analyses were conducted for boys and girls. The analysis then focused on the patterns of adolescents' sexual intercourse, age of initiation and contraceptive use at last intercourse in relation to potential determinants including social class, family affluence, rurality, disability status, traveller status, household composition and engagement in other risk behaviours. Following this exploration, a series of logistic regression analyses were conducted to establish the relative relationships between different socio-demographic and lifestyle factors and sexual intercourse, age of sexual initiation and contraceptive use at last intercourse.

Table 1.1 presents the age and gender profile of respondents. The sample contained slightly more boys than girls, but overall the profiles for each gender are similar in distribution. The distribution of boys and girls in each age category was relatively similar. Further details on the sample can be found in the 2010 HBSC Main Study report (Kelly *et al.*, 2012).

Table 1.1: Percentage age and gender distributions of HBSC Ireland 2010

	Gender	
	Boys % (n)	Girls % (n)
15 years	23.6 (1055)	20.5 (918)
16 years	18.8 (841)	16.7 (747)
17 years	9.8 (438)	7.9 (353)
18 years	1.7 (74)	1.2 (53)
% of total sample	53.8 (2408)	46.2 (2071)

1.3.2 Questions

The analysis was conducted on four sexual behaviour questions. These questions were designed to measure the proportion of students who had engaged in sexual intercourse, the age of sexual initiation and the extent to which students are protected against pregnancy and sexually transmitted infections (STIs). Engagement in sexual intercourse was measured by asking students 'Have you ever had sexual intercourse? (Sometimes this is called "making love", "having sex" or "going all the way").' Participants were not however provided with an anatomical definition of sexual intercourse. The age of sexual initiation of sexually active

participants was measured using the question ‘How old were you when you had sexual intercourse for the first time?’.

In order to address pregnancy prevention, participants were asked ‘The last time you had sexual intercourse, what method(s) did you or your partner use to prevent pregnancy?’ Possible response options included two reliable methods of contraception - ‘birth control pills’ and ‘condoms’ and one non-reliable but frequently reported method - ‘withdrawal’. In addition, the response options ‘other’, ‘no method was used to prevent pregnancy’ and ‘not sure’ were offered and participants were provided with space to report other methods of pregnancy prevention used at last intercourse. Participants were also questioned specifically on condom use ‘The last time you had sexual intercourse, did you or your partner use a condom?’. For the purpose of the analyses, participants who reported condom use in either of the contraceptive questions were credited with having used a condom at last intercourse.

Socio-demographic and lifestyle questions including those measuring gender, age, social class, family affluence, rurality, disability status, traveller status, household composition and engagement in other risk behaviours were included in the analyses. Social class was represented by SC 1-2, SC 3-4 and SC 5-6 corresponding to high, middle and low social classes respectively. The Central Statistics Office (CSO, 1986) measure of social classification (occupation and income level of respondent) was used to identify social class for each respondent. In the case of the HBSC study social class was determined by parental occupation and used the highest social class available for each respondent. The HBSC Family Affluence Scale (FAS) (Currie, Molcho, Boyce, Holstein, Torsheim & Richter, 2008) is a measure of household material wealth. It is based on a set of questions on the material conditions of the households in which participants live, including car ownership, bedroom occupancy, holidays and home computers. A composite score is calculated for each participant providing values of low, middle and high family affluence.

These variables were first considered in relation to ever having had sexual intercourse, age of initiation and contraceptive use and were subsequently entered into regression analyses. Other items relating to key dimensions of adolescent life (e.g., health, lifestyle behaviours and sociocultural factors) were also considered in a series of multivariate analyses as described below.

1.3.3 Statistical methods

The Complex Samples function on SPSS was used to run the following analysis. The data were stratified by health board; with classroom as the primary sampling unit. Chi-square tests were used to test for relationships between categorical variables with $\alpha = 5\%$ and are reported below with chi-square values and p-values.

Prior to conducting the logistic regressions, Categorical Principle Components Analysis (CatPCA) was conducted as outlined by Linting and Van Der Kooij (2012). The purpose of the CatPCA is to reduce an original larger set of categorical variables into a smaller, linear set of

uncorrelated components that represent most of the variance. The analysis enables the interpretation of a smaller number of factors as opposed to a larger number of individual variables. The analysis was designed to replicate the work conducted by Shiely *et al.* (2004). CatPCA was conducted on individual variables relating to the dimensions of health, positive lifestyle behaviours, negative lifestyle behaviours and the socio-cultural environment in which adolescents live. These domains were selected to reflect those adopted by Shiely *et al.* (2004). Items related to each dimension were first identified then entered into a CatPCA. Categorical Principle Components Analysis (CatPCA) was then conducted on groups of items in each of these candidate domains. All meaningful explanatory factors were extracted for each domain. As outlined by Linting and Van Der Kooij (2012) rotation was performed by submitting the transformed variables to a linear PCA with varimax rotation. The final factors identified in the PCA were saved as regression factors and included in the binary logistic regressions.

Binary logistic regressions were conducted to examine the predictors of sexual intercourse, age of initiation and contraceptive non-use. Regression analyses were conducted separately for boys and girls where sample sizes allowed. Dependent variables were dichotomised prior to analysis and tests of multicollinearity were not violated.

CHAPTER 2. PREVALENCE OF SEXUAL INTERCOURSE

2.1 Prevalence of sexual intercourse

Sexual intercourse was determined by students' reports of whether they have ever engaged in sexual intercourse. The prevalence of sexual intercourse was first considered in relation to participants' gender and age. Table 2.1 presents the percentage of boys and girls who have had sex by age group and gender.

Table 2.1: Percentage reporting sexual intercourse by age and gender

	Gender	
	Boys % (n)	Girls % (n)
15 years old	26.5 (243)	16.2 (136)
16 years old	25.7 (196)	21.9 (155)
17 years old	38.4 (155)	37.2 (124)
18 years old	37.3 (25)	54.5 (24)
% of total sample	28.8 (619)	22.8 (439)

A significant difference was identified between genders ($\chi^2=18.69$, $p<0.001$). A higher proportion of boys reported having had sexual intercourse (28.8%) compared to girls (22.8%). Experience of sexual intercourse differed significantly by age for both boys ($\chi^2=26.40$, $p<0.001$) and girls ($\chi^2=85.56$, $p<0.001$) with older adolescents reported a higher incidence of sexual intercourse.

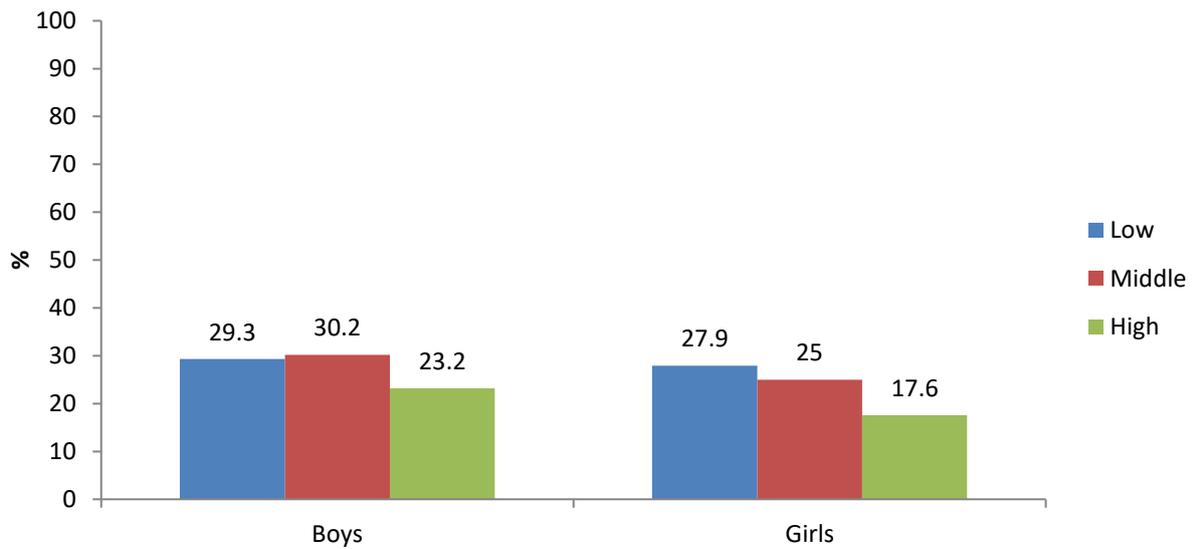
2.2 Influencing factors on sexual intercourse

This section explores the relationship between the socio-demographic and lifestyle characteristics of those adolescents who had reported engaging in sexual intercourse.

2.2.1 Social class

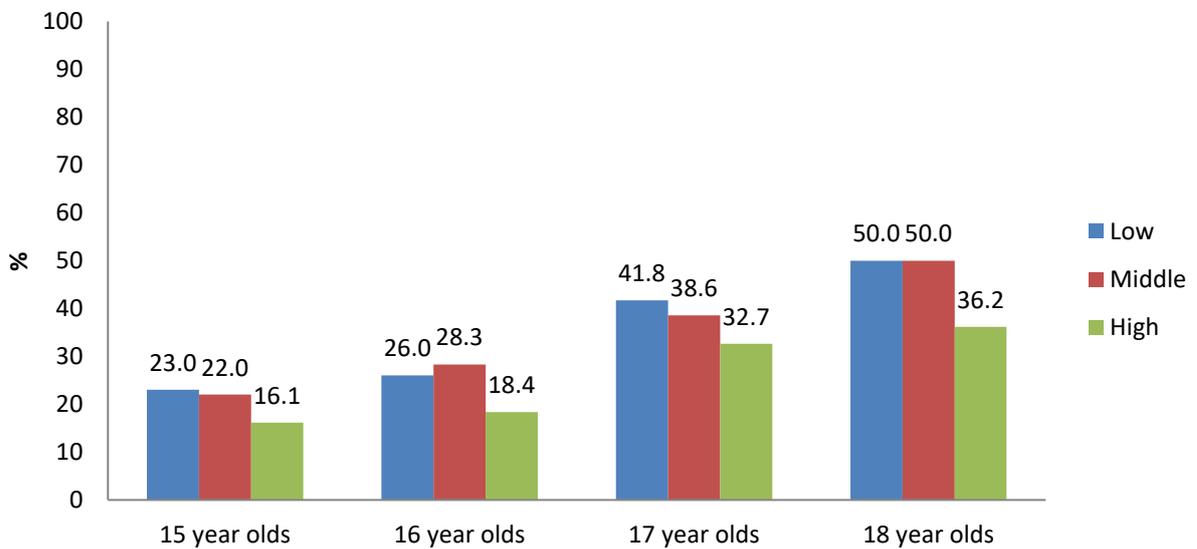
Social class was represented by SC 1-2, SC 3-4 and SC 5-6 corresponding to high, middle and low social class respectively. The categories used for social class were determined by parental occupation. Social class was determined by using the highest social class available for each respondent. There was a significant association between social class and experience of sexual intercourse for both boys ($\chi^2=10.64$, $p<0.01$) and girls ($\chi^2=17.55$, $p<0.001$). For boys, around equal proportions of the low (29.3%) and middle (30.2%) social class groups reported sexual intercourse, compared to 23.2% of the high class groups. A similar pattern was identified for girls; 27.9% of the low social class group reported sexual intercourse compared to 25% and 17.6% of the middle and high social class groups respectively (Figure 2.1).

Figure 2.1: Percentage reporting sexual intercourse by social class and gender



Significant social class differences in sexual intercourse were present in those aged 15 ($\chi^2=9.15$, $p<0.05$) and 16 ($\chi^2=16.27$, $p<0.001$) years old. These differences were not found for adolescents older than 16 years (Figure 2.2).

Figure 2.2: Percentage reporting sexual intercourse by social class and age



2.2.2 Family affluence

The Family Affluence Scale was used as a measure of family material wealth. Four items asked students questions they are likely to know about their family relating to cars, bedrooms, holidays and computers. A composite score was calculated for each participant. Family affluence was significantly associated with girls ($\chi^2=14.66$, $p<0.01$) reported sexual intercourse. For girls, 29.9% of the low affluent group had engaged in sexual intercourse

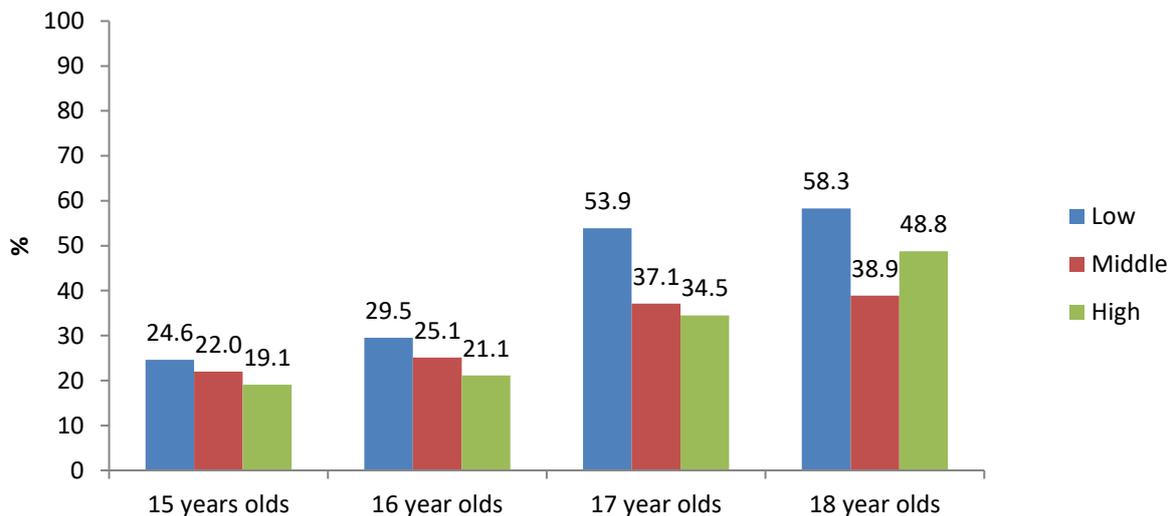
compared to 25.2% and 19.3% of the middle and high affluent groups (Figure 2.3). There was no significant association between family affluence and reported sexual intercourse for boys ($\chi^2=6.02$, $p>0.05$).

Figure 2.3: Percentage reporting sexual intercourse by family affluence and gender



Family affluence differences in sexual intercourse were identified in 17 ($\chi^2=10.02$, $p<0.01$) year old adolescents. No differences in sexual intercourse were identified by family affluence for those aged 15, 16 or 18 years old (Figure 2.4).

Figure 2.4: Percentage reporting sexual intercourse by family affluence and age



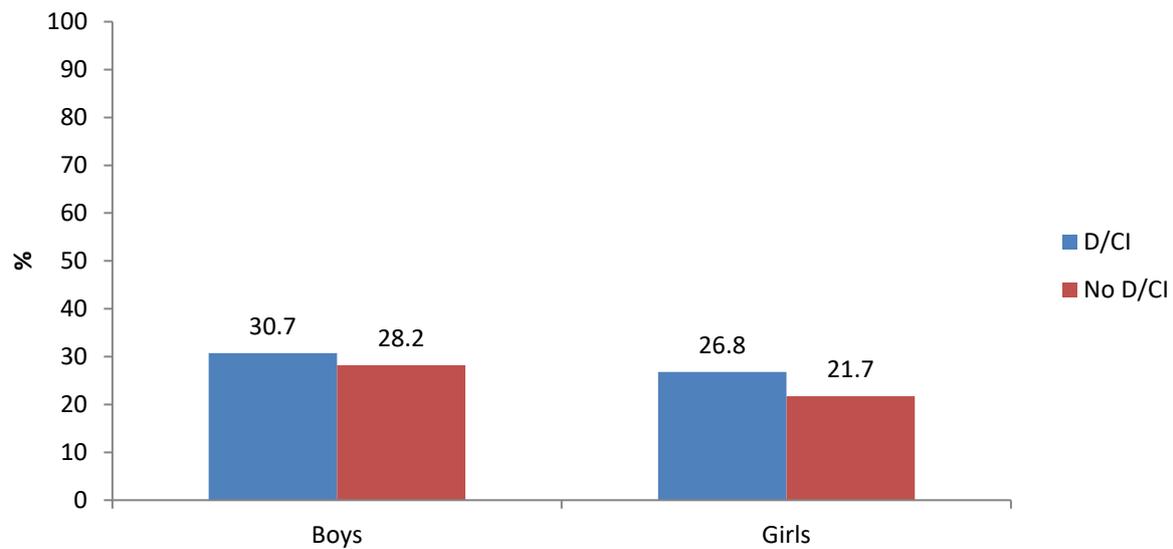
2.2.3 Rurality

No association was identified between adolescents' urban or rural status and whether they had ever had sex.

2.2.4 Disability or Chronic Illness (D/CI)

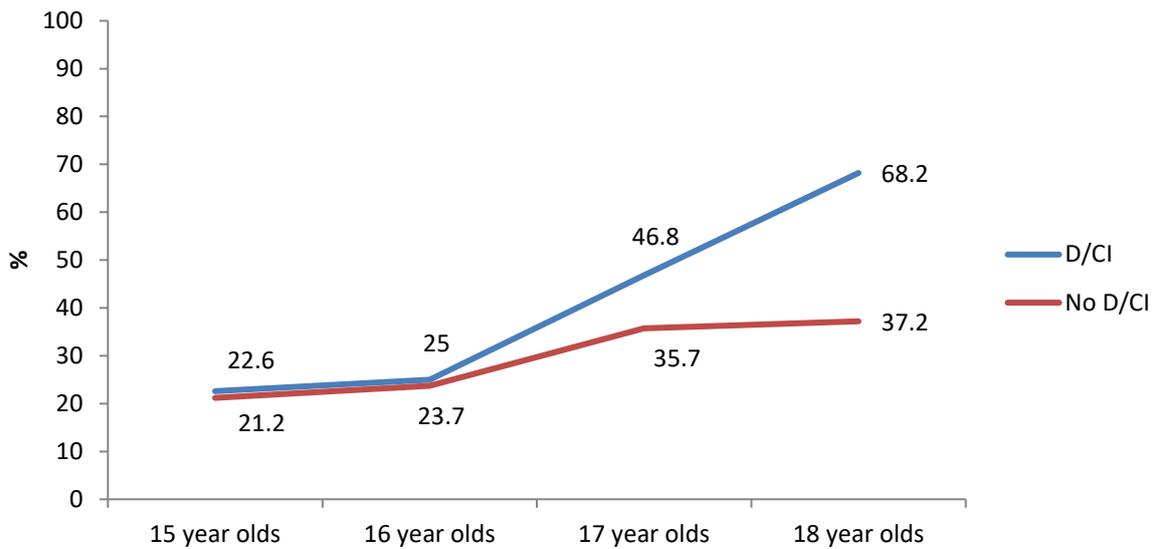
Across the sample 21% of boys and 19.8% of girls reported having a Disability and/or Chronic Illness. No significant association was identified between D/CI and boys reported sexual intercourse ($\chi^2=1.11$, $p>0.05$) however disability status was significantly associated with girls sexual intercourse ($\chi^2=4.55$, $p<0.05$). A higher percentage of girls with a Disability or Chronic Illness reported engaging in sexual intercourse (26.8%) compared to girls without D/CI (21.7%) (Figure 2.5).

Figure 2.5: Percentage reporting sexual intercourse by D/CI and gender



D/CI was significantly associated with reported sexual intercourse for adolescents aged 17 years old ($\chi^2=6.30$, $p<0.05$) and 18 years old ($\chi^2=6.84$, $p<0.05$). A higher percentage of those reporting D/CI had engaged in sexual intercourse compared to those with no D/CI. No difference was identified for those aged 15 or 16 years old (Figure 2.6).

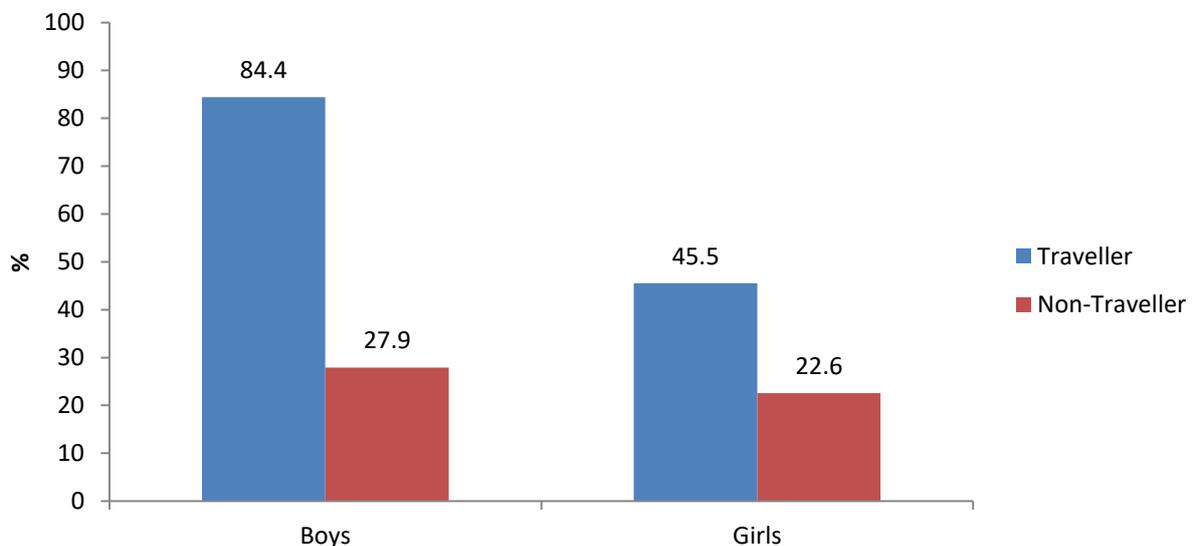
Figure 2.6: Percentage reporting sexual intercourse by D/CI and age



2.2.5 Traveller status

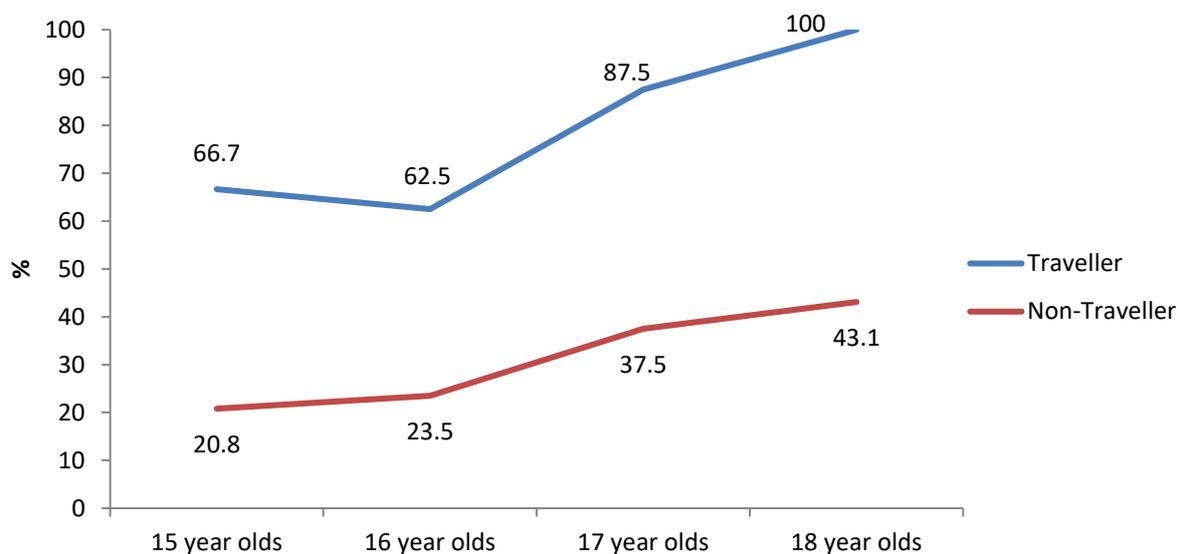
Across the sample 1.6% of boys and 1.1% of girls reported that they were members of the Travelling community. The very low number of participants from Traveller communities means that caution must be exercised in interpreting these findings. Traveller status was significantly associated with reported sexual intercourse for both boys ($\chi^2=51.43$, $p<0.001$) and girls ($\chi^2=6.46$, $p<0.01$). Among boys, 84.8% of those from the Travelling community had engaged in sexual intercourse compared to 27.9% of non-travellers. A similar, though less extreme pattern, was identified for girls with 45.5% of girls from the Travelling community reporting that they had engaged in sexual intercourse compared to 22.6% of non-travellers (Figure 2.7).

Figure 2.7: Percentage reporting sexual intercourse by traveller status and gender



The association between Traveller status and reported sexual intercourse was present for those aged 15 ($\chi^2=36.50$, $p<0.001$), 16 ($\chi^2=13.18$, $p<0.001$) and 17 years old ($\chi^2=8.41$, $p<0.01$), but not for participants aged 18 years old (Figure 2.8).

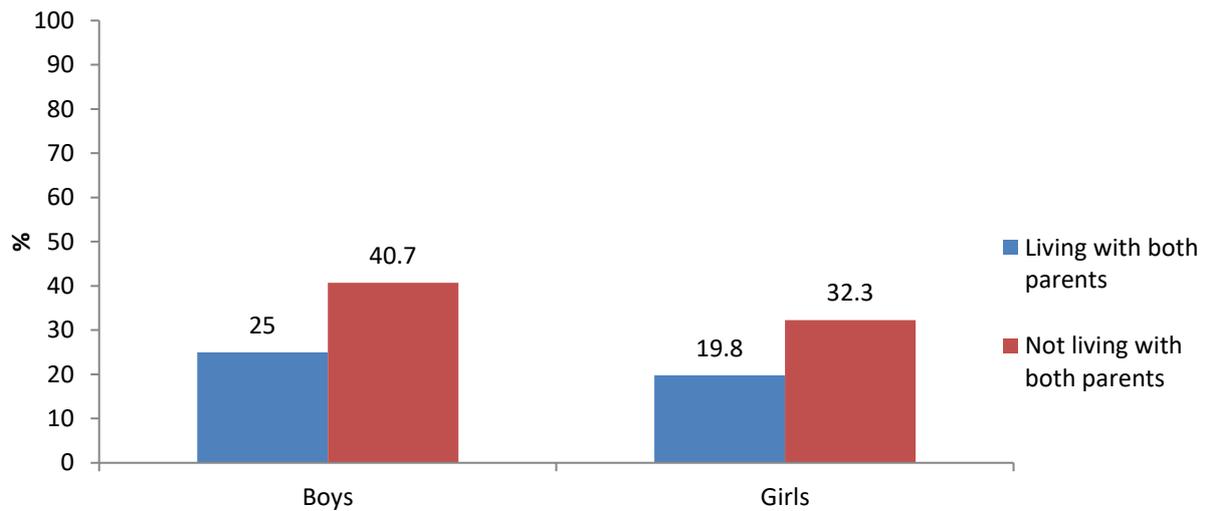
Figure 2.8: Percentage reporting sexual intercourse by traveller status and age



2.2.6 Household composition

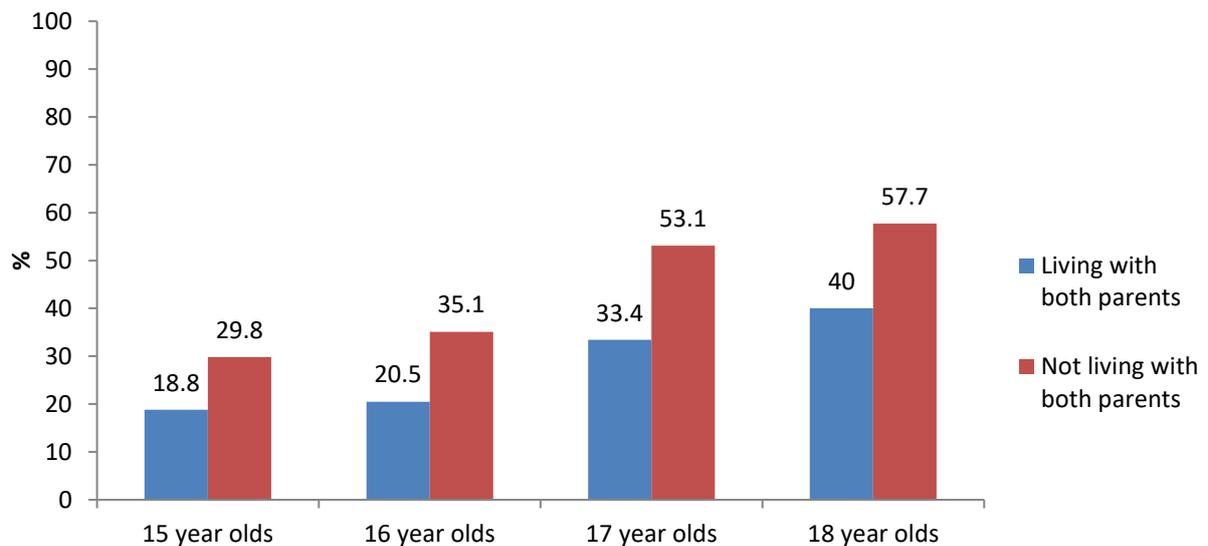
Household composition was measured by distinguishing between those who lived with both parents and those who did not. Within the sample 25.5% of boys and 25% of girls reported not living with both parents. Household composition was significantly associated with reported sexual intercourse for both boys ($\chi^2=45.94$, $p<0.001$) and girls ($\chi^2=31.32$, $p<0.001$). A higher percentage of boys (40.7%) and girls (32.3%) who did not live with both parents reported having engaged in sexual intercourse compared to boys (25%) and girls (19.8%) who lived with both parents (Figure 2.9).

Figure 2.9: Percentage reporting sexual intercourse by household composition and gender



The significant relationship between household composition and reported adolescent sexual intercourse was identified for those aged 15 ($\chi^2=23.75$, $p<0.001$), 16 ($\chi^2=29.56$, $p<0.001$) and 17 ($\chi^2=22.12$, $p<0.001$) years old but not for those aged 18 years old (Figure 2.10).

Figure 2.10: Percentage reporting sexual intercourse by household composition and age



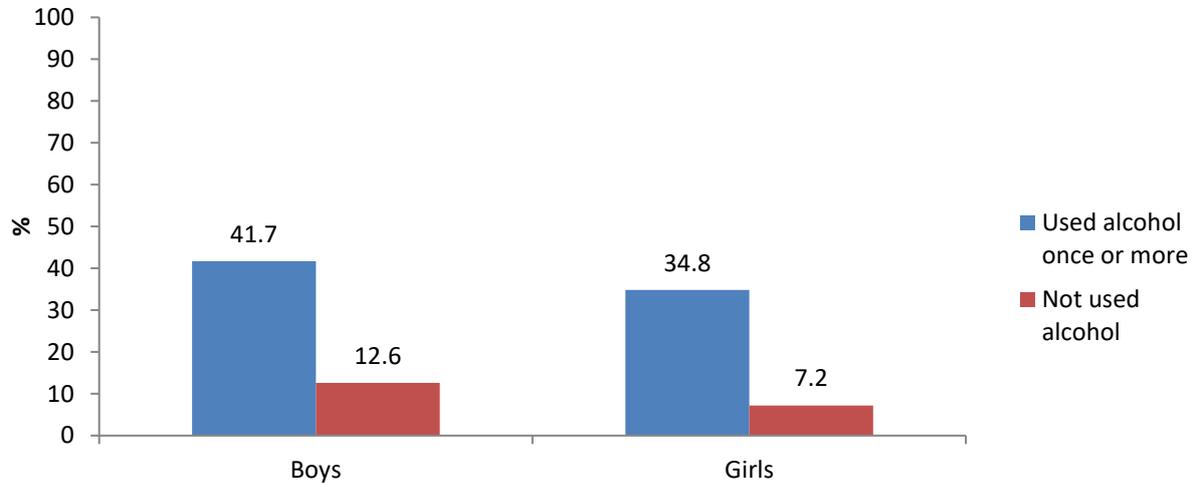
2.2.7 Risk behaviours

Alcohol use in the last 30 days

There was a significant association between boys ($\chi^2=216.20$, $p<0.001$) and girls ($\chi^2=201.52$, $p<0.001$) reported alcohol consumption in the last 30 days and reported experience of sexual intercourse. A higher percentage of boys (41.7%) and girls (34.8%) who reported drinking alcohol in the last 30 days also reported ever having sexual intercourse, compared to those boys

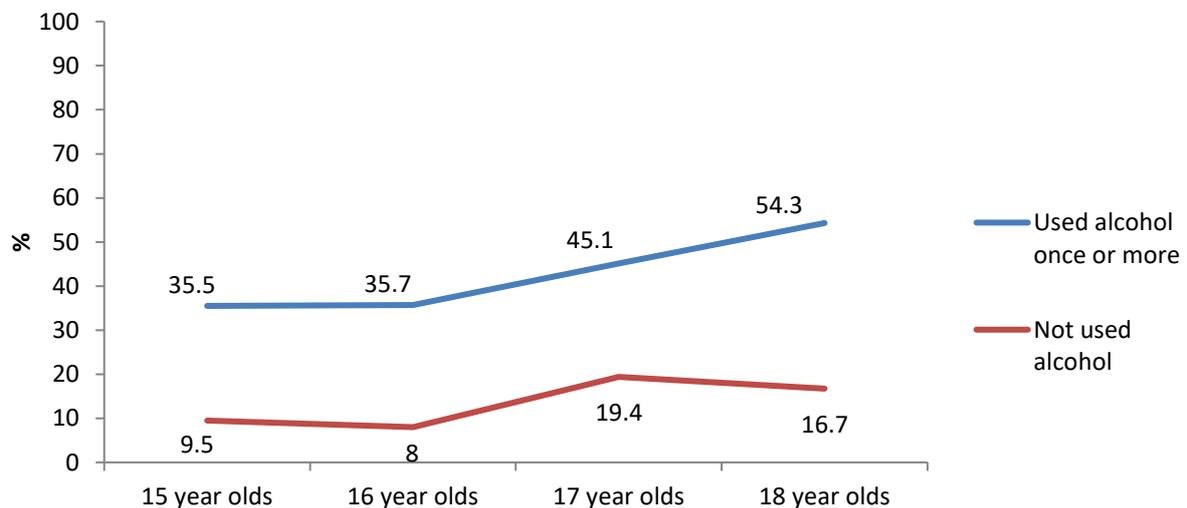
(12.6%) and girls (7.2%) who reported no alcohol consumption in the last 30 days (Figure 2.11).

Figure 2.11: Percentage reporting sexual intercourse by alcohol use in the last 30 days and gender



The association between alcohol consumption and sexual intercourse was significant for adolescents aged 15 years old ($\chi^2=172.31$, $p<0.001$), 16 years old ($\chi^2=149.45$, $p<0.001$), 17 years old ($\chi^2=41.60$, $p<0.001$) and 18 years old ($\chi^2=12.59$, $p<0.01$) (Figure 2.12).

Figure 2.12: Percentage reporting sexual intercourse by alcohol use in the last 30 days and age

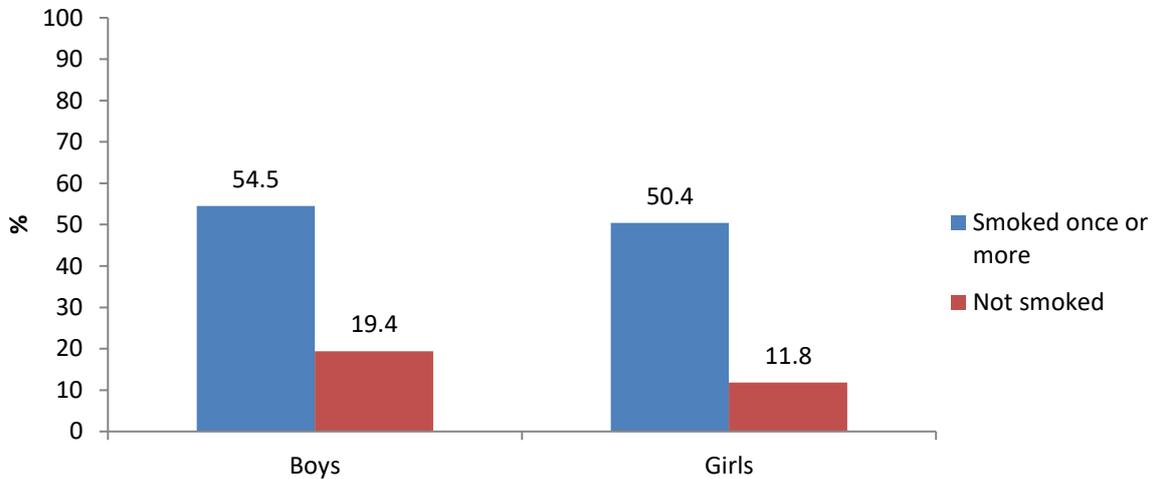


Smoking in the last 30 days

There was a significant association between smoking status and both boys ($\chi^2=246.41$, $p<0.001$) and girls ($\chi^2=326.03$, $p<0.001$) reported sexual intercourse. A higher percentage of both boys (54.5%) and girls (50.4%) who reported smoking once or more in the last 30 days

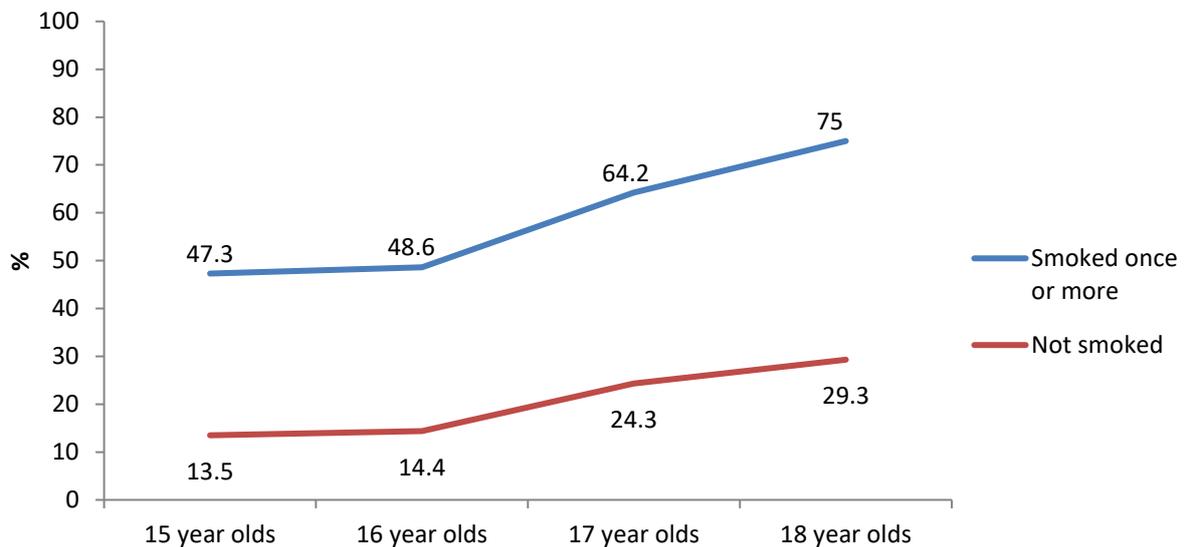
reported ever engaging in sexual intercourse compared to boys (19.4%) and girls (11.8%) who had not smoked in the last 30 days (Figure 2.13).

Figure 2.13: Percentage reporting sexual intercourse by smoking status in the last 30 days and gender



The association between smoking status and reported sexual intercourse was found for 15 year old students ($\chi^2=212.86$, $p<0.001$), 16 year old students ($\chi^2=187.13$, $p<0.001$), 17 year old students ($\chi^2=110.97$, $p<0.001$) and 18 year old students ($\chi^2=20.57$, $p<0.001$) (Figure 2.14).

Figure 2.14: Percentage reporting sexual intercourse by smoking status in the last 30 days and age

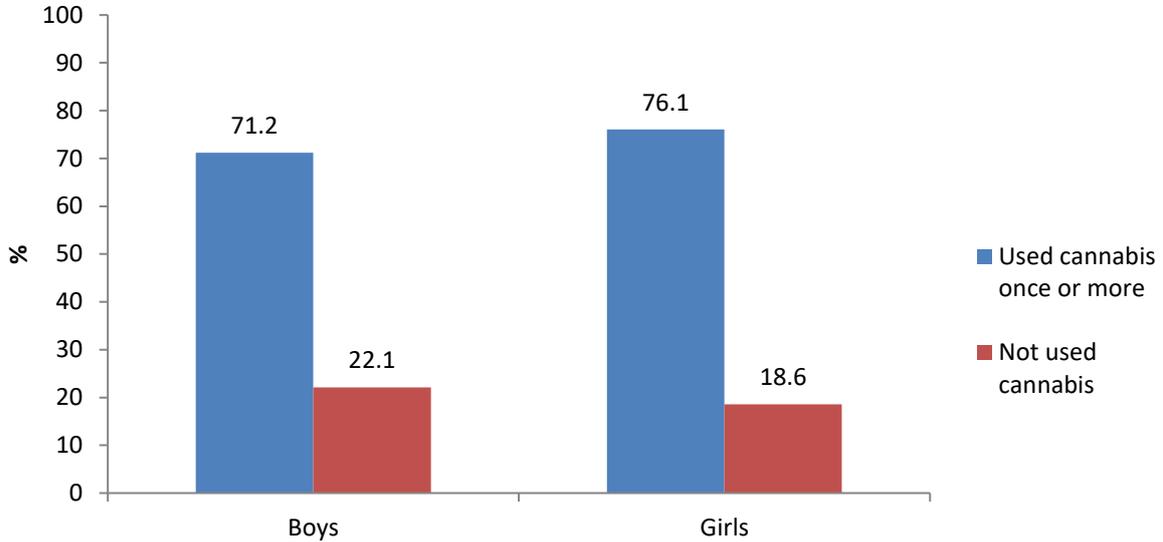


Cannabis use in the last 30 days

Reported sexual intercourse was associated with boys ($\chi^2=252.37$, $p<0.001$) and girls ($\chi^2=207.06$, $p<0.001$) cannabis use. A higher percentage of boys (71.2%) and girls (76.1%) who reported using cannabis once or more in the last 30 days also reported ever having engaged

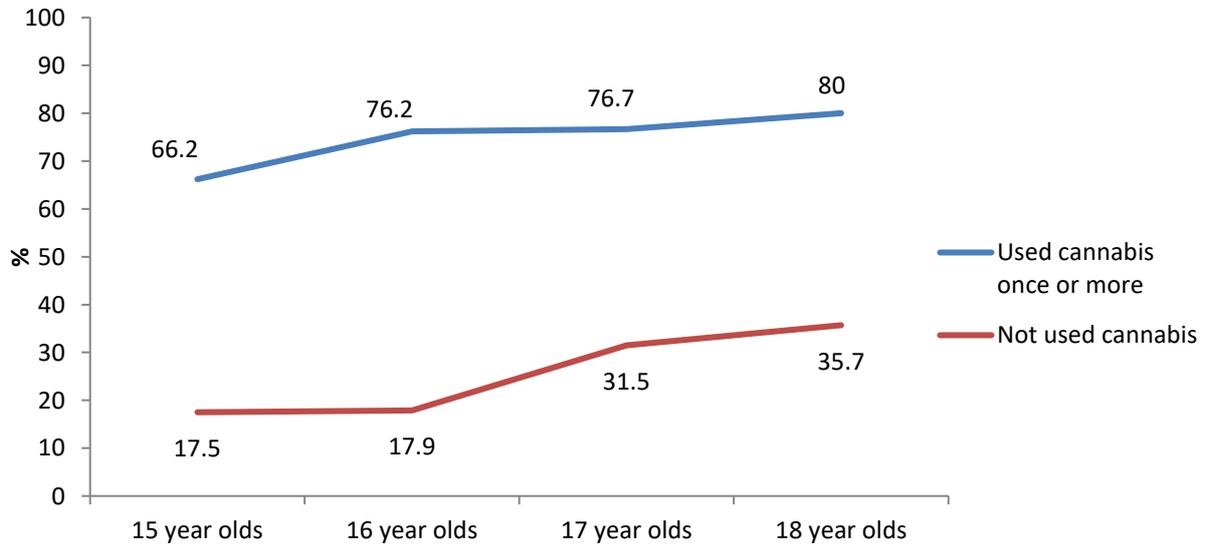
in sexual intercourse compared to boys (22.1%) and girls (18.6%) who reported that they had not used cannabis in the last 30 days (Figure 2.15).

Figure 2.15: Percentage reporting sexual intercourse by cannabis use in the last 30 days and gender



The relationship between cannabis use and sexual intercourse was found for all ages; 15 years old ($\chi^2=171.324$, $p<0.001$), 16 years old ($\chi^2=212.18$, $p<0.001$), 17 years old ($\chi^2=67.70$, $p<0.001$) and 18 years old ($\chi^2=10.22$, $p<0.01$) (Figure 2.16).

Figure 2.16: Percentage reporting sexual intercourse by cannabis use in the last 30 days and age



CHAPTER 3. SEXUAL INITIATION

3.1 Sexual initiation

3.1.1 Age of sexual initiation

Age of sexual initiation was considered in relation to participants' gender. Table 3.1 presents the percentage of boys and girls by their age of reported sexual initiation.

Table 3.1: Reported age of sexual initiation by gender

	Boys cumulative % (n)	Girls cumulative % (n)
11 years old or younger	3.5 (69)	1.0 (18)
12 years old	4.7 (93)	1.8 (32)
13 years old	7.1 (141)	3.2 (59)
14 years old	12.9 (254)	8.2 (150)
15 years old	21.4 (426)	16.5 (300)
16 years old	27.5 (540)	22.0 (401)
17 years old or older	29.5 (572)	23.4 (427)

Among those who had already had sex, a significant association between gender and age of initiation was identified ($\chi^2=23.15$, $p<0.01$). Boys reported younger ages of sexual initiation compared to girls.

Age of sexual initiation was next considered in relation to the age of participants. Table 3.2 presents the percentage of 15, 16, 17, and 18 year old participants by their age of reported sexual initiation.

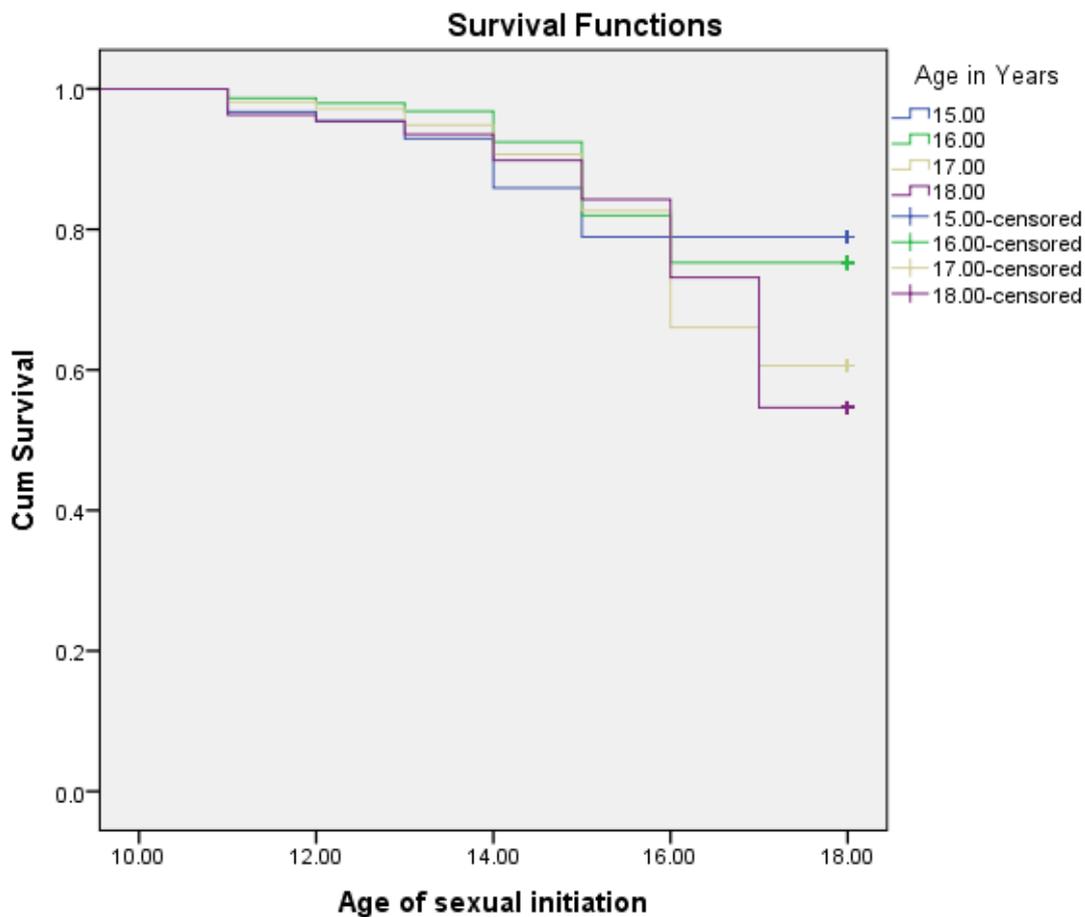
Table 3.2: Age of sexual initiation by current age

	15 years olds cumulative %(n)	16 years old cumulative %(n)	17 years old cumulative %(n)	18 years old cumulative %(n)
11 years or younger	3.3 (53)	1.3 (18)	1.9 (13)	3.7 (4)
12 years	4.6 (74)	2.0 (28)	2.9 (20)	4.6 (5)
13 years	7.1 (115)	3.2 (44)	5.2 (36)	6.5 (7)
14 years	14.0 (228)	7.5 (104)	9.3 (65)	10.2 (11)
15 years	21.0 (341)	18.0 (248)	17.3 (121)	15.7 (17)
16 years	-	24.7 (340)	34.0 (237)	26.9 (29)
17 years or older	-	-	39.4 (275)	45.4 (49)

The legal minimum age for engaging in sexual intercourse in Ireland is 17 years old. Of those participants who were 17 or 18 years old, 33% reported that they first had sex before the age of 17 years old (31.8% boys, 33.9% girls).

The information provided in Table 3.2 can be illustrated graphically in Figure 3.1 using a survival curve based on Kaplan Meier estimates. Kaplan-Meier estimates were used to take into consideration that many of the participants have not engaged in sexual intercourse at the time of participation in the questionnaire and so are censored on the right-hand side. Figure 3.1 presents the survival curves for age of sexual initiation for ages 15, 16, 17 and 18 years. The curves differ significantly and thus there was an association between participant age and age of sexual initiation ($\chi^2=79.346$, $p<0.001$).

Figure 3.1: A Kaplan-Meier survival curve representing the age of sexual initiation of adolescents by their age in years.



3.1.2 Very early and early sexual initiation

The data reported in the following section are taken only from participants aged 15-18 who reported ever having had sexual intercourse (28.8% boys, 22.8% girls). Participants who had ever had sexual intercourse were categorised into two groups based on age of sexual initiation; those who had initiated sexual intercourse early (between age 14 and 15 [14-15]) and those and those who had initiated sexual intercourse very early (before 14 [<14]).

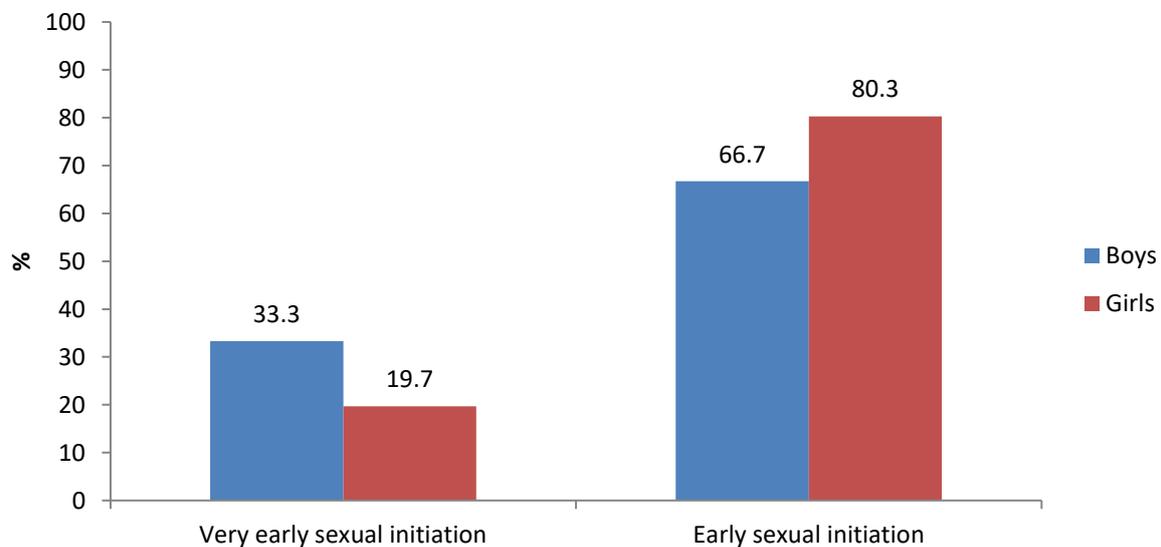
Early and very sexual initiation was first considered in relation to participants' gender and age. Table 3.3 presents the percentage of those adolescents who reported very early sexual intercourse (<14 years) by age and gender. It also presents those who reported early sexual intercourse (aged 14-15 years) by age and gender.

Table 3.3: Very early and early sexual initiation by gender and current age

	Very early sexual intercourse (<14)		Early sexual intercourse (14-15)	
	Boys cumulative % (n)	Girls cumulative % (n)	Boys cumulative % (n)	Girls cumulative % (n)
15 years old	3.6 (89)	1.3 (26)	5.1 (122)	5.0 (103)
16 years old	4.9 (119)	1.8 (38)	9.7 (233)	9.5 (196)
17 years old	5.7 (138)	2.7 (55)	11.5 (278)	11.4 (235)
18 years old	5.9 (141)	2.8 (59)	11.7 (282)	11.6 (241)

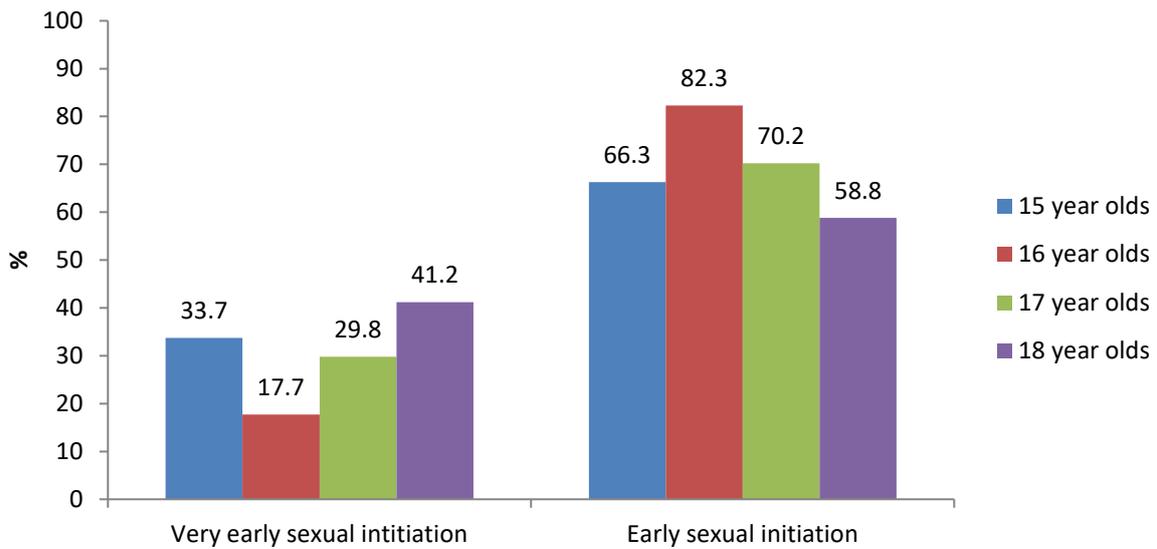
A significant difference was identified between boys and girls for early sexual intercourse ($\chi^2=16.38$, $p<0.001$). A higher proportion of boys reported very early sexual intercourse and a higher proportion of girls reported early sexual intercourse (Figure 3.2).

Figure 3.2: Early and very early sexual intercourse by gender



A significant association was identified between the current age of participants and their age of sexual initiation ($\chi^2=20.21$, $p<0.001$). Those who were aged 18 were more likely to report very early sexual initiation when compared to younger participants (Figure 3.3).

Figure 3.3: Early and very early sexual intercourse by age of participant



3.2 Influencing factors on age of sexual initiation

This section explores the relationship between the socio-demographic and lifestyle characteristics of those adolescents who have reported engaging in very early sexual intercourse (i.e., engaging in sexual intercourse before age 14).

3.2.1 Social class

There was no significant association between social class and early or very early sexual initiation for either boys ($\chi^2=2.55$, $p>0.05$) or girls ($\chi^2=0.47$, $p>0.05$).

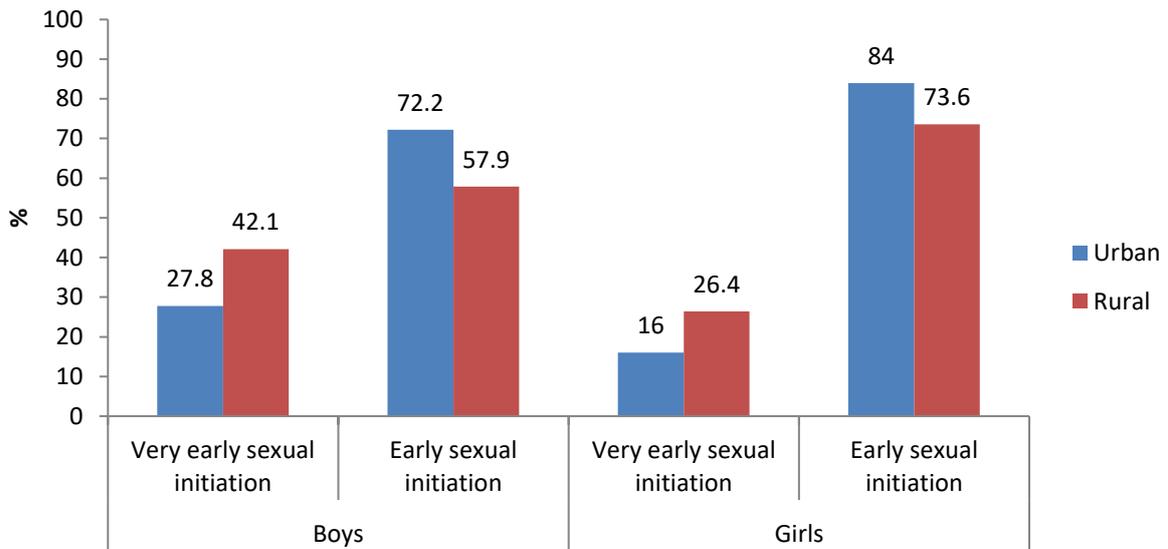
3.2.2 Family affluence

There was no significant association between family affluence and early or very early sexual initiation for either boys ($\chi^2=0.37$, $p>0.05$) or girls ($\chi^2=4.09$, $p>0.05$).

3.2.3 Rurality

A significant association was identified between urban and rural dwelling and age of sexual initiation for both boys ($\chi^2=9.21$, $p<0.05$) and girls ($\chi^2=4.73$, $p<0.05$) (Figure 3.4).

Figure 3.4: Early and very early sexual intercourse by urban – rural status and gender



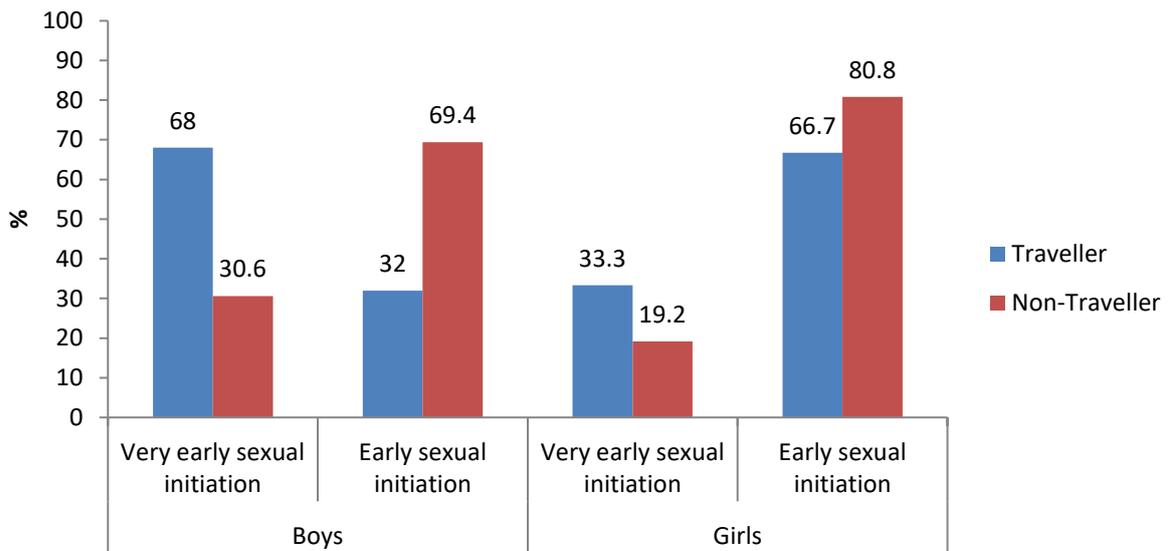
3.2.4 Disability/Chronic Illness

No significant association was identified between D/CI status and early or very early sexual initiation for boys ($\chi^2=0.52$, $p>0.05$) or girls ($\chi^2=0.51$, $p>0.05$).

3.2.5 Traveller status

There was a significant association between early or very early sexual initiation and being a member of the Travelling community for boys ($\chi^2=14.89$, $p<0.001$). A higher proportion of boys from the Travelling community reported very early initiation compared to those who did not report traveller status (Figure 3.5). No significant association was identified for girls ($\chi^2=11.1$, $p>0.05$). The very low number of participants from Traveller communities means that caution must be exercised when interpreting these findings.

Figure 3.5: Early and very early sexual intercourse by traveller status and gender



3.2.6 Household composition

There was no significant association between household composition and early or very early sexual initiation for boys ($\chi^2=0.01$, $p>0.05$) or girls ($\chi^2=2.51$, $p>0.05$).

3.2.7 Risk behaviours

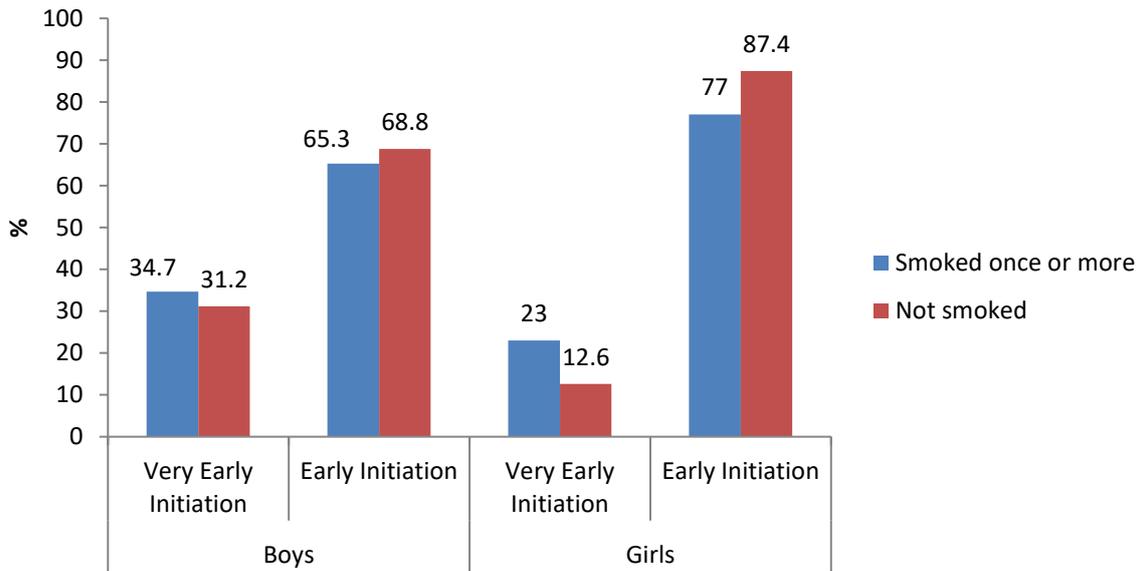
Alcohol use in the last 30 days

There was no significant association for boys ($\chi^2=0.10$, $p>0.05$) or girls ($\chi^2=0.00$, $p>0.05$) between alcohol consumption in the last 30 days and early or very early sexual initiation.

Smoking in the last 30 days

A significant association was identified between smoking in the last 30 days and early and very early sexual initiation for girls ($\chi^2=4.38$, $p<0.05$). A higher proportion of girls who reported smoking once or more in the last 30 days reported a very early age of sexual initiation compared to those who did not report smoking in the last 30 days (Figure 3.6). No significant association was identified for boys ($\chi^2=0.60$, $p>0.05$) between smoking in the last 30 days and early or very early sexual initiation.

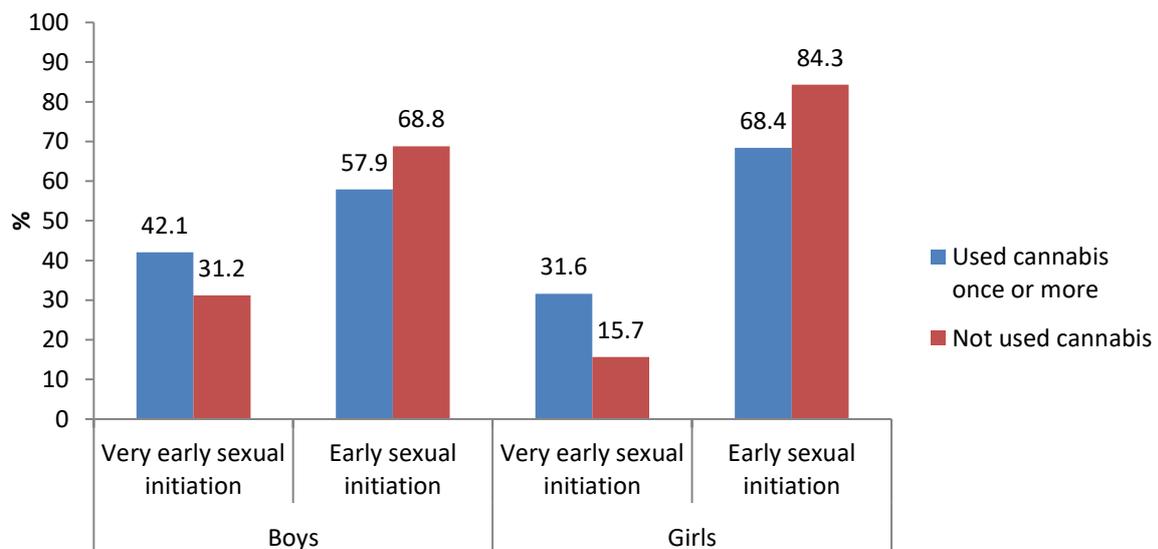
Figure 3.6: Early and very early sexual initiation by smoking status and gender



Cannabis use in the last 30 days

A significant association was identified between cannabis use in the last 30 days and early and very early sexual initiation for girls ($\chi^2=8.56$, $p<0.01$). A higher proportion of girls who reported cannabis use once or more in the last 30 days reported a very early age of sexual initiation compared to those who had not used cannabis in the last 30 days (Figure 3.7). No significant association was identified between cannabis use in the last 30 days and early and very early sexual initiation for boys ($\chi^2=4.36$, $p>0.05$).

Figure 3.7: Early and very early sexual intercourse by cannabis use and gender



CHAPTER 4. CONTRACEPTIVE USE AT LAST INTERCOURSE

4.1. Prevalence of contraceptive use at last intercourse

The data reported in this chapter are taken only from participants who reported ever having had sexual intercourse (28.8% boys, 22.8% girls). All percentages are therefore calculated from those who reported sexual intercourse at some point in their lives so far. Sexually active participants were divided into three categories according to their reported contraceptive use at last intercourse; those engaging in unprotected sex, those using one method of reliable contraception (either condom or birth control pill) and those using dual methods of contraception (both condom and pill). Table 4.1 presents the percentage reporting contraceptive use by gender.

Table 4.1: Contraceptive use at last intercourse by gender

	Gender % (n)	
	Boys	Girls
Unprotected (no method)	10.5 (60)	6.8 (27)
One method (condom or pill)	71.9 (409)	68.9 (275)
Dual methods (condom and pill)	17.6 (100)	24.3 (97)

A significant association was identified between gender and contraceptive use at last intercourse ($\chi^2=9.24$, $p<0.01$). A higher proportion of boys reported engaging in unprotected sex compared to girls and a higher proportion of girls reported dual methods of contraception compared to boys.

Participants' contraceptive use at last intercourse was next considered in relation to their age. Table 4.2 presents the percentage of adolescents reporting contraception use by age.

Table 4.2: Contraceptive use at last intercourse by age

	Age % (n)			
	15 years old	16 years old	17 years old	18 years old
Unprotected sex (no method)	11.9 (39)	7.2 (24)	8.7 (23)	6.4 (3)
One method (condom or pill)	72.3 (238)	70.4 (235)	75 (186)	59.6 (28)
Dual methods (condom and pill)	15.8 (52)	22.5 (75)	20.8 (55)	34 (16)

A significant association was identified between the age of participants and their contraceptive use at last intercourse ($\chi^2=13.88$, $p<0.05$). A higher proportion of younger participants reported non-use of contraception at last intercourse compared to older participants. Those aged 16 and older were more likely to report dual use of both condom and pill.

4.2 Influencing factors on contraceptive use at last intercourse

This section explores the relationship between the socio-demographic and lifestyle characteristics of those adolescents who have reported engaging in sexual intercourse and the contraceptive methods they report using the last time they had sexual intercourse.

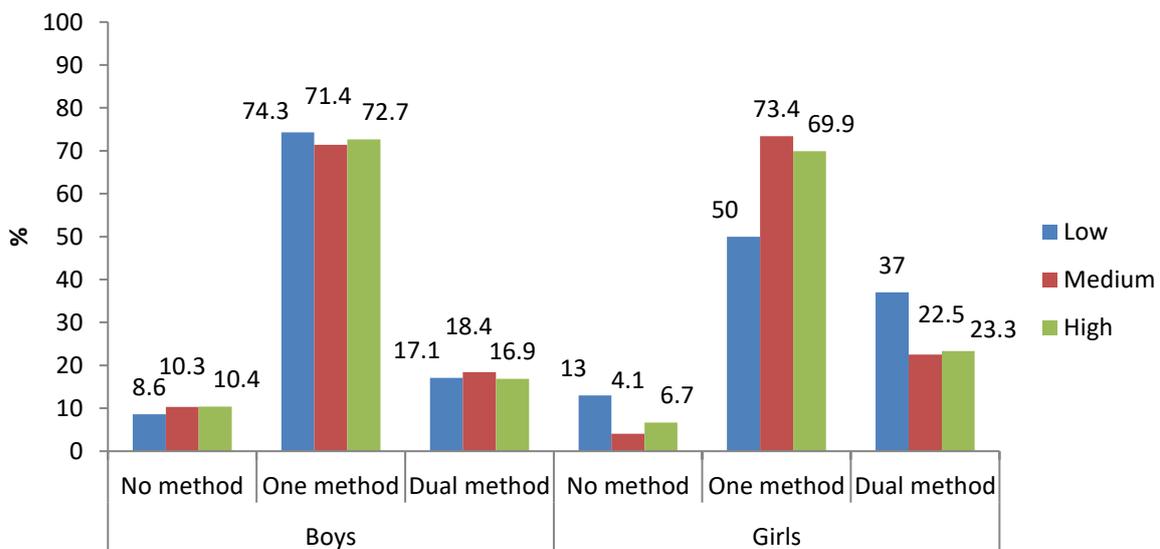
4.2.1 Social class

There was no significant association between contraceptive use at last intercourse and social class for either boys ($\chi^2=1.05$, $p>0.05$) or girls ($\chi^2=2.79$, $p>0.05$).

4.2.2 Family affluence

A significant association was identified between girls contraceptive use and reported family affluence ($\chi^2=12.03$, $p<0.05$). A higher proportion of girls from low affluent families reported engaging in unprotected sex compared to girls from middle or high affluent families. No significant association was identified for boys ($\chi^2=0.42$, $p>0.05$).

Figure 4.1: Contraceptive use at last intercourse by family affluence and gender



4.2.3 Rurality

There were no significant associations between contraceptive use at last intercourse and urban rural status for boys ($\chi^2=1.31$, $p>0.05$) or girls ($\chi^2=0.49$, $p>0.05$).

4.2.4 Disability/Chronic Illness

No significant relationship was identified contraceptive use at last intercourse and D/CI for boys ($\chi^2=5.11$, $p>0.05$) or girls ($\chi^2=0.12$, $p>0.05$).

4.2.5 Traveller status

The small numbers of participants who reported living within Travelling communities prevented further analysis of their contraceptive methods used at last intercourse.

4.2.6 Household composition

There was no significant association between household composition and either boys ($\chi^2=1.49$, $p>0.05$) or girls ($\chi^2=4.87$, $p>0.05$) contraceptive use at last intercourse.

4.2.7 Risk behaviours

Alcohol use in the last 30 days

No significant relationship was identified between alcohol consumption in the last 30 days and their contraceptive methods used at last intercourse for boys ($\chi^2=2.21$, $p>0.05$) or girls ($\chi^2=3.11$, $p>0.05$).

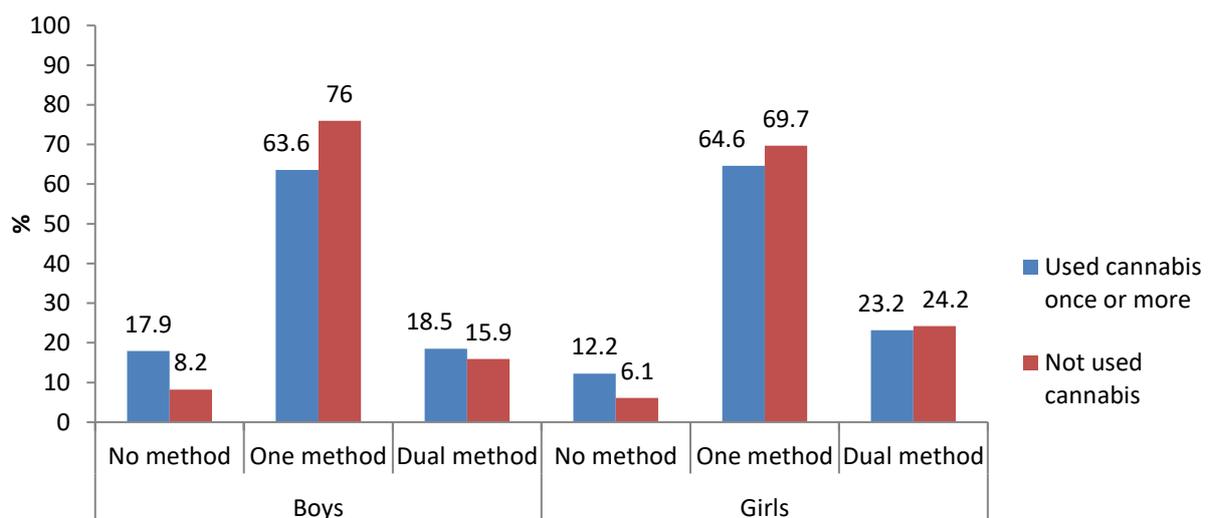
Smoking in the last 30 days

There was no significant association between contraceptive use and smoking in the last 30 days for boys ($\chi^2=4.20$, $p>0.05$) or girls ($\chi^2=0.27$, $p>0.05$).

Cannabis use in the last 30 days

Boys' cannabis use was significantly associated with contraceptive use at last intercourse ($\chi^2=11.91$, $p<0.01$). A higher proportion of boys who used cannabis once or more in the last 30 days engaged in unprotected sex compared to those who reported not using cannabis in that time frame (Figure 4.2). No significant association was identified for girls ($\chi^2=3.35$, $p>0.05$).

Figure 4.2: Contraceptive use at last intercourse by cannabis use and gender



4.3 Contraceptive type

Figure 4.3 illustrates the methods of contraception used at last intercourse by those who reported having engaged in sexual intercourse by gender.

Figure 4.3: Contraceptive methods used at last intercourse x gender

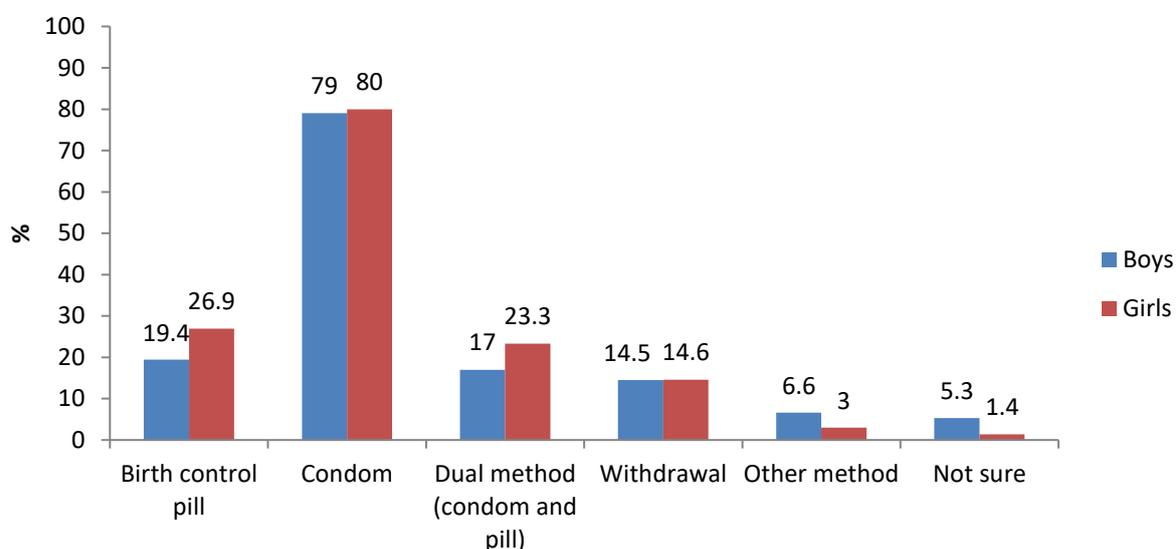


Table 4.3 details the contraceptive methods used at last intercourse by age

Table 4.3: Contraceptive methods used at last intercourse by age

	15 year olds % (n)	16 year olds % (n)	17 year olds % (n)	18 year olds % (n)
Pill	16.5 (63)	25.2 (89)	24.8 (70)	36.7 (18)
Condom	73.2 (279)	83.9 (296)	80.1 (226)	85.7 (42)
Withdrawal	12.9 (49)	15 (53)	16 (45)	14.3 (7)
Other	6.3 (24)	3.4 (12)	5.3 (15)	8.2 (4)
Not sure	6.6 (25)	1.7 (6)	2.1 (6)	4.1 (2)

4.3.1 Other methods of contraception

Participants were provided with space to report other methods of pregnancy prevention used. Fewer than 2% reported using other reliable methods of contraceptive (see table 4.4). A minority (2.3%) reported a range of unreliable or inappropriate methods at last intercourse, for example crisp packets.

Table 4.4: Other methods of contraception used at last intercourse

	Injection % (n)	Implant % (n)	Patch % (n)	Morning after pill % (n)
% within sexually active population	0.19 (2)	1.0 (11)	0.19 (2)	0.09 (1)

CHAPTER 5. MULTIVARIATE ANALYSIS

Multivariate analyses were conducted to predict the determinants of sexual intercourse, early sexual initiation and contraceptive use. In order to determine the covariates for entry into the logistic regression, candidate domains were first selected from the broader HBSC Ireland 2010 dataset. The analysis was designed to replicate the work conducted by Shiely *et al.*, (2004). The domains selected were therefore based on those adopted by Shiely *et al.*, (2004). These included dimensions relating to health, negative lifestyle behaviours, positive lifestyle behaviours and socio-cultural factors. Where possible, variables similar to those used in the Shiely *et al.*, (2004) study were selected from the HBSC dataset. Questions relating to health, positive lifestyle behaviours, negative lifestyle behaviours and socio-cultural factors were selected from the HBSC questionnaire. Categorical Principal Components Analysis (CatPCA) was then conducted on groups of items in each of these candidate domains. All meaningful explanatory factors were extracted for each domain. As outlined by Linting and Van Der Kooij (2012) rotation options are not available on the SPSS CATPCA function, therefore rotation was performed by submitting the transformed variables to a linear PCA with varimax rotation. The final factors identified in the PCA were saved as regression factors for use in further analyses. Table 5.1 lists the factors in order of extraction along with the Cronbach's Alpha; a measure of internal consistency.

Table 5.1: Factors produced from Cat PCA

Domain items	Factors
Positive lifestyle behaviours	
Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?	Frequency of physical activity ($\alpha=0.74$)
Outside of school hours: How often do you usually exercise in your free time so much so that you get out of breath or sweat?	
Outside of school hours: How many hours a week do you usually exercise in your free time so much so that you get out of breath or sweat?	
On a typical day is the main part of your journey to school made by...?	Active school travel ($\alpha=0.84$)
On a typical day is the main part of your journey from school made by...?	
How many days a week do you usually eat or drink...? Fruits/vegetables/ fish	Healthy food consumption ($\alpha=0.60$)
How often do you usually have breakfast (more than a glass of milk or fruit juice)?	Eating breakfast ($\alpha=0.37$)

How often do you brush your teeth?

How often do you wear a seatbelt when you sit in a car?

Brushing teeth/ wearing seatbelt ($\alpha=0.29$)

Negative lifestyle behaviours

At present how often do you drink anything alcoholic, such as beer, wine or spirits? *Beer/wine/spirits-liquor/alcopops/cider/other*

Have you ever had so much alcohol that you were really drunk?

Think back again over the last 30 days. How many times (if any) have you had five or more drinks in a row?

On how many occasions (if any) have you done the following things in the last 30 days? *Drunk alcohol/ been drunk*

Alcohol involvement ($\alpha=0.92$)

Have you ever taken cannabis (hashish, grass, pot)? *In your life/ in the last 12 months/ in the last 30 days*

At what age did you first do the following things? *Take cannabis*

Cannabis involvement ($\alpha=0.93$)

Do you get the following items from your parents if you ask them? *Coke or other drinks that contain sugar/sweets or chocolates/biscuits or pastries/crisps*

Unhealthy food from parents ($\alpha=0.91$)

How often do you smoke tobacco at present?

How frequently have you smoked cigarettes during the last 30 days?

On how many occasions (if any) have you done the following things in the last 30 days? *Smoked cigarettes*

Smoking involvement ($\alpha=0.81$)

How many days a week do you usually eat or drink... *Sweets/Coke or other soft drinks that contain sugar/diet coke or soft drinks/crisps/chips-fried potatoes?*

Unhealthy food consumption ($\alpha=0.69$)

Health

In the last 6 months: how often have you had the following...? *Headache/ stomach-ache/ back ache/ feeling low/ irritability or bad temper/ feeling nervous/ difficulties getting to sleep/ feeling dizzy*

Symptoms ($\alpha=0.82$)

Would you say your health is ... *Excellent/good/fair/poor?*

In general how do you feel about your life at present?

In general, where on the ladder do you feel you stand at the moment? (Life satisfaction)

Thinking about the last week...have you been happy with the way you are?

Quality of life ($\alpha=0.71$)

During the last month have you taken medicine or tablets for the following: *Headache/ stomach-ache*

Medication for physical symptoms ($\alpha=0.50$)

During the last month have you taken medicine or tablets for the following: *Difficulties getting to sleep/ nervousness*

Medication for psychological symptoms ($\alpha=0.72$)

Socio-cultural

You can trust people around here

I could ask for help or a favour from neighbours

It is safe for young children to play outside during the day

Do you think the area in which you live is a good place to live?

How well off is the area in which you live?

There are good places to spend your free time (e.g. leisure centre, parks, shops)

Sense of community/ belonging ($\alpha=0.68$)

How easy is it for you to talk to the following person's about things that really bother you? *Friends of the same sex/ best friend/ friends of the opposite sex*

Communication with friends ($\alpha=0.77$)

In the area where you live are there...? *Groups of people who cause trouble/litter, broken glass or rubbish lying around/ run-down houses or buildings*

Neighbourhood environment ($\alpha=0.73$)

How often have you taken part in bullying another student(s) at school in the past couple of months?

How often have you taken part in bullying another student(s) outside school in the past couple of months?

Bullying others ($\alpha=0.79$)

How often are you involved in the following?

Drama/Dance/Choir

Music/Singing classes

Music and drama ($\alpha=0.66$)

How often have you been bullied at school in the past couple of months?

How often have you been bullied outside school in the past couple of months?

Being bullied ($\alpha=0.66$)

How often are you involved in the following?

Sports club/team

Scouts/Guides

Youth clubs

Other clubs/groups

Club/team activities ($\alpha=0.38$)

How easy is it for you to talk to the following person's about things that really bother you? *Mother/ father*

In your opinion, what does your class teacher(s) think about your school performance compared to your classmates?

Good adult communication ($\alpha=0.45$)

During the last year, how many times did you visit a family doctor?

Health check-ups ($\alpha=0.19$)

During the last year, how many times did you visit a dentist?

5.1 Predictors of sexual intercourse

Binary logistic regression was conducted to examine the predictors of sexual intercourse. Models were conducted for boys and girls separately. Engagement in sexual intercourse was the dependent variable.

Table 5.2: Binary logistic regression conducted for ever had sexual intercourse / never had sexual intercourse (for boys only)

Covariates	OR	95% C.I. for EXP (B)	
		Lower	Upper
<i>Demographics</i>			
Not living with both parents	1.604**	1.134	2.268
Traveller status	4.554*	1.210	17.140
Age	1.302**	1.075	1.578
<i>Health</i>			
Medication for physical symptoms	1.167*	1.012	1.345
<i>Socio-cultural</i>			
Good communication with friends	1.307***	1.140	1.497
Poor neighbourhood environment	1.313***	1.139	1.514
Music & drama	0.754**	0.622	0.913
Club/team activities	1.267**	1.108	1.449
<i>Negative lifestyle behaviours</i>			
Alcohol involvement	2.162***	1.831	2.554
Cannabis involvement	1.581***	1.374	1.818
Smoking involvement	1.409***	1.228	1.618
Model n 1742	Nagelkerke R square = 0.361		

*Significant at $p < 0.05$, ** significant at $p < 0.01$, *** significant at $p < 0.001$

As age increased boys were more likely to have engaged in sexual intercourse. Not living with both parents and being from a Travelling community increased the likelihood of boys reporting having engaged in sexual intercourse. The more extra-curricular club and team activities boys were involved in the more likely they were to report having had sexual intercourse. However involvement in music and drama reduced the likelihood of boys engaging in sexual intercourse. Boys who took medication for physical symptoms were more likely to have had sexual intercourse, as were those who had better communication with their friends and lived in poorer neighbourhoods. Those who reported higher levels of involvement in risk behaviours such as alcohol consumption, smoking and cannabis use were more likely to have had intercourse.

Table 5.3: Binary logistic regression conducted for ever had sexual intercourse / never had sexual intercourse (for girls only)

Covariates		OR	95% C.I. for EXP (B)	
			Lower	Upper
<i>Demographics</i>				
Social class	High			
	Mid	1.176*	0.766	2.382
	Low	1.351*	0.856	1.615
Age		1.628***	1.326	1.998
<i>Socio-cultural</i>				
Good communication with friends		1.561***	1.238	1.968
Poor neighbourhood environment		1.211*	1.038	1.413
Bullying others		1.444*	1.092	1.910
Music & drama		0.869*	0.759	0.994
Being bullied		1.248*	1.052	1.482
<i>Negative lifestyle behaviours</i>				
Alcohol involvement		2.098***	1.779	2.474
Cannabis involvement		1.531***	1.246	1.881
Smoking involvement		1.833***	1.593	2.110
Unhealthy food consumption		1.202*	1.036	1.394
Model n 1604		Nagelkerke R square =0.399		

*Significant at $p < 0.05$, ** significant at $p < 0.01$, *** significant at $p < 0.001$

Similar to boys, older girls were the more likely to report engaging in sexual intercourse. Girls from middle social class groups were more likely to report having sexual intercourse than those from high social class groups. Girls reporting good communication with friends were more likely to have had sexual intercourse, as were those who reported bullying others or being bullied themselves. Involvement in music and drama reduced the likelihood of girls being sexually active, while a poor neighbourhood environment increased their odds of sexual intercourse. Girls with high levels of engagement in risk behaviours such as alcohol consumption, smoking and cannabis use as well as an unhealthy diet were more likely to have had intercourse.

5.2 Predictors of very early sexual initiation

A binary logistic regression was conducted to examine the predictors of very early sexual initiation. The procedures adopted were as those outlined in 5.1. Findings represent both boys and girls who reported that they had engaged in sexual intercourse. The dependent variable was engagement in very early sexual intercourse/early sexual intercourse.

Table 5.4: Binary logistic regression conducted for very early sexual intercourse / early sexual intercourse

Covariates	OR	95% C.I. for EXP (B)	
		Lower	Upper
<i>Demographics</i>			
Rural area	2.451***	1.441	4.170
<i>Health</i>			
Symptoms	0.778*	0.619	0.978
Medication for psychological symptoms	1.229*	1.023	1.476
<i>Socio-cultural</i>			
Good communication with friends	0.797*	0.637	0.997
Bullying others	1.237*	1.072	1.428
Health check-ups	0.690**	0.543	0.876
<i>Negative lifestyle behaviours</i>			
Alcohol involvement	1.290*	1.054	1.579
Cannabis involvement	1.318***	1.118	1.554
Model n 544	Nagelkerke R square=0.266		

*Significant at $p < 0.05$, ** significant at $p < 0.01$, *** significant at $p < 0.001$

Adolescents living in rural areas were more likely to have reported very early sexual initiation. Those who experienced negative physical and psychological symptoms were less likely to have engaged in very early sexual initiation, while those who reported taking medication for psychological symptoms, were more likely. Higher levels of adolescents who reported regularly bullying others reported very early sexual initiation. The better communication adolescents had with their friends and the more health visits (doctor and dentist) they had, the less likely they were to report initiating sexual intercourse before age 14. High levels of engagement in risk behaviours such as cannabis use and alcohol consumption increased the likelihood adolescents reporting very early sexual intercourse.

5.3 Predictors of contraceptive use

A binary logistic regression was conducted to examine the predictors of non-dual contraceptive use which is a protective behaviour against both pregnancy and STI acquisition. The procedures employed were as those outlined in 5.1. Findings represent both boys and girls who reported last intercourse without using combined contraceptive pill and condom use. The dependent variable was engagement in non-dual contraceptive use.

Table 5.5: Binary logistic regression conducted for non-dual contraceptive use

Covariates	OR	95% C.I. for EXP (B)	
		Lower	Upper
<i>Demographics</i>			
Age	0.726**	0.580	0.910
Gender (male)	1.807*	1.144	2.856
<i>Negative lifestyle behaviours</i>			
Alcohol involvement	1.219*	1.006	1.476
Model n 772	Nagelkerke R square = 0.076		

* Significant at $p < 0.05$, ** significant at $p < 0.01$, *** significant at $p < 0.001$

Boys and those who engaged in alcohol involvement were more likely to report intercourse without the use of both pill and condom contraceptive methods. In contrast, older adolescents and were less likely to report engaging in sexual intercourse without employing combined methods of contraception.

A binary logistic regression was conducted to examine the predictors of non-condom use at last intercourse. The procedures employed were as outlined in 5.1. Findings represent those young people who reported last intercourse without the use of a condom as a protective behaviour against both pregnancy and STI acquisition measure. The dependent variable was engagement in non-condom use.

Table 5.6: Binary logistic regression conducted for non-condom use

Covariates	OR	95% C.I. for EXP (B)	
		Lower	Upper
<i>Health</i>			
Medication for physical symptoms	1.240*	1.046	1.469
<i>Positive lifestyle behaviours</i>			
Frequency of physical activity	0.796*	0.651	0.974
Brushing teeth/wearing seatbelt	0.714***	0.609	0.837
Model n 808	Nagelkerke R square =0.119		

*Significant at $p < 0.05$, ** significant at $p < 0.01$, *** significant at $p < 0.001$

Participants who engaged in more physical activity and who reported higher levels of parental influencing behaviours such as tooth brushing and wearing a seatbelt were less likely to engage in intercourse without condom use. However, those taking medication for physical symptoms were more likely to report having sex without a condom at last intercourse.

CHAPTER 6. CONCLUSION

Sexual health plays an important role in an individual's physical and social well-being (HSE Eastern Region, 2005). Sexuality is a vital element of the human character and positive sexual health influences a person's physical and mental well-being. The decisions people make about their sexuality, the behaviours they participate in and the attitudes and values they hold are all shaped by the context in which they live their lives. Other factors outside the control of an individual, such as age, disability, sexual orientation, cultural differences and place of residence can also influence the decisions people make (HSE Midland Area, 2001).

Adolescent sexual activity has been a cause of concern for many years. Research has found that many teenagers in Ireland are sexually active at the age of 15 years (Layte *et al.*, 2006; McHale & Newell, 1997). Young people aged 15-24 years who are sexually active are at a greater risk of experiencing adverse health and social outcomes including unplanned pregnancy or STI acquisition (Centers for Disease Control and Prevention, 2010). Establishing the socio-demographic and lifestyle factors relating to the sexual behaviour of adolescents in Ireland is crucial in identifying those most 'at risk' of negative sexual health and its associated outcomes. At present there is limited data available in Ireland surrounding adolescent sexual health. The proposed introduction of mandatory introduction of reporting underage sexual behaviour under the Children First Bill (2012) has the potential to influence the reliable collection of data surrounding adolescent sexual behaviour. Shiely *et al.* (2004) have previously conducted detailed analysis on the sexual practices of adults in Ireland. This has resulted in the identification of a number of socio-cultural, behavioural and biological predictors of sexual behaviour among this population. The findings of the current report will be discussed in relation to those of the adult population. Due to the absence of adequate existing research in the area, the findings from this study provide a novel contribution to the understanding of adolescent sexual health behaviour across Ireland. Following the increased recognition of evidence-based policy and practice, the current research can be used to inform the development of sexual health policy and specially targeted health promotion interventions among adolescents across Ireland.

Sexual intercourse

This report has identified the prevalence of engagement in sexual intercourse among the adolescent population in Ireland. Clear gender differences are apparent with over a quarter of boys and more than one fifth of girls aged between 15 and 18 years old reported having ever had sexual intercourse. As age increases, the proportion of young people reporting sexual intercourse also increases. The figures for 18 year old boys (37.3) and girls (54.5) are similar to the prevalence of sexual activity (50%) of the adult population aged under 20 years old (SLAN, 2002). The proportion of participants who report engaging in sexual intercourse highlights the relevance of sexual behaviour as a prominent issue for adolescents across Ireland. Sexual intercourse was not described using an anatomical definition in the questionnaire. For this reason no distinction can be made about the type of sexual intercourse (vaginal, anal or oral) in which participants engaged and also depends on what they consider

constitutes sexual intercourse. The type of intercourse may have implications for contraceptive use as unprotected vaginal sex incurs a risk of both STIs and pregnancy while unprotected anal or oral sex carry the risk of STI infection only. Though not exclusively, engagement in adolescent sexual intercourse is accompanied by associated risk of STI transmission, unintended pregnancy and in some cases early parenthood or abortion.

A number of common predictors of reported sexual intercourse in adolescents and sexual activity in adults (Shiely *et al.*, 2004) were identified. Both adults and adolescents who took part in risky substance use behaviours such as smoking, drinking alcohol or using cannabis were more likely to have sexual intercourse. Younger adults were more likely to be sexually active and correspondingly higher rates of reported sexual intercourse were seen among older adolescents. Similar gender differences can be seen among both populations with boys in both samples more likely to report sexual intercourse. Adults who took prescribed pills and boys who took medication for physical symptoms (e.g., headache, stomach-ache) were also more likely to report engaging in sexual intercourse.

Similar significant factors were predictive of adult sexual activity and adolescent sexual intercourse. However of particular relevance are those factors predictive of adolescents' reported sexual intercourse but not the sexual activity of adults. Socio-cultural factors such as good communication with friends and a poor neighbourhood environment were significant predictors of sexual intercourse for both boys and girls. Involvement in music and drama reduced the likelihood of both boys and girls engaging in sexual intercourse.

Additional gender differences are evident among the adolescent population in Ireland. For boys, not living with both parents, involvement in club/team activities or being a member of the Traveller community was shown to significantly increase the likelihood of reported sexual intercourse. Girls from middle or lower social class groups were more likely to have had intercourse compared to those from the higher social classes. Girls who reported bullying others or being bullied were also more likely to report engaging in sexual intercourse as were those who consumed unhealthy foods.

Age of sexual initiation

The Irish Study of Sexual Health and Relationships has identified that among the adult population, the age of sexual initiation increased by age. For 18-24 year olds in the sample, the median age of sexual initiation was 17 years old, whereas for those participants age 60-64 was 22/23 years old (Layte *et al.*, 2006). Age of sexual initiation can be categorised into two groups; early sexual initiation and very sexual initiation. Early initiation is categorised as sexual initiation occurring at age 14 or 15 years old. Very early initiation is categorised as sexual initiation occurring at age 13 years or younger.

Early sexual initiation has implications for adolescents' self-perception, well-being, social status and later sexual health behaviours (Magnusson & Trost, 2006; Fergus & Zimmerman, 2007; Magnusson, Masho & Lapane, 2012). Very early sexual initiation has also been

associated with sexual intercourse with high risk partners (e.g., intravenous drug users and HIV positive men), multiple sexual partners, STI transmission and sexual and physical violence (Greenberg, Magder & Aral, 1992; Kaplan, Jones, Olson & Yunzal-Butler, 2013). Engaging in poorly or unprotected sexual intercourse increases the risk of STIs and unplanned pregnancy (O'Donnell, O'Donnell & Stueve, 2001). In addition, adolescents may not be equipped to manage the psychological consequences of sexual activity, often experiencing regret and a higher risk of depression (Spriggs & Halpern 2008; Dickson, Paul, Herbison & Silva, 1998).

The lack of adult data on the age of first sexual intercourse in Shiely *et al.* (2004) prevents a comparison between adult and adolescent sexual initiation. Nevertheless factors associated with adolescent early sexual initiation have however been identified in past research. These relate to community, family, peer and school characteristics (Kirby, Lepore & Ryan, 2005). The current adolescent research identified that socio-demographic, health, socio-cultural and lifestyle factors were predictive of very early sexual initiation. Adolescents living in rural areas were more likely to report very early initiation. Living in rural areas which lack accessible leisure-time resources may result in boredom and the engagement in sexual intercourse (Akers, Muhammad, Project Momentum & Corbie-Smith, 2011). Health and socio-cultural factors were also predictive of very early initiation. Participants who went for health visits (doctor and dentist) and who experienced negative physical and psychological symptoms (e.g., headache, stomach-ache, back ache, feeling low) were less likely to initiate before 14 years of age, whereas those who reported taking medication for psychological symptoms (e.g., difficulties getting to sleep, nervousness) were more likely to engage in very early initiation. Engagement in very early initiation was predicted by regularly bullying others and poor communication with friends. Negative lifestyle behaviours including cannabis and alcohol involvement were positively associated with very early initiation. These findings support those of international research which have identified negative lifestyle factors as correlates of early sexual initiation (e.g., alcohol, tobacco and cannabis misuse) (Spriggs Madkour, Farhat, Tucker, Halpern, Godeau & Nic Gabhainn, 2010; Connell, Gilreath & Hansen, 2009).

Contraceptive use

Adult contraceptive choices are determined by a combination of biological, psychological and social factors. These include perceptions of self and circumstances, perceived contraceptive needs, partner agreement, past experience and portrayal by health professionals (Walsh, 1997). Though not exclusively, adolescents' contraceptive choices are often marred by additional complications relative to their age and stage of development. For example, not only may access and cost determine contraceptive use, but choice may be inhibited by adolescents' (especially boys) lack of knowledge surrounding the 'correct' use of contraceptives (Frost, Duberstein-Lindberg & Finer, 2012). Adolescents' concerns surrounding confidentiality may deter contact with local health services, while embarrassment, fear of side effects and stigma associated with contraceptive use (particularly for girls) may discourage contraceptive use (Bell, 2009; Brown & Guthrie, 2010; Zabin *et al.*, 1991; Abraham *et al.*, 1992; Hillier *et al.*, 1998).

Shiely *et al.* (2004) identified that the highest reported condom use in the adult sample was among those under aged 18 to 24 (Shiely *et al.*, 2004). Findings from the HBSC Ireland 2010

sample demonstrate that adolescents report condom use as the highest reported individual method of contraception. In both adult and adolescent samples, males reported more condom use than girls. Condoms provide a unique role in the prevention of both pregnancy and STI acquisition. They are often the primary preventative measure used by adolescents initiating sexual relationships or those engaging in more casual sexual intercourse. The current data do not however provide details about the context of adolescents' sexual encounters. Although condoms or contraceptive pills are considered the most appropriate methods of contraception, the use of dual condom and pill methods confer effective protection against pregnancy and STIs (American Academy of Paediatrics, 2007). Differences between dual contraceptive use were identified between the adult and adolescent samples. Among 18-24 year olds, dual methods were most widely reported whereas for adolescents aged 15-18 years old single contraceptives (condom or pill) were more widely reported. The highest reported dual use was among girls and older adolescents, placing them most effectively protected against pregnancy and STIs. Among 18-20 year olds, around 15% reported never using contraception (Shiely *et al.*, 2004). Similarly around 6% of girls and 11% of boys reported using no method of contraception at last intercourse. This is a matter of considerable concern, particularly for the higher proportion of males reporting non-contraceptive use, given the increased risk of unintended pregnancy, STIs, abortion and additional associated risk. It should be noted however that the rates of never using contraception are lower in the adolescent sample than in the young adult sample reported by Shiely *et al.* (2004); this may well be related to the time lag between the two studies (eight years), with increased sexual education in schools and possible improvements in the availability of contraception to young people.

The predictors of contraceptive use in the adult population were studied by investigating factors influencing contraceptive use/non-use (Shiely *et al.*, 2004). Comparisons can be made between these analyses and those conducted on the adolescent population addressing the predictors of dual/non-dual contraceptive use. Several similar predictors of contraceptive use (adults) and dual use (adolescents) were identified. In the adult population females and younger adults were more likely to report contraceptive use (Shiely *et al.*, 2004). In the adolescent sample, girls and older adolescents were more likely to report dual use of contraceptives. Females and older adolescents/young adults may therefore be best protected against STI transmission and unplanned pregnancy. Adults who consumed alcohol in the last week or month were more likely to be contraceptive users than those who drank alcohol less regularly. Conversely, adolescents who engaged in alcohol involvement were more likely to report intercourse without the use of dual methods.

Analyses conducted by Shiely *et al.*, (2004) focused solely on the use of condoms in a male only sample. The sample size of the current dataset prevented the separate analysis of condom use by gender. Regression analysis identifying the predictors of condom use was therefore conducted on a sample containing both boys and girls. Both adult male and adolescent samples identified health related factors as predictors of condom use. Men who report poor/fair/good health (as opposed to excellent health) and who attend for health check-ups were less likely to report condom use. In the adolescent sample, participants who were taking medication for physical symptoms (e.g., headache, stomach-ache) were less likely to report condom use.

Condom use was also predicted by engagement in other positive lifestyle behaviours. Adults who consumed more fruit and vegetables were more likely to be condom users, as were adolescents who engaged in more physical activity and more parental influencing behaviours such as tooth brushing and seatbelt wearing.

Findings from the adolescent sample are consistent with the adult sample suggesting that boys and younger adolescents are less likely to employ reliable preventative measures (i.e., dual methods). Consistent with the adult male population, adolescent condom use is predicted by engagement in other positive lifestyle behaviours (e.g., physical activity). Although measures related to health appear significant predictors for both adult and adolescent contraceptive use, the lack of similarity in the adult and adolescent measures prevents a comparison of the research findings.

Conclusion

For the first time, a detailed quantitative analysis of the reported sexual behaviours and practices of adolescent across Ireland has been conducted. The findings highlight the prevalence of sexual intercourse, sexual initiation and contraceptive use among both boys and girls aged 15-18 years. The analysis has identified socio-demographic and lifestyle variables associated with each of these sexual behaviours. It has also considered the predictors of adolescent sexual intercourse, initiation and contraceptive use. The identification of these predictive factors captures a profile of both those young people who are sexually active and also those at risk (of early initiation and non-contraceptive use).

Factors including age, gender, substance use and positive lifestyle behaviour have been consistently identified among both the adult and adolescent populations as predictors of intercourse and contraceptive use (Shiely *et al.*, 2004). Their presence in both analyses may suggest consistency in protective and risk factors from adolescence through to adulthood. Early intervention with specific focus on these characteristics may be useful to promote positive sexual health in adolescence and later in life.

The analysis has also revealed predictive factors related to sexual intercourse, initiation and contraceptive use which are specific to the adolescent population. Not only are certain factors predictive for adolescents, but some are gender specific. These findings highlight marked differences between adults and adolescents. They demonstrate that adolescents are a distinct group with unique influences in relation to their sexual health and behaviour. The results highlight the value of developing and implementing specifically targeted policy and interventions which take a holistic approach in addressing the needs of those most at risk. More research is required to further the understanding of the sexual health and practices of adolescents' across Ireland. This could include the context of adolescent sexual encounters, frequency of intercourse, sexual practices other than intercourse and experience of STI and unplanned pregnancy. A comprehensive evidence base of the factors influencing young people's sexual behaviour will provide a foundation for the development of health promotion strategies aimed at reducing negative sexual health outcomes.

7. KEY SUMMARY POINTS

- This report is the first detailed quantitative analysis of the reported sexual behaviours and practices of adolescents across Ireland
- The findings highlight the prevalence of sexual intercourse, sexual initiation and contraceptive use among both boys and girls aged 15-18 years.
- The analysis has identified socio-demographic and lifestyle variables associated with sexual intercourse, sexual initiation and contraceptive use.
- Multivariate analyses have identified demographic, socio-cultural, health and positive and negative lifestyle behaviours which were predictors of adolescents' engagement in sexual intercourse, sexual initiation before age 14 years and contraceptive use.
- While factors including age, gender, substance use and positive lifestyle behaviours were identified among both adult and adolescent populations as predictors of sexual intercourse and contraceptive use, other demographic, socio-cultural, health and positive and negative lifestyle behaviours were predictive of sexual intercourse, initiation and contraceptive use specific to the adolescent population. This highlights adolescents as a distinct group with unique influences in relation to their sexual health and behaviour.
- Within the adolescent population gender differences were identified in reported sexual behaviour and among the predictors of sexual behaviour. This reinforces the distinction between girls and boys within sexual health research, promotion and intervention.
- The results highlight the value of developing and implementing specifically targeted policy and interventions which take a holistic approach in addressing the needs of those most at risk.
- More research is required to further the understanding of the sexual health and practices of adolescents' across Ireland.

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APPENDIX

Appendix 1: CatPCA candidate domains, candidate questions and extracted explanatory factors

Domain	Items for CatPCA	Factors for final model
Health	<p>Would you say your health is ... <i>Excellent/good/fair/poor?</i></p> <p>In general how do you feel about your life at present?</p> <p>In general, where on the ladder do you feel you stand at the moment? (Life satisfaction)</p> <p>Thinking about the last week...have you been happy with the way you are?</p> <p>In the last 6 months: how often have you had the following...? <i>Headache/ stomach-ache/ back ache/ feeling low/ irritability or bad temper/ feeling nervous/ difficulties getting to sleep/ feeling dizzy</i></p> <p>During the last month have you taken medicine or tablets for the following: <i>Headache/ stomach-ache/ difficulties getting to sleep/ nervousness/ something else</i></p>	<ul style="list-style-type: none"> - Symptoms - Quality of life - Medication for physical symptoms - Medication for psychological symptoms
Negative Lifestyle Behaviours	<p>At present how often do you drink anything alcoholic, such as beer, wine or spirits? <i>Beer/wine/spirits-liquor/alcopops/cider/other</i></p> <p>Have you ever had so much alcohol that you were really drunk?</p> <p>Think back again over the last 30 days. How many times (if any) have you had five or more drinks in a row?</p> <p>Have you ever smoked tobacco?</p> <p>How frequently have you smoked cigarettes during the last 30 days?</p> <p>How often do you smoke tobacco at present?</p> <p>Have you ever taken cannabis (hashish, grass, pot)? In your life/ in the last 12 months/ in the last 30 days</p>	<ul style="list-style-type: none"> - Alcohol involvement - Cannabis involvement - Unhealthy foods from parents - Smoking involvement - Unhealthy food consumption

	<p>At what age did you first do the following things? <i>Drink alcohol/get drunk/smoke a cigarette/take cannabis/sniff glue or solvents</i></p> <p>On how many occasions (if any) have you done the following things in the last 30 days? <i>Smoked cigarettes/ drunk alcohol/ been drunk</i></p> <p>How many days a week do you usually eat or drink....<i>Sweets/Coke or other soft drinks that contain sugar/diet coke or soft drinks/crisps/chips-fried potatoes?</i></p> <p>Do you get the following items from your parents if you ask them? <i>Coke or other drinks that contain sugar/sweets or chocolates/biscuits or pastries/crisps</i></p> <p>Some young people go to school or bed hungry because there is not enough food at home. How often does this happen to you?</p> <p>During the past 12 months, how many times were you in a physical fight?</p>	
<p>Positive Lifestyle Behaviours</p>	<p>How often do you usually have breakfast (more than a glass of milk or fruit juice) on weekdays/weekends?</p> <p>How many days a week do you usually eat or drink....? <i>Fruits, vegetables, fish</i></p> <p>Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?</p> <p>On a typical day is the main part of your journey to school made by...?</p> <p>On a typical day is the main part of your journey from school made by...?</p> <p>Outside of school hours: How often do you usually exercise in your free time so much so that you get out of breath or sweat?</p> <p>Outside of school hours: How many hours a week do you usually exercise in your free time so much so that you get out of breath or sweat?</p> <p>How often do you brush your teeth?</p> <p>How often do you wear a seatbelt when you sit in a car?</p>	<ul style="list-style-type: none"> - Frequency of physical activity - Active school travel - Healthy food consumption - Eating breakfast - Brushing teeth/wearing seatbelt

<p>Socio-cultural</p>	<p>During the last year, how many times did you visit a family doctor?</p> <p>During the last year, how many times did you visit a dentist?</p> <p>How easy is it for you to talk to the following person's about things that really bother you? <i>Father/ stepfather/ mother/ stepmother/ elder brother/ elder sister/ best friend/ friends of the same sex/ friends of the opposite sex</i></p> <p>How well off is the area in which you live?</p> <p>In the area where you live are there...?<i>Groups of people who cause trouble/litter, broken glass or rubbish lying around/ run-down houses or buildings</i></p> <p>Do you think the area in which you live is a good place to live?</p> <p>It is safe for young children to play outside during the day</p> <p>You can trust people around here</p> <p>There are good places to spend your free time (e.g. leisure centre, parks, shops)</p> <p>I could ask for help or a favour from neighbours</p> <p>How often are you involved in the following? <i>Sports club/team Drama/Dance/Choir Music/Singing classes Scouts/Guides Youth clubs Other clubs/groups</i></p> <p>In your opinion, what does your class teacher(s) think about your school performance compared to your classmates?</p> <p>How often have you taken part in bullying another student(s) at school in the past couple of months?</p> <p>How often have you taken part in bullying another student(s) outside school in the past couple of months?</p> <p>How often have you been bullied at school in the past couple of months?</p>	<ul style="list-style-type: none"> - Good communication with friends - Sense of community - Neighbourhood environment - Bullying others - Music & drama - Being bullied - Club/team activities - Good adult communication - Health check ups
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	How often have you been bullied outside school in the past couple of months?	
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